

inquiries to Lenard in the boat, about the chances of a start. We did not need his reminders that the sea was growing rougher, for we could see the white horses making merry all round us; the wind, too, blew in fitful gusts, and grey clouds were beginning to obscure the sun and to scud rapidly over the blue sky.

"We could not progress even as much as before," responded Lenard. "And if the wind does not quickly change, we shall not be able to get off to-night, I fear."

"I'm sure none of us would mind sailing in the dark," Ethel was beginning, when Trevor cut her short.

"He has no lantern, you see, dear, and it would be highly dangerous to try to sail between these rocks after dark. The moon is on the wane, remember, and gives no light. How late would it be safe to start?" he called to Lenard.

"At seven, at a pinch," he rejoined, "but no later. I can sleep in the boat well enough myself. But what about the repose of these ladies?"

"Oh, no doubt we can be put up at the *auberge*,"

Ethel and I replied immediately, and we resolved to walk about until the question of departure, or non-departure, should be finally settled.

"You are disagreeably punished now for desiring adventures," was Miss Grayne's comforting observation after a pause.

"Oh, call this a disagreeable adventure—I think it is great fun!" cried Ethel in bravado.

"Well, I certainly wish I had not to share your fun," returned the governess tartly. "It is seven now. What is that man saying?"

A murmur of "*C'est inutile!*" was wafted from across the sea, and Trevor hastened towards us.

"No use! We must make up our minds to stay here till early to-morrow morning," he said. "Let us go to the inn and settle about the night."

"And get something to eat, too," continued Bertie. "I'm perfectly ravenous!"

"I wish that girl were not so mad!" Ethel and I remarked to each other, as we retraced our steps, humbly carrying the despised rugs.

END OF PART THE FIRST.

"THIS TOO, TOO SOLID FLESH!"

BY A FAMILY DOCTOR.



HERE is no disease from which men and women suffer so lightly regarded in its earlier stages, both by the patients and by their friends, as obesity, or corpulence (more diplomatically mentioned as "*embonpoint*").

Some may be surprised to find this condition referred to as a disease. It is so customary to regard the increasing bulkiness often seen in middle age as a natural consequence of advancing

years and of a prosperous, well-spent life, that in all our conventional representations of happy and jovial old age fat is a prominent feature. But obesity is, nevertheless, a disease, and when it becomes excessive it is even attended with danger to life, for the tissues and organs of the body are ill-nourished, and themselves undergo fatty degeneration.

A progressive increase in weight after the body has attained its complete development, even though it may not advance to a noticeable degree, tends to diminish our bodily strength and activity; we are thereby rendered more susceptible to disease and less capable of battling with it. Moreover, there is the personal disfigurement, the inevitable accompaniment of any departure from vigorous health.

The deposition of fat is due in all cases to faulty

nutrition. (1) The food which is taken is either excessive in quantity or erroneous in quality or kind. Physiologically, foods are divided into proteids (meat), fats, carbo-hydrates (sugars and starches, the basis of farinaceous foods), salts, and water. It has been shown that fat is formed in the body, even though no fats be taken, by the conversion of excess of both proteids and of carbo-hydrates. Even a small excess of carbo-hydrates may produce this result.

It has been further found that not only the quantity of food taken, but also its quality or kind, must be proportionate to the work done in order to preserve the best and the most vigorous health. It is forgetfulness of this fact that so frequently causes middle-aged people, especially women, to grow rapidly stouter. The amount of regular daily work—in other words, the amount of exercise—they take grows insensibly less, while they eat the same amount of food; they take the same kind of food as they did when they were enjoying the full activity of early life. A moment's consideration will make this more evident. While a boy or girl is growing, food must be taken not only to supply the energy for their daily work, but also to build up the increasing bulk of the body. After maturity is attained, from about twenty-five years of age to fifty years, the body is generally doing a maximum amount of work which needs a proportionate amount of food. Then, after this age, the activities of the body grow less, and demand a corresponding diminution in the food supply. If this diminution is not observed the consequence is either that the excess is stored up chiefly as fat, or



else the internal organs are unduly taxed to get rid of it, with the result that eventually disease of these organs is induced. (2) Faulty nutrition, leading to the deposition of fat, may be due not only to errors in diet, but also to an unhealthy state of the body. In these cases the food which is taken, not necessarily in undue amount, is not fully assimilated or utilised in the body. Part of it is converted into fat, and instead of being used to supply the needs of the economy, is deposited in the tissues. This condition is sometimes associated with anæmia, and requires careful medical attention.

