

THE USES OF SEA-BATHING.

BY A FAMILY DOCTOR.



more healthful or popular holiday can be imagined than a visit to a sea-side resort where facilities for sea-bathing exist; for there is no doubt but that sea-bathing, wisely practised, conduces to a healthy state of the body. At the same time, it must be remembered that the mere

immersion of the body in cold water affects the whole system most profoundly; and when we consider the large number of persons who regard sea-bathing as an essential part of their holiday enjoyment, it is not surprising that we occasionally read of instances where its result has been decidedly injurious.

Comparatively few people have ever inquired what is the origin of the enjoyment derived from bathing, or have realised how easily that enjoyment may be replaced by discomfort. What happens when we make our first plunge in the sea? We shall direct attention primarily to the effect of the water alone, before considering the action of the brine. We must remember that the body in health is always maintained at the uniform temperature of 98.6° F., chiefly by the action of the skin. This regulation of temperature is entirely due to nervous influence—indeed, a particular part of our central nervous system is regarded as set apart to preside over this function. If we are exposed to a high temperature, the fine blood-vessels on the surface of the body become dilated and filled with blood, in obedience to a nervous command, and more heat than usual is lost by radiation. If this greater loss is insufficient to maintain the normal temperature, we begin to perspire, and more heat than usual is lost by the evaporation of sweat so freely secreted by our sweat-glands. On the contrary, if we are exposed to a low temperature the blood recedes from the surface of the body, and the heat lost by radiation and conduction is diminished.

The temperature of the sea near the shore varies very greatly, but it is always much below the temperature of the body, even during the hottest period of the bathing season. When we first plunge into the sea, the cold water causes more or less of a shock to the system, and we breathe deeply and jerkily for a moment or two. Then the surface blood-vessels contract through the influence of nervous action, induced by the action of cold upon the fine terminations of the nerves in the skin, and the blood is retained in the vessels of internal organs. Reaction soon occurs, and a sensation of genial warmth is felt, the blood returning to the surface. If the immersion is continued, this reaction shortly gives place to depression, the intensity of which depends upon the duration of the immersion and the temperature of the water. After a while the depression may become extreme, and exhaustion results, from which recovery may only be possible by vigorous medical treatment.

It is thus seen that the most obvious effect of immersion is shown by changes in the circulation of the blood. Closely associated with these is the effect produced upon portions of the nervous system which have particular duties to perform, and which are known as nervous centres. To these "tone" is given. Upon the nerve centres, in turn, depend the more remote effects. The nutrition of the body naturally depends upon the food supply, but the most advantageous use of the food depends upon efficient nervous control. If the nervous system is at fault, the changes which the food undergoes in the body are slower and less complete than they are in perfect health, and consequently the food is incompletely burnt up, or oxidised. The abnormal deposition of fat is one of the results of this incomplete oxidation. If, however, "tone" be given to the nerve centres, the nutrition of the body is improved, because the transmutation of food is accelerated, and the changes are more active and complete. As a natural consequence of this universal increase in activity, the appetite is increased. The total effect of a cold bath which is not unduly prolonged may therefore be briefly described as tonic and bracing.

By universal experience, however, a more durable and profound effect follows sea-bathing; and there are two reasons for this difference. The salts dissolved in sea water—although estimated at only three per cent.—add to the tonic effect of the bath by still further stimulating the nerves of the skin. The effect is also increased by the more active motion of the sea water. Bathing on a rough day, when the waves, laden with fine sand, beat against our bodies, is most effective in promoting healthy reaction, and the shorter time we are able to remain in the water proves that the effect is more powerful and intense.

If we now consider the effects of sea-bathing from a more practical point of view, we notice that there are three great factors which determine whether it is expedient for any particular person to bathe. In the act of bathing, the immersion in the cold water abstracts a certain quantity of heat from the body. This loss of heat is replaced by greater activity in our tissues, and the greater activity in the tissues necessitates an increased supply of food. It follows, therefore, that the system (1) must be able to withstand the initial depressant action; (2) that it must be able to react vigorously; and (3) that it must be capable of digesting and absorbing more food. We may conclude from these considerations that sea-bathing is not for young children, nor for old people, nor for the weak, nor for those whose digestive powers are so impaired as to prevent an increased solution and absorption of food; but for those in youth and early maturity, whose physical powers enable them to overcome successfully the greater strain thrown upon the system. Owing to the great changes in the blood supply induced by cold bathing, persons who suffer from a diseased heart or

a feeble circulation ought to abstain from bathing except under very special circumstances.

Certain precautions must, however, be observed even by the most robust. (1) If the body be in an overheated state, the sudden rush of blood to internal organs due to its displacement from the surface vessels may induce a "congestion," which may only be temporary, or which may if it reaches a certain intensity cause serious illness. (2) Bathing must not be indulged in immediately after a meal. During the reaction the blood is withdrawn from those organs which need a large supply for the due exercise of their digestive functions. (3) Nor after a too long abstinence from food—for under these circumstances the reaction is apt to be delayed or feeble. (4) Another obvious precaution is to avoid remaining an inordinate length of time in the water. Reaction begins in from

three to five minutes, and lasts a varying length of time, not often exceeding ten to fifteen minutes. It is well to leave the water before the reaction is succeeded by depression, for the secondary depression is more profound and lasting. Continuous motion of the limbs while in the water, as in swimming, diminishes the depression, and enables the immersion to be prolonged. Cramps are induced by a lengthy immersion, and the bracing of the system is replaced by exhaustion. The bather may then suffer from lassitude and fatigue for many hours. (5) Although cold bathing is most valuable for the proper hygienic care of the skin, yet persons with irritable skins or suffering from any skin disease would be well advised to abstain from sea-bathing.

After leaving the water, the body should be carefully dried and well rubbed, and efficient reaction induced by immediate exercise.

MY STRUGGLES WITH A CAMERA.

"**Y**ES," I decided, after reading the florid description (in an advertisement) of the wonders accomplished by the "Clipper" camera, "evidently the one thing needful to make existence useful, profitable, and delightful is a photographic camera." As with the tempting occupations which offer to either sex a rare opportunity to increase their income, "no previous experience is necessary," and unparalleled results are obtained from the trifling exertion involved in pressing a button or touching a spring. That would just suit me. "And there is no occasion to purchase an expensive outfit," I mused, "when such brilliant successes can be achieved by the aid of these small affairs."

Within a few days I was the proud possessor of the "Clipper" camera, with plates, slides, hydrokinone, and other known and unknown (chiefly the latter) appurtenances thereunto belonging, and was off for a holiday to the Highlands. These not altogether unknown regions should live again in the hearts of Englishmen, and be further revived and beloved, when I gave my photographs to the world. I took a long and delightful excursion—it was worth while to incur a little expense for the sake of the scene I should by this means secure—and boldly held my camera up in front of one of the biggest mountains. As I had omitted to ascertain the manner in which photographs are usually taken, and had, in fact, no idea of the process, it was a fine opportunity to call common-sense into play. I did so, and decided, first of all, that by turning the broad end in which was the plate towards the mountain I gave the latter a much



"BOLDLY HELD MY CAMERA UP IN FRONT OF ONE OF THE BIGGEST MOUNTAINS."