

Archibald Jubb, from the Scottish Command, Glasgow Companies, Royal Army Medical Corps (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908).

2nd Lowland Field Ambulance: Alexander Macmillan Watson to be Lieutenant (dated May 7th, 1908).

1st West Riding Field Ambulance: Francis Darlow to be Lieutenant (dated July 24th, 1908). Walter Lister to be Lieutenant (dated August 21st, 1908).

2nd Northern General Hospital: The undermentioned to be officers whose services will be available on mobilisation (dated Oct. 14th, 1908): To be Lieutenant-Colonels: Thomas Churton, Thomas Pridgin Teale, Alfred George Barrs, and Harry Littlewood. To be Majors: Thomas Wardrop Griffith, Robert Lawford Knaggs, Berkeley George Andrew Moynihan, Albert Sydney Frankau Grünbaum, Henry Secker Walker, Walter Henry Maxwell Telling, Walter Thompson, and George William Watson. To be Captains: Joseph Faulkner Dobson and James Alane Coupland.

4th Northern General Hospital: The undermentioned to be officers whose services will be available on mobilisation (dated Oct. 14th, 1908):—To be Lieutenant-Colonels: Charles Brook, Charles Harrison, George Henry Grimoldby, and George Skelton Stephenson. To be Majors: William Arthur Carline, Edward Mansel Sympson, James Stitt Thomson, Thomas Walter Alfred Daman, Algernon Westlake, Charles Byron Turner, George William Shipman (late Surgeon-Lieutenant-Colonel, 4th Battalion Lincolnshire Regiment), and William Henry Breffit Brook. To be Captains: Devereux John Gregory Watkins, Edward Cecil Clements, Osmund Harry Chapman, George Alfred Cargill Shipman, Frederick Stephenson Genney, John Thomas Collier, Francis Bastow Cooper, Beattie McFarland, Andrew Burgess, Harold Charles Harrison, Arthur Alfred Pratt, Richard Ernest Edward South, Arthur Edward Wilson, Percy Cranston Phillips, Alexander Miller, Oswald Giles, John Edmund Saunders Passmore, and Frederick Ernest Withers.

2nd Scottish General Hospital: The undermentioned to be officers whose services will be available on mobilisation (dated July 21st, 1908):—To be Lieutenant-Colonels: George Alexander Gibson, Joseph Montagu Cotterill, Alexander Bruce, Charles Walker Cathcart. To be Majors: Robert William Philip, Francis Mitchell Caird, William Russell, George Andreas Berry, John James Graham Brown, James William Beeman Hodsdon, George Lovell Culland, David Wallace, C.M.G. To be Captains: Francis Darby Boyd, C.M.G., Harold Jalland Stiles, Robert Alexander Fleming, Henry Alexis Thomson, Hamilton Graham Langwill, Alexander Miles, Harry Rainy, Arthur Logan Turner, Douglas Chalmers Watson, William Guy, William Thomas Ritchie, John Wheeler Dowden, Edwin Bramwell, Archibald Adam Scot Skirving, C.M.G., James Gibson Cattannach, George Lyall Chiene, Edwin Matthew, William James Stuart, John Eason, and Edward William Scott Carmichael.

Surgeon-Captain William Balfour Fergusson, from the 1st Gloucestershire Royal Engineers (Volunteers), to be Major (dated April 1st, 1908). John Henry Harris (late Major, 1st Devonshire Royal Garrison Artillery (Volunteers)) to be Major (dated April 1st, 1908). Harry Findlater Wilkin to be Lieutenant (dated May 19th, 1908). Arthur Walker to be Lieutenant (dated August 26th, 1908).

Captain Alastair Norman Fraser, R.A.M.C., to be Adjutant of a School of Instruction, vice Major Alexander J. MacDougall, who has vacated that appointment (dated Sept. 1st, 1908).

#### VOLUNTEER CORPS.

*Rifle*: 1st Volunteer Battalion, The Northumberland Fusiliers: Surgeon-Lieutenant Robert McCoull resigns his commission (dated March 31st, 1908). 2nd Volunteer Battalion, The Lancashire Fusiliers: The undermentioned officer resigns his commission (dated April 1st, 1908): Surgeon-Lieutenant John A. C. Roy. 1st Volunteer Battalion, The Royal Welsh Fusiliers: The undermentioned officer resigns his commission (dated March 31st, 1908): Surgeon-Lieutenant James L. Duncan. 1st Volunteer Battalion, The Hampshire Regiment: Surgeon-Captain Douglas L. Thomson resigns his commission (dated March 31st, 1908).

At an investiture held by the King on Oct. 12th at

Buckingham Palace Lieutenant-Colonel Francis Frederick Perry, I.M.S., Honorary Surgeon to the Viceroy of India, was invested with the Riband and Badge of a Companion of the Most Eminent Order of the Indian Empire.

Captain J. C. Holdich Leicester, I.M.S., has been appointed Civil Surgeon at Simla.

## Correspondence.

"Audi alteram partem."

### MEDICINE AS A BRANCH OF TECHNICAL EDUCATION.

To the Editor of THE LANCET.

