Notes, Short Comments, and Answers to Correspondents.

ON THE NEED OF A NEW TECHNIQUE IN ANTHROPOLOGY.¹

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WHAT is it that a young man seeks when he enters the university—if we put aside for a moment any social advantages, such as the formation of lifelong friendships associated therewith? He seeks, or ought to seek, training for the mind. He seeks, or ought to seek, an open doorway to a calling which will be of use to himself, and wherein he will take his part, a useful part, in the social organisation of which he finds himself a member. Much as we may all desire it, in the pressure of modern life, it is very difficult for the young man of moderate means to look upon the university training as something apart from his professional training. Men more and more select their academic studies with a view to their professional value.

Prospects of the Student of Anthropology.

We can no longer combine the senior wranglership with the pursuit of a judgeship; we cannot pass out in the classical tripos and aim at settling down in life as a Harley-street consultant; we cannot take a D.Sc. in chemistry as a preliminary to a journalistic career. It is the faculties which provide professional training that are crowded, and men study nowadays physics or chemistry because they wish to be physicists or chemists, or seek by their knowledge of these sciences to reach commercial posts. Even the very Faculty of Arts runs the danger of becoming a professional school for elementary school teachers. I do not approve this state of affairs; I would merely note its existence. But granted it, what does anthropology offer to the young man who for a moment considers it as a possible academic study?

There are no professional posts at present open to him and few academic posts.² There is little to attract the young man to anthropology as a career. Is its position as a training of mind any stronger? The student knows if he studies physics or chemistry or engineering that he will obtain a knowledge of the principles of observation, of measurement, and of the interpretation of data, which will serve him in good stead whenever he has to deal with phenomena of any kind. But, alas, in anthropology, while he finds many things of surpassing interest, he discovers no generally accepted methods of attacking new problems: "quot homines, tot sententiæ."

The Type of Student Needed.

The type of man we want in anthropology is precisely the man who now turns to mathematics, to physics, and to astronomy—the man with an exact mind who will not take statements on authority and who believes in testing all things. To such a man anthropometry—in all its branches, craniometry, psychometry, and the wide field in which body and mind are tested together under dynamic conditions—forms a splendid training, *provided* his data and observations are treated as seriously as those of the physicist or astronomer by adequate mathematical analysis.

Such a type of man is at once repelled from our science if he finds in its text-books and journals nothing but what has been fitly termed "kindergarten arithmetic." Why, the other day I saw in a paper by a distinguished anthropologist an attempt to analyse how many individual bones he ought to measure. He adopted the simple process of comparing the results he obtained when he took 10, 20, 30 individuals. He was not really wiser at the end of his analysis than at the beginning, though he thought he was. And this notwithstanding that the whole matter had been thrashed out scientifically by John Bernoulli two centuries ago, and that its solution is a commonplace of physicist and astronomer!

An Exact Technique.

How can we expect the scientific world to take us seriously and to treat anthropology as the equal of other sciences while this state of affairs is possible? What discipline in logical exactness are we offering to academic youth which will compare with that of the older sciences? What claim have we to advise the State until we have introduced a sounder technique and ceased to believe

that anthropometry is a science that any man can follow, with or without training? As I have hinted, the problems of anthropology seem to me as subtle as those of physical astronomy, and we are not going to solve them with rusty weapons, nor solve them at all unless we can persuade the "brainy boys" of our universities that they are worthy of keen minds. Hence it seems to me that the most fertile training for academic purposes in anthropology is that which starts from anthropometry in its broadest sense, which begins to differentiate caste and class and race, bodily and mental health and disease, by measurement and by the analysis of measurement.

Once this sound grounding has been reached the trained mind may advance to ethnology and sociology, to prehistory and the evolution of man. And I shall be surprised if equal accuracy of statement and equal logic of deduction be not then demanded in these fields, and I am more than half convinced, nay, I am certain, that the technique the student will apply in anthropometry can be equally well applied in the wider fields into which he will advance in his later studies. Give anthropology a technique as accurate as that of physics, and it will forge ahead as physics have done, and then anthropologists will take their due place in the world of science and in the service of the State.

