

LECTURE ON FATIGUE.

The following is a synopsis of a lecture on Fatigue given by Miss Isabel Macdonald on May 23rd, at 194, Queen's Gate, S.W. Miss Florence Wise occupied the chair.

Modern discoveries of our time, said the lecturer, quicker methods of transit, general competition, etc., have laid upon us conditions, productive of fatigue, the results of which are the price of the kind of progress which characterises our age. Every bit of progress, everything we get or win demands its price, its sacrifice, and although this kind of natural justice is not a pleasant doctrine it does tend to build up character and to many makes the goal seem worth while. Incidentally, to those who do not recognise this latter philosophy, effort is likely to be attended by much greater mental fatigue than in the case of those who view life in a sportsmanlike way. To those who hold that difficulties exist to be overcome, the journey of life is not nearly so productive of fatigue as it is for those who let themselves be easily harassed or who do not possess or seek to cultivate a faculty to face life in a spirit of cheery optimism.

Fatigue is, from a scientific point of view, simply the accumulation of poisons generated by activity on the part of one organ or another, an effect first stimulating and later paralysing or depressing. This is specially demonstrated in the case of children. It is a well-known fact that, before the ultimate effects of fatigue are observable, there is a period, after a spell of activity, during which the child seems to work more quickly and to make fewer mistakes; then there follows on this a lack of attention, a tendency to make small blunders, and perhaps the effects of fatigue are even more noticeable in the play of younger children. As they become more and more fatigued physically, they become apparently the more excited and lively, and, soon this is followed by a tendency to crying, indicative of depression resultant on fatigue or of bad temper pointing to irritation of the brain and nerve system. The effects of fatigue are very like those of many other poisons, such as, for instance, alcohol; in this you have first stimulation, excitement, and later loss of self-control, stupor, and so on.

The main poison generated by fatigue is $C.O_2$, but lactic acid and other poisons are also formed; a muscle at rest is alkaline, in its reaction a fatigued muscle acid. These poisons, produced by fatigue, affect primarily the organs and centres which are principally active in any occupation whether physical or mental, but eventually, through the circulation, all organs are affected and, if a person is constantly overworking, it follows that various illnesses may arise as a result, such as affections of the nervous system, heart, circulatory or digestive disturbances, anæmia and such like. But it is more with the transitory effects of fatigue that we have to deal now, and one of the principal of these might almost be described as a loss of will control; the person has a tendency to irritation, to depression, is apt to develop egoism, to become self-centred and introspective, and to act in a less moral way than when uninfluenced by the toxic effects of fatigue. This last may seem rather a far-fetched statement, but morality is very largely an affair of the will; real freedom of will lies in being able to choose a right course, to observe ethical standards from free choice rather than from impulse or inclination. Knowledge has made us more charitable in this direction, and when people are irritable and difficult to get on with we are often ready enough to refer their sins of commission to overwork or nerve strain rather than to malice or bad temper, as was done before a more general and comprehensive knowledge of nervous conditions existed. None the less it is still a matter of the influence of will power even if we recognise that the faculty

of the will, so far as self-control is concerned, is weakened as a result of fatigue.

This aspect of the question is perhaps less applicable to nurses than to most people, for the conditions of their work engender in them a power to master their own feelings and inclinations which becomes to a good extent second nature and so, particularly in working hours, these inclinations do not fall so readily into habits of irritation, depression, selfishness and the like. Moreover will power is often so strengthened by such control that one can withstand conditions of life and hours of work that, for the ordinary individual, would soon bring about a complete breakdown. Such is the acquired power of reaction, engendered by necessity acting on the will, that one ceases to be irritated by trifles, to make mountains out of molehills; the powers of inhibition are strengthened by habitual control whether by force of circumstances or by a force of will unaided by these.

But the results of fatigue range beyond those on the will and enter the realm of thought, of reason, when they are less easy to deal with and result in an enfeebled perception and memory, making work tedious and difficult, especially for those who are studying or are engaged in some kind of brain work; the brain is affected to an extent, so that it ceases to react to stimuli and to form the percepts that such stimuli ought to give rise to. Even if these percepts exist the brain cannot (owing to the poisoning of the centres of memory by the products of fatigue) retain any adequate recollection of them and so much time is spent fruitlessly, because activity is prolonged beyond the limits of the dictates of mental hygiene.

Again the action of the toxins arising from fatigue will spread into the faculties of sensation and of feeling; these become less acute. The parts of the brain, where these sensations should enter the conscious mind do not react normally and the sensory nerves are less efficient in conveying messages. As already indicated too, the whole feeling and outlook on life are apt to be changed by fatigue. A person develops what is lightly described by optimists as "the early-morningish feeling," in other words depression. If habits of fatigue are maintained this condition may pass into one more or less chronic or it may give rise to a habit, more fatiguing than actual work—that of worrying; thereby the brain is kept in a constant turmoil. When such a habit is established the very slightest thing will often provide the stimulus to set up a fit of worrying which may last for many hours, and absorb energies that might be much more usefully, healthily, and happily employed. In this connection I would advise you to emulate the optimistic cheerfulness of the dear old lady with, or perhaps one should say without, the teeth—she had only two left but she was so glad that they were opposite.

The next question is how fatigue may be avoided or cured. Into this connection all the ordinary laws of hygiene enter, and these are so well known to nurses that it is needless to discuss them. Sleep, obviously, is the great recuperating factor, and the tremendously re-creative power of sleep is a subject which has engrossed the attention from the earliest ages. The quality of sleep is of greater importance than the actual number of hours, and of course the proper time for rest is during the night—a counsel of perfection all too often unattainable, so far as nurses are concerned. The private nurses are the most unfortunate in this respect. In institutions the nurses do definite periods of night duty; for the private nurse there is constant change from sleeping in the night to sleeping in the day time and *vice versa*. This constant interruption of rhythm is the most fatiguing factor imaginable. Some there are who can obtain a quality of sleep which enables them to shorten their

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