and for the rest of the examination never flinches again. This phenomenon I have noted in three cases where there was extrinsic evidence of malingering.

Babinski demonstrates the rarity of "hysterical anaesthesia" by blindfolding the patient and telling him to point to the spot touched. This method avoids hinting at anaesthesia, but conveys a different suggestion, and I have found that the patient sometimes fails to localize the spot correctly. For either of these methods to yield instructive results a "virgin subject" is necessary.

That the blessed word "suggestion" is not a sufficient explanation for these phenomena I satisfied myself recently during a month spent in the receiving room of a London civil hospital. I examined many cases in search of suggestibility, and found it but twice—once in a nervous girl suffering from acute appendicitis, and once in a man upon whose foot a barrel had fallen whilst he was at work.

The objection will certainly be raised that those patients who become definite examples of Group C, and therefore fall amongst the hysterics, were hysterics from the start; and seeing that the differential diagnosis is, apart from extrinsic evidence, only a matter of judgement upon the part of the examining medical officer, and cannot rest upon signs or symptoms, the objection is hard to answer. I can only say, "Go and look"; make your own observations, and see if they do not lead to the opinions to which I myself have been forced.

The number of cases sent to hospital depends largely upon the medical officer. One medical officer may send five a month, another in similar circumstances may send in fifteen a month, or even fifty a month, all nicely diagnosed. If the extra ten, or forty-five, or whatever the number may be, are all claimed as hysterics I cannot contradict, or if they are "lead-swingers" I cannot prove that any would become hysterics if they were treated as suffering from real disease. I can only point to a steady influx of one type of case, to the presence of intermediate types which I myself can never differentiate, and to the increasing numbers of the finished product—the hysteric who gives a history of having been diagnosed and treated as a case of organic disease. The transition from one to the other can be explained according to modern conceptions of psycho-pathological processes, but for the present I refrain from theory.

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MEDICAL ASPECTS OF THE FOOD PROBLEM.

ABSTRACT OF A PAPER READ BEFORE THE WEST
LONDON MEDICO-CHIRURGICAL SOCIETY
ON APRIL 5TH.

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The present shortage of food as it affects health may be considered in various aspects:

1. *The Effects of a Diminution in the Diet as a Whole.*

The needs of the body in terms of energy under different conditions have been determined by physiologists with great accuracy. Thus a patient at rest in bed requires an intake of about 1,800 calories, an ordinary man engaged in sedentary or intellectual work about 2,450, and a man doing an average day's muscular work about 3,450. For really laborious work about 4,000 calories or more are required. The contention that brain workers do not require much food is not a mere scientific theory as some writers in newspapers would have us believe, but is a thoroughly established scientific fact.

If the intake in energy in the form of food falls below these figures weight is lost owing to body fat being consumed to make good the deficiency. Thus a reduction in the fat ration of $\frac{1}{2}$ lb. a week would entail a loss of a stone in weight in seven months. The loss, however, is not progressive. After a time the individual "touches bottom" and is able to maintain a lower weight on the diminished diet. This result is rendered possible by the lessened output of energy required for transporting a smaller body weight and also, according to Lusk, by an economy in

"fundamental metabolism." The loss of fat, also, means a lesser body surface with diminished heat loss, though this may be to some extent set off by the removal of some of the blanket of adipose tissue.

Most people have lost weight in this way during the last few months, but if the loss be not out of proportion to the total body weight they may be reassured. A 10 per cent. loss is probably not excessive, and is often accompanied by a real improvement in health. The loss of weight may be retarded by warm clothing, by avoiding unnecessary exertion, and by liberal hours of sleep. There is, of course, a danger point below which the body weight must not be allowed to fall, but it is impossible to state exactly where it is. Probably it is represented by the point at which the body begins to lose nitrogenous tissue as well as fat. Beyond this point energy suffers, and there is apparently a greater liability to disease, especially to tuberculosis. The tendency to functional nervous disorders seems also to become greater. It must be remembered that, as Greenwood has recently pointed out, many conditions of disease which have been attributed to underfeeding are really not due to too little food as a whole, but to a shortage of the specific constituents called vitamins. Hence the scantier the diet the more important it is that it should be varied in character.