Francis Galton's Warning.

Francis Galton has a claim upon the attention of anthropologists which I have not. He has been President of your Institute, and he spoke just 35 years ago from the chair I now occupy, pressing on you for the first time the claims of new anthropological methods. In Galton's words: "Until the phenomena of any branch of knowledge have been submitted to measurement and number it cannot assume the status and dignity of a science." Have we not rather forgotten those warning words, and do they not to some extent explain why our universities and learned societies, why the State and statesmen, have turned the cold shoulder on anthropology?

This condition of affairs must not continue; it is good neither for anthropology, nor for the universities, nor for the State if this fundamental science, the science of man, remains in neglect. It will not continue if anthropologists pull together and insist that their problems shall not fail in utility, that their scientific technique shall be up to date, and that anthropological training shall be a reality in our universities—that these shall be fully equipped with museums, with material, with teachers and students.

Planning for the Future.

It is almost as difficult to reform a science as it is to reform a religion; in both cases the would-be reformer will offend the sacrosanct upholders of tradition, who find it hard to discard the faith in which they have been reared. But it seems to me that the difficulties of our time plead loudly for a broadening of the purpose and a sharpening of the weapons of anthropology. If we elect to stand where we have done a new science will respond to the needs of State and society; it will spring from medicine and psychology, it will be the poorer in that it knows little of man's development, little of his history or prehistory. But it will devote itself to the urgent problems of the day.

The future lies with the nation that most truly plans for the future, that studies most accurately the factors which will improve the racial qualities of future generations either physically or mentally. Is anthropology to lie outside this essential function of the science of man? If I understand the recent manifesto of the German anthropologists, they are determined it shall not be so. The war is at an end, but the critical time will be with us again, I sadly fear, in 20 to 30 years. How will the States of Europe stand then? It depends to no little extent on how each of them may have cultivated the science of man and applied its teaching to the improvement of national physique and mentality.

Let us take care that our nation is not the last in this legitimate rivalry. The organisation of existing human society with a view to its future welfare is the crowning task of the science of man; it needs the keenest-minded investigators, the most stringent technique, and the utmost sympathy from all classes of society itself. Have we, as anthropologists, the courage to face this greatest of all tasks in the light of our knowledge of the past and with our understanding of the folk of to-day? Or shall we assert that anthropology is after all only a small part of the science of man, and retreat to our study of bones and potsherds on the ground that science is to be studied for its own sake and not for the sake of mankind?

I do not know what answer you will give to that question, yet I am convinced what the judgment of the future on your answer is certain to be.

¹ Being the concluding section of the presidential address to the Anthropological Section of the British Association.

² In London, for example, there is a reader in physical anthropology who is a teacher in anatomy, and a professorship in ethnology, which for some mysterious reason is included in the faculty of economics, and is, I believe, not a full-time appointment.

Mr. W. McAdam Eccles, of St. Bartholomew's Hospital, who has lately removed an "included foetus" from a male infant, aged 8 months, would be glad to hear of any similar case in which the specimen has been preserved.

PUBLIC HEALTH IN NEW ZEALAND, 1918-19.

IN the report on Public Health and Hospitals and Charitable Aid in New Zealand for the year ending March 31st, 1919, Dr. T. H. A. Valintine, Inspector-General of Hospitals and Chief Health Officer, details his proposals for reorganising and strengthening the department (which include an increase in the number of districts to eight, with 12 medical officers of health), and reviews the general sanitary conditions of the Dominion. A statement of the expenditure borne by the Government in connexion with the influenza epidemic shows that the total amounted to £182,659. In addition to this a sum of £75,374 has been allotted as an annual relief to widows and orphans, and in some cases widowers with children. There was an increase in diphtheria and cerebro-spinal meningitis during the year under review, but scarlet fever, enteric fever, and tuberculosis showed decreased prevalence.