SIR,—In the midst of the annual epidemic of oratory which attacks the medical schools at the commencement of the winter session it seems pitiful that any grain of wisdom should be lost in the chaff of platitude for want of a little winnowing. Such is my excuse for directing special attention to the masterly address of Sir Clifford Allbutt at Manchester. Pervaded as it is throughout with thoughts and opinions of the greatest value on many of the most difficult problems affecting the medical profession it may appear invidious to emphasise any particular feature. There is one, however, which has often seemed to me to account for many of the anomalies and difficulties which have arisen in medical education and has not before received such lucid exposition nor the attention which it merits. I refer to Sir Clifford Allbutt's remarks on the relation of university to technical study. It has too long been forgotten or ignored that medical education is a branch of technical education and that it has acquired an unwarrantable position in the university. The demonstration of this peculiarity of our profession is well set forth in Sir Clifford's address. Now it might be readily assumed that this has been altogether beneficial to medicine, and that if anyone has the right to grumble it is one or all of the other professions. On the contrary, whilst the advantages have, perhaps, not been small, there have undoubtedly been serious drawbacks. To mention only one, it is largely responsible for the multiplicity of portals to our profession, a condition which we are rightly coming to regard as an unmitigated evil. The extraordinary increase in recent years of provincial universities accentuates this evil and brings others in its train. Whether *under existing circumstances* the multiplication of universities is a boon or a bane to the medical profession, and still more to the public weal, is a proposition which is open to very serious argument. It is certainly no boon to the London medical schools, and it is therefore not easy for either Londoner or provincial to take an unprejudiced view. Without entering deeply into this question, it must be admitted that the wealth of London in hospitals, teachers, clinical material, combined with its political and geographical position, render it unique as a centre of medical education, and any deterioration which it undergoes must militate against the advance of medicine in the whole country. Now at the present time, if it is not deteriorating it is certainly not making such rapid advance as it should. The chief reasons are patent to all—viz., the deplorable condition of the University of London and, intimately related to that, the jealousies and internecine strife of corporate bodies having their own vested interests. It is here that Sir Clifford Allbutt's remarks are so illuminative. The corporate bodies alluded to, who shall be nameless, are, and must inevitably continue to be, chiefly concerned in the technical side of medical education. Their natural evolution is hampered and thwarted by the chains which link them to the university. Freed from the university their enormous fund of energy, potential for progress and now frittered away in the squabbles of petty jealousy, would be liberated for advance, each along its own line, and transformed into a healthy competitive stimulus.

This freedom of action can only be attained by a divorce, or better, a judicial separation, of the technical and university diplomas. Much as it may be desired, a single portal to the medical profession, such as exists in the German Staatsexamen, can scarcely be imagined within the bounds of practical politics when we consider the varied and conflicting

interests at stake. It appears to me, however, that it might be attained in modified but satisfactory form by equalising the examinations of the non-university examining boards which now grant diplomas qualifying to practise. These are the bodies which are essentially concerned in the technical side of medical education. The practical difficulties of the scheme would not be insuperable, the best method being probably the supervision of the examinations by moderators appointed by the General Medical Council. At the same time the universities must be disendowed of their power to grant diplomas qualifying to practise. They would lose little by the change and would gain greatly in freedom from thralldom to the General Medical Council. On the other hand, the various Colleges of Physicians and Surgeons would gain enormously.

Some such radical method of attacking the problem must be adopted if London is to be prevented from losing the premier position in Great Britain in medical education. As long as the London schools are tied to the University there is imminent danger of fiascoes like that of the University School for Preliminary Medical Studies recurring. Can it be imagined that any progress is possible under existing circumstances when it cannot be denied that your correspondent, "M.B., B.S. London," of last week expresses the opinions of a large body of medical graduates of the University of London? It is deplorable that a selfish pride in their own plumage should so blind them to the needs of their profession, but their attitude must be taken into consideration—at least, in its voting capacity.

I am, Sir, yours faithfully,

Wimpole-street, W., Oct. 10th, 1908. J. HERBERT PARSONS.

## THE CAUSE AND PREVENTION OF DENTAL CARIES.

To the Editor of THE LANCET.

SIR,—There have of late years been many discussions on the causation of caries and other diseases of the teeth. These discussions have elicited a great deal of speculation and learned talk, but, strangely enough, have almost entirely left out of consideration the central and very important practical fact that nine-tenths of the diseases of the teeth are due to a faulty system of dieting. It is because Dr. J. Sim Wallace in his valuable paper to THE LANCET of Sept. 12th recognises this truth, which has long been apparent to me from my researches into the evolution of man's diet, that I welcome it. The means of securing and preserving good teeth are simple in the extreme. May I be permitted, by way of emphasising Dr. Wallace's position, to state what I conceive them to be as simply and forcibly as I can?