2. *Effects of an Altered Ratio of the Chief Nutritive Constituents (Protein, Fats, Carbohydrates).*

The present restrictions tend to make the diet poorer in protein and fat and richer in carbohydrate than is usual in this country. The normal protein content of a freely chosen diet is about 100 grams or more, but there is no doubt that physiological needs can be met by much less. It is not likely, therefore, that health will suffer from a restriction of this constituent, but whilst growth is going on, during childhood and adolescence, and during pregnancy, care should be taken to maintain the protein intake at a high level. Extra-rations of milk are allowed to children and pregnant women, and the needs of adolescents can be met by a free use of unrationed nitrogenous foods, such as fish, eggs, and the pulses, etc.

It should be remembered in this connexion that the proteins of meat are of specially high biological value, and it requires a relatively larger amount of most vegetable proteins to replace them. Fortunately, however, the biological value of the nitrogenous matter in the potato is peculiarly high. Meat has also a special power of increasing heat production, and its diminution in the diet is therefore less felt in summer than in winter. It will be interesting to see whether the present compulsory semi-vegetarianism has any effect in lessening the incidence of such conditions as gout, epilepsy, and migraine. It should also be beneficial to sufferers from chronic vascular and renal troubles.

On the other hand, there is reason to believe that diminished intake of protein, and especially of animal protein, increases liability to tuberculosis. The comparative immunity of the carnivora to tuberculosis is of interest in this connexion.

The proportion of the total energy which is taken in as fat or carbohydrate respectively varies greatly in different individuals, 100 grams of fat to 400 of carbohydrate being perhaps a fairly common ratio. From the point of view of heat and energy production in the body it is a matter of indifference which is consumed, one part of fat being equivalent to two and a quarter of carbohydrate. It is an interesting question whether there is any part played by fat in metabolism which cannot be taken by carbohydrate. Rickets, for example, has been attributed to deficiency in fat, although on rather uncertain evidence, and it is generally believed that fat has a specific power of preventing tuberculosis. On the other hand, a diet relatively rich in carbohydrates may bring out a latent tendency to diabetes, although this is not likely to happen so long as sugar is as scarce as it is at present.

It is, however, on the digestive organs that the effects of a disturbance in the normal ratio between fat and carbohydrates is most likely to be felt. A relative excess of starch tends to favour gastric hyperacidity. The present diet also is undoubtedly bulky and flatulent, mainly because it is rich in cellulose. It is chiefly in the intestine that flatulence results, owing to the production of marsh gas, but the bulk of the diet may be trying to an atonic

stomach. This may be obviated by careful chewing and by not drinking at meals. Flatulence in the colon is usually not troublesome unless associated with constipation. Care should therefore be taken to regulate the bowels with a mild laxative, if necessary, although some patients find the present diet itself rather laxative, and if the colon be irritable it may even lead to diarrhoea, which a little bismuth or chalk will correct. In all these cases green vegetables should be avoided as they are rich in cellulose and do not add much to the nutritive value of the diet.

Carbohydrates have, of course, to be avoided by diabetics for metabolic reasons and by children with so-called coeliac disease, possibly because of defective pancreatic secretion, but for both these classes of patients special provision has been made in the rations.

3. Effects of Alterations in Quality of Staple Foods.

The chief staple food the quality of which has altered since the war is bread. The present bread contains more of the husk of the wheat grain than the pre-war bread, besides added cereals such as maize, barley, rice and oats. Chemically it is superior to white bread, and experiments have shown that it is as well digested (in the physiological sense). Patients, however, often complain that it is "indigestible" (in the popular sense). Most of these complaints are imaginary, and should be disregarded. Those with whom it is most likely to disagree are old persons with defective teeth and feeble stomachs, especially if the heart's action is also defective. Patients with any form of colitis, too, may find the bread irritating. Thorough toasting and careful chewing will get over the difficulty in most cases without having recourse to the undesirable practice of sending in a demand for white flour.

The only other staple foods which have altered in quality are meat and butter. Meat is less fat than it was, but this is not a matter of much moment, as much of the fat of meat used to be wasted. Butter, of course, has largely been replaced by margarine. The food value and digestibility of this substitute are practically the same as that of the genuine article, but there is reason to believe that margarine is deficient in certain vitamins which are present in butter. Where the diet is varied, however, this is not likely to affect health, although it might be detrimental to children fed almost entirely on bread and margarine.