The pandemic of influenza prevailed in New Zealand with considerable severity in November and December, 1918. In these two months 5471 deaths were directly attributable to this disease, the provinces of Auckland and Wellington suffering most, with 3127 deaths between them. Dr. R. H. Makgill, district health officer for Auckland, who makes a special report on the subject, states that there were two distinct waves of infection, the first reaching its maximum about August or September, with an abnormal but not alarming mortality, the second developing in the first two weeks of November, with a virulence far in excess of anything that had hitherto been experienced. This "division into first and second waves, with undue morbidity [fatality] of the second wave, was experienced all over the world, and the greatest intensity of the second wave was almost synchronous in countries so widely separated as Britain and New Zealand." Alluding to the fact that, "whereas in ordinary epidemics the power fails as the wave recedes, this one showed a recrudescence power," Dr. Makgill remarks that there is nothing stable about the virulence of an infective organism, and this applies to the influenzal group as to others. The conditions were very favourable to the spread of disease.

"Huge bodies of men gathered together in training camps throughout the world, and then hurried overseas in conditions of unavoidable overcrowding, and the concentration in Europe of these overseas bodies of men has never occurred before on such a scale. The massing together of recruits drawn from country districts has produced an ideal field for the cultivation of infective organisms, since these men have not had time to acquire immunity to these organisms."

Popular opinion attributed the outbreak to the arrival of the mail steamer *Niagara* with many cases on board, but Dr. Makgill shows good reasons against this view.

The low degree of resistance to pneumonia among New Zealand troops has been demonstrated in Britain. Dr. Makgill considers this to be—

"probably the result of the general healthful condition of life and climate [in New Zealand], whereby our population fails to acquire that natural immunity to disease of the type which the slum-dweller derives from constant struggle with invading organisms. It is doubtless to this that we owe the very violent character of the outbreak."

This is an argument that seems to cut both ways. Is the slum-dweller likely to have a greater resisting power to infection generally than the countryman? Of the total 5471 deaths from influenza, 2719 occurred in persons between the ages of 25 and 40; that is, 49.71 per cent. of the deaths in 23.88 per cent. of the population. The actually highest ratio was in the age period 30 to 35 (1010 deaths, or 11.19 per 1000 in 8.18 per cent. of the population). Males suffered much more than females (6.49 compared with 3.48 deaths per 1000); this agrees with the general experience. In the age groups from 25 to 40 the deaths numbered 1826, or 52.36 per cent. of male deaths in 22.03 per cent. of the male population. Among females between 25 and 40 there were 893 deaths, or 45.43 per cent. of female deaths in 25.64 per cent. of the female population.

The progress of the epidemic is clearly described, and the increase in virulence emphasised.

"To the student of bacteriology there is nothing inconceivable in the possibility of an organism, by rapid transference from case to case under favourable surroundings, being changed from a harmless saprophyte to a very virulent infective parasite."

Though not always recognised, this is eminently reasonable in regard to many of the specific infections, the causative organisms under certain conditions developing a progressively increasing infective power. Dr. Makgill traces the relationship between the first and second epidemic waves, and describes the preventive measures adopted. Systematic treatment by the use of weak solutions of zinc sulphate in an inhalation chamber was found during two and a half years' experience in the military camps to be highly satisfactory; the proportion of "severe" cases was reduced from 50 per cent. to 22 per cent. among men who were treated daily for three successive days. "Frequent washing out of the nose and mouth with simple salt solution is probably as valuable a family remedy as any which can be suggested."

"THE DOCTOR'S REFERENCE LIST."