The prevention of dental diseases is, I say, a matter almost entirely of diet. Without entering into the question of feeding during the first months of life, I may observe in passing that the correct feeding of the infant involves the rigorous exclusion of every form of patent food. When the child begins to cut its teeth we should at once begin, though very cautiously, to give solid food with which, obviously, the teeth are intended to cope, and which therefore their appearance indicates as now suited to the needs of the growing child. Solid food may be conveniently referred to under the following heads: (a) Starchy food; (b) Sugar; (c) Fruit; and (d) Animal food.

(a) *Starchy food*.—All, or almost all, the starchy food should during the first years of life be given in a form compelling mastication; this plan not only enables the jaws and teeth to be properly exercised, but allows much of the starch to be digested in the mouth. Starchy foods of the liquid, pappy, spongy, and pultaceous order are to be avoided, the chief exception being the potato, which may be allowed in moderation. The best way to give starch—I entirely endorse Mr. Edmund Owen's remarks on this head—is in the form of well-baked bread-crust, to which butter, dripping, or bacon fat may be added. Hard biscuit is also good, but not nearly so good as the less brittle bread-crust. Directly the lower incisors are cut the infant may nibble at a leathery crust occasionally, but not until the molars appear should starch be allowed in any quantity. When at, say, the third year, the instinct to masticate has by these means been developed, softer starchy food, such as milk puddings or porridge, may be allowed in moderation, for mastication now being instinctive these will not be permitted to flood the stomach

wholly undigested, and so to set up fermentative dyspepsia. Here let me add that the child even at this stage may be allowed as much green vegetables as it can digest.

(b) *Sugar*.—The supply of sugar should be meagre until the third or fourth year and when given concentrated it should only be at, or immediately after, the regular meal times. Sugar-cane may, however, be allowed almost indiscriminately, not only because the contained sugar is in a diluted form, but also because cane chewing exercises the jaws in a very efficient manner.

(c) *Fruit*.—Directly the incisors are cut the infant may be allowed occasionally to bite at some hard fruit—e.g., an apple, and as the child gets older other fruits may be added to the dietary.

(d) *Animal food*.—This may be given in any form in which it can be digested, for the young human is quite as much carnivorous as vegetarian. Directly dribbling at the mouth heralds the eruption of the teeth the child should be given a chop bone or a chicken bone to gnaw *ad libitum*, and this practice should be encouraged until the end of the second year or later. It should be borne in mind that the fleshy parts of animal food, unless toughened by bad cooking, do not require mastication in the strict sense of the term. Butchers' meat should be underdone rather than overdone.

The effect of following these simple rules would be practically to do away with dental disease in children and to effect an enormous reduction not only in dental, but in nasal, pharyngeal, aural, as well as many other diseases among neo-civilised peoples, both in early life and later. About the truth of this bold assertion there cannot be the slightest doubt in the mind of anyone who will look impartially at the facts of the case. What these facts are I have quite recently stated in my work "On Treatment," and there is no need for me to discuss them here in detail, but I may perhaps be permitted to restate a few of the chief.

I have shown (1) that from the anthropoid period of his career right up to the time when he began to cook his food man became increasingly carnivorous, and that at the close of this period, at least one-half of his food (probably more) was of the animal kind. (2) Further, that until the discovery of cookery very little crude starch was permitted to enter the human stomach, for not only were the supplies of this substance comparatively slender in pre-cookery days, but these slender supplies were entangled in a cellulose mesh-work, which in almost every instance needed abundant mastication in order that the starch and other food-stuffs might be liberated and thus rendered capable of digestion. This circumstance necessitated an active use of the jaws and teeth which tended to their healthy growth and development and at the same time facilitated the buccal digestion of the ingested starch, whereby a considerable portion was converted into dextrines, and some indeed even into malt sugar, before it was permitted to enter the stomach. (3) That until the agricultural period (which long post-dated the discovery of cookery) man's only source of sugar, other than the limited supplies he obtained from fruits, &c., was wild honey.

Now let us glance at the present state of things. Not only has neo-agricultural man vastly increased his supplies of sugar and starch, not only does he consume these substances in an amount vastly in excess of that consumed by his not very remote ancestors, but—and this is the point I chiefly wish to drive home—practically the whole of his starchy food is in a liquid, pappy, spongy, or pultaceous form: the stomach and bowels are, in fact, deluged with crude starch which has suffered little or no buccal digestion, while the jaws and teeth get little or no real work.

I have said that animal food does not need any mastication to speak of. It is essentially the starchy portions of our food which demand prolonged chewing. Yet there is scarcely a single article of vegetable food in the modern dietary which calls for more than a pretence at chewing. Of the more common starchy foods of this country—potatoes (often mashed), bread (mostly new and with little well-baked crust), bread-and-milk, rusks soaked in milk, porridge, gruel, milk puddings (rice, tapioca, vermicelli, sago), other puddings (batter, suet, roly-poly, plum), cakes (seed, caraway, currant), scones, buns, sponge cakes, queen cakes, muffins, crumpets, pastry (in forms too numerous to mention), macaroni, blanc mange, biscuits—only bread-crums and biscuits tend to excite mastication; and they very insufficiently, for the crumbs are often soft and are, moreover, not rarely avoided, while the biscuits are generally of a kind