To prevent the ordinary accumulation of fat due to errors of diet, various methods of treatment have been devised. One of the most widely known, at any rate by name, is that of Banting, who showed sufficient confidence in it to subject himself to his own treatment—and with a very good result. The two principal features of the Banting treatment are (1) a considerable limitation of the total quantity of food usually taken, and, owing to the diminution of the amount of carbohydrates in particular, a proportionate excess of proteid food, (2) combined with a restriction in the amount of fluids. Although there is a wide-spread popular opinion that liquids in large amount tend to cause the accumulation of fat, the view is not held universally; indeed, some investigators actually recommend a large quantity of fluid, generally hot tea or other warm aromatic drinks. The scheme for a daily food supply, drawn up by Banting, was as follows:—

*Breakfast*, at 9 a.m., consisted of 5 to 6 oz. of animal food—meat or boiled fish (except pork or veal), a little biscuit or 1 oz. of dry toast: 6 to 7 oz. of solids in all. A large cup of tea or coffee (without milk or sugar): 9 oz. of liquid.

*Dinner* at 2 p.m. Fish or meat (avoiding salmon, eels, herrings, pork, and veal), 5 to 6 oz. any kind of poultry or game. Any vegetables except potatoes, parsnips, beet-root, turnips, or carrots. Dry toast, 1 oz. Cooked fruit unsweetened. Total of solids, 10 to 12 oz.

*Tea*, 6 p.m. Cooked fruit, 2 to 3 oz., a rusk or two: 2 to 4 oz. of solids. 9 oz. of tea, without milk or sugar.

*Supper*, 9 p.m. Meat or fish as at dinner, 3 to 4 oz.

Another method of treatment which has been largely adopted in Germany seems at first sight to be calculated to produce exactly the opposite result to the one desired. It proposes to cure fat people by giving them abundance of fat to eat. But it is really based on scientific principles, and was advocated long ago by Hippocrates, the father of medicine. When much fatty food is taken the appetite is satisfied with a considerably smaller amount, and it prevents in like manner the consumption of comparatively large quantities of animal or nitrogenous food, which are necessary under other methods of treatment, and which, as we have already explained, may help in the formation of fat. Sometimes this treatment has caused dyspepsia, owing to the difficulty of digesting fat.

At the present day the system most used is that designed by a German doctor named Oertel. In this system attention is paid not only to diet, but to exercise and the general method of living. One of the main objects he keeps in view is to restore the vigour and tone of the heart and circulatory apparatus, which is often seriously lowered in stout people. His diet follows that of Banting rather closely, but he allows more fatty food and a little more carbo-hydrate food. Alcohol in every form is best avoided, as it invariably tends to fatty degeneration. Beer is most injurious of all. Steady exercise, of such a nature as to cause slight exertion (for example, climbing heights), is recommended, but it must not be excessive. The patient must always rest when a feeling of palpitation comes on.

In all cases in which a sudden change in the manner of living is made with the view of effecting a cure of excessive corpulency, a period of more or less complete rest must be taken, for the sudden stoppage of a considerable quantity of the food usually eaten may cause exhaustion, which would be injurious if the patient endeavoured to carry on his usual work. This precaution is especially necessary when the milk cure is adopted. Skimmed milk is the only, or almost the only, food allowed until the weight has dropped to the normal figure, when the patient resumes a carefully chosen mixed diet.

The objects of all the systems of treatment are the same, and may be summarised thus:—(1) To reduce the weight by so limiting the amount of food and by so increasing the exercise that the excess of fat stored up in the body is used up. (2) To prevent re-accumulation of fat by choosing a diet suitable to the particular case, which is calculated to suffice for the daily needs of the body without any excess. These objects are effected by the application of a few general rules to particular cases. Sugar must be entirely avoided, if possible, but saccharin may be used to sweeten tea or other food. Starchy and farinaceous food must be taken sparingly. Bread is best in the form of well-made toast. Hard Captain biscuits are suitable. Meat must be taken once a day only. A little fish or an egg may be allowed, however, at other meals. The oily varieties of fish (such as salmon or mackerel) are not so suitable as white fish. It is not necessary to eschew fats altogether, since they are useful in all cases, and a small amount is even indispensable. The most suitable fat is butter, which is generally easy of digestion. Massage has been recommended. Regular exercise is essential.

A cure, after all, depends largely upon the patient's strength of mind, since the success of the treatment depends almost entirely upon the rigid adherence to a restricted diet, which soon becomes irksome. If he is unable to resist some favourite dish (generally it is the one most unsuitable for his complaint), or if he refuses or is unable to take the necessary regular exercise, all the rest of the treatment is vain, and becomes labour lost. If these temptations are overcome, if the effort is successful, the reward of a complete cure is not long withheld.