A CONVENIENT little book for keeping on the consulting-room table is provided by "The Doctor's Reference List," now in its eleventh edition. Addresses of homes and hospitals for special cases, convalescent homes, inebriate retreats, sanatoriums, private asylums, nursing homes, and benevolent institutions are classified and indexed for ready reference; summaries are included of the Inebriate, Lunacy, and Insurance Acts, as well as other enactments which affect the medical man in regard to the advice which he may give his patient. The value of the book would be increased by careful revision. Names of secretaries are still given who have vacated office by death or other causes. The scope might usefully be widened to include schools for mental defectives, welfare and venereal centres, and similar institutions. The publishers are Messrs. George Pulman and Sons, Thayer-street, London, W., and the price is 1s.

MINERS' SAFETY LAMPS.

MISUNDERSTANDING may possibly arise from our reference to the illumination from safety lamps in an annotation on Nystagmus (THE LANCET, Sept. 11th, p. 562). The light from these lamps certainly becomes less as work proceeds, but this is due rather to an indirect than a direct effect of coal-dust. Dust clogs the gauze which is above the glass cylinder in front of the flame; this clogging interferes with the ventilation of the lamp and so affects the flame. The glass cylinder becomes less transparent owing to deposition of smoke from a flame which is not burning brightly.

SALVIA OFFICINALIS.

SAGE has been credited with many medicinal virtues, and as a popular simple is still used by country folk, though it is not now officially recognised in the British Pharmacopœia. Among its reputed uses were those of a gargle for sore-throats and a cleanser of the teeth, and Mrs. Grieve, of "The Whins" Medicinal and Commercial Herb School and Farm, Gerrards Cross, who has compiled a very interesting pamphlet on the healing virtues of the sage, suggests that the plant might be tried in pyorrhœa. The salvia was so esteemed in time past as to give rise to the monkish line:

Cur moriatur homo cui salvia crescit in horto?—
a variant of the old English saying:

He that would live for aye
Must eat sage in May.

Mrs. Grieve deals with the cultivation of the plant, its preparation for market, chemical constituents, use in medicine, and the preparation of food, and includes some account of other members of the great labiate order. The price of the book is 7½d. post-free from the author.

THE EFFECT OF CASTRATION ON UTERINE CONTRACTIONS.

THE effects of castration on the automatic movements of the uterus in the guinea-pig have recently been studied by Mons. Athias, of Lisbon, and in the *Journal de Physiologie et Pathologie* he describes the results obtained by observing the movements of the excised uterus in well-oxygenated Tyrode's fluid—akin to Ringer's fluid—kept at 35° C. The uterus in new-born females shows almost no automatic movements; when excised the uterus contracts and slowly relaxes. The motor functions become distinct a month after birth, the movements beginning 10-20 minutes after the preparation is placed in the nutrient fluid and lasting for 24-48 hours. The movements of the surviving uterus show three periods. There is an initial contracture, during which the relaxed muscle shows contractions which steadily decrease; in 2-6 hours this passes into a period of relaxation, when, as the tonus diminishes, the contractions become more marked and more regular, lasting 24-48 hours; there follows a period of increased tonus which precedes final termination of the contractions. There is no fundamental difference between virgin and previously pregnant uteri. The uterus of the later stages of pregnancy and of parturient animals show specially powerful contractions. In 23 animals of different ages—virgin and previously pregnant—double ovariectomy was performed. During the first 4-6 months after the operation no difference was noted. Only after 9 months, when the activity of the excised uterus showed changes, was atrophy observed. The initial contraction then lasted longer, and the period of relaxation was considerably diminished; the contractions were small and scarcely perceptible, and the terminal period was shortened. The atrophy of the uterus and the accompanying diminished activity occurred considerably later when the animals were castrated during or immediately after pregnancy. In five animals—5-34 days after castration—the ovaries of other females were grafted subcutaneously. In these cases the function of the uterus remained as long as functional ovarian tissue was unabsorbed, which, according to the author, might be for a period of 2-3 years, but the ovarian tissue may disappear within 20 months. It would seem, therefore, that the presence of the ovary is essential for the maintenance of the normal function of the uterus.