Although milk has not deteriorated chemically in consequence of the war it is worth considering whether it is not more impure bacteriologically than formerly. There is some reason to believe that there has been a substantial increase in tuberculosis—especially of the abdominal form—amongst children in recent months, which may perhaps be attributable to milk. This is a matter deserving further attention and inquiry.

CONCLUSION.

Reviewing the whole question, it may be said with confidence that there is no reason to suppose that the food difficulties of this country, so far as they have gone at present, have had any adverse effect on health; if anything, their tendency has been perhaps in the opposite direction.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

COLLOID COPPER AND CANCER.

On August 3rd, 1914, a lady suffering from scirrhus of the right breast was sent to me by Dr. Hinds of Chilham, near Canterbury. A complete operation was performed, and the patient returned home. On February 17th, 1916, she came to consult me again with a recurrent growth at the lower end of the scar over the cartilages of the ribs. This was excised down to the perichondrium. In March, 1917, Dr. Hinds sent her to see me again, as she was losing flesh, and there was a nodule in the liver. Of this there could be no doubt. There was a distinct nodule, slightly tender when pressed upon, on the lower edge of the right lobe of the liver, outside the region of the gall bladder,

obvious to the patient herself, who indeed had been the first to discover it.

Injections of colloid copper were commenced at once. I saw the patient again on June 15th after thirty-four injections had been given, and made a note to the effect that the nodule was decidedly smaller. In March, 1918, I saw her again. There was no trace of the nodule to be felt. The liver was not enlarged in any direction, and the patient had put on half a stone in weight. The injections, which had been continued once a week, were left off.

I am fully aware of the many sources of fallacy in such a case as this. *Post hoc* is not *propter hoc*. There is no proof that the nodule was cancerous. Even if it were, secondary deposits of cancer in a far more advanced stage have been known to disappear without any treatment at all. But the fact remains that this nodule, about the nature of which three medical men who saw it, besides myself, had no reasonable doubt, disappeared under injections of colloid copper, and that the diminution in size began immediately after the injections were begun. The unmistakable improvement in the health of the patient, which was coincident with the disappearance of the nodule, must be associated with it, but in what way, whether as consequence or cause, will depend upon the view that is taken as to the effects of the copper.

It is to be noted that liver cells appear to have a special affinity for copper salts. It does not follow, therefore, that if the colloid copper were the cause of the disappearance of the growth in this case it would of necessity have an equal degree of influence upon cancerous growths in other organs.

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SHELL WOUND OF THE PANCREAS CAUSING PANCREATIC PSEUDO-CYST.

I was much interested in the case reported by Mr. John Morley in the JOURNAL of March 23rd, p. 341, as I saw an example of this rare condition in France last year.

The patient was a French soldier who had been wounded ten months previously (August 1st, 1916) by an aerial torpedo. In addition to various other wounds he had one in the left loin, but repeated x-ray examinations showed no sign of retained shell fragments. When first seen by me the abdomen was greatly distended and respiration and digestion much embarrassed. The swelling was most marked in the upper part of the abdomen, forming a rounded prominence in the epigastric, umbilical and left hypochondriac regions; the dullness over the tumour was continuous with that of the liver; the stomach, recognized by succussion, was displaced into the left iliac and hypogastric regions. On June 5th, 1917, a median supra-umbilical incision was made and a large tense cyst found, covered above by the linned-out margin of the liver. One litre of yellow, slightly turbid fluid was aspirated; the cyst was then partly drawn out of the abdomen and freely opened, when two more litres of thicker fluid, more like thin pus, were evacuated. The cyst was so large that the boundaries could not be definitely determined by the exploring finger. The cyst was marsupialized and drained for about three weeks; as there was then no further discharge the wound was allowed to heal up, and the patient, whose general condition had enormously improved, was sent to a convalescent hospital.

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THE VALUE OF THE WASSERMANN TEST.

RECENTLY I attended a pregnant woman who came to me with a chancre of seven weeks' duration; in spite of its typical and obvious appearance it was said not to be syphilitic because the Wassermann test was negative. In December, 1917, a patient attended for an obvious tertiary lesion; he had been discharged from hospital some few years ago as cured, because his blood was negative. In 1917 a lady went to a well-known surgeon for diagnosis; syphilis was suspected, and blood was sent to two different institutions; the report from one was negative, from the other positive; she had syphilis. Blood was drawn off, and sent to a well-known hospital, in two tubes and under two names; the report on one was negative, on the