established in connexion with the highly complex question of head-growth, how it is affected by the intellectual training to which the brain is subjected during school life, and whether the rate of growth differs or is the same in the stupid and the clever, no one can doubt the desirability of prosecuting inquiries through which a definite pronouncement could be made. We have some information on this point gathered by Venn from observations made on the heads of Cambridge students, which, although they do not establish any definite law, are strongly suggestive of the results which might be obtained by a systematic survey of the manner in which intellectual effort is related to brain growth. So strong was the evidence on these and other points, and on their bearing on anthropology, that the Inter-Departmental Committee urged strongly in its report that a consultative committee should be appointed to determine the measurements and observations to be made, and the establishment of a central bureau in London to collate observations, to prepare statistics, and to disseminate information on anthropological work, in order to interest the public in regard to the importance of maintaining the national physique.

A Central Bureau for Scotland.

Now I am going to take the liberty of asking the trustees to consider whether they cannot adopt a policy by which the recommendation of the Committee can be adopted in Scotland. By proceeding cautiously in co-operation with School Boards and other institutions, systematic measurements might be conducted in this city and its neighbourhood. The interest in the investigation would spread, the teachers sent out from the College would gradually diffuse the interest further and further, till, in a comparatively short period, it would make itself felt far and wide. As to the connoting of facts, I can assure them they will find no dearth of willing workers. Thus the College would become the central bureau for Scotland, and another instance of the genius of our country for administration would be afforded to the kingdom at large. I have only alluded to three lines of action which have been taken, or may be taken, by the College. The field of work opened up by a school of practical hygiene is almost boundless. It is perhaps unnecessary—certainly it is impossible—to enlarge on that subject to-day. But I would venture to make one further statement, and to say that, although this College has great inherent power, it is not altogether independent of extraneous support. If it be admitted that it will exercise influence on education at large, it should receive co-operative support from all educational institutions. It should especially, in one form or another, be recognized as a teaching body by our Universities.

At the conclusion of Sir John Batty Take's address the CHAIRMAN read a telegram from Sir Henry Campbell-Bannerman expressing regret at his unavoidable absence, and afterwards thanked Sir John Batty Take for his address and the Marquis of Linlithgow for his presence. The proceedings were brought to a close by a vote of thanks to the Chairman, adopted on the motion of Sir ROBERT CRANSTON.

EDINBURGH ROYAL INFIRMARY.

At a meeting of the managers on Monday, October 9th, Dr. D. H. McCallum was appointed anaesthetist to Ward 36, under the charge of Dr. Berry Hart, and Dr. Malcolm Campbell was appointed clinical tutor for gynaecology in the extramural class of clinical medicine, both appointments being for the ensuing winter and summer sessions. L. C. Peel Ritchie, M.B., Ch.M., L.R.C.S.E., was appointed clinical assistant to the Surgical Out-Patients' Department for six months, as from October 1st.

MOTOR AMBULANCE FOR EDINBURGH.

At a meeting of the Edinburgh Town Council on Tuesday, October 10th, it was agreed, on a recommendation of the Public Health Committee, to get a motor ambulance for the City Hospital at Colinton Mains, at a probable cost of £500.

Dr. W. A. TAYLOR, of Perth, was the recipient at the beginning of this month of a massive silver tea service from the members and late Commanding Officer of the 13th Company 1st Forfarshire R. G. Artillery (Vols.). Dr. Taylor has been connected with this company for five years as Surgeon-Captain, and the interest which he has shown in its ambulance and other work has apparently been greatly appreciated. The gift was made on the eve of Dr. Taylor's wedding, an event which presumably influenced the form which the testimonial took.

THE DIET OF THE PRECIBICULTURISTS.

By HARRY CAMPBELL, M.D., F.R.C.P.,

Physician, North-West London Hospital and to the Hospital for Diseases of the Nervous System, Welbeck Street.

VII.

THE ANDAMANESE.

WE now have to consider the diet of the Oceanic Negritos. These people were formerly diffused throughout the Malay lands, but now only survive in the Andaman Islands, the Malay Peninsula, the Philippines and parts of New Guinea.

The Andamanese are a Negrito race (men 4 ft. 10½ in., women 4 ft. 6 in.) inhabiting the Andaman Islands in the Indian Ocean. They are supposed to have reached these islands in the stone age and to have since given up making stone implements in favour of shell and bone, with which they tip their darts and arrows. At the present time they also employ iron. To Colonel Man, who spent eleven years among these people, we are indebted for a detailed knowledge of their dietetic customs, such as we do not possess of any other Negrito race. Some of them live on the coast and are fishermen and have canoes; others dwell inland in the jungle. The men are naked, while the women wear aprons of palm leaves. They build temporary huts of branches of trees. Before the arrival of the white man they knew nothing of agriculture, and possessed no single domesticated animal, not even the dog. Attempts have been made to teach them agriculture, but though they prefer the products of cultivation to the produce of the jungle, they do not consider the harvest they reap by tilling the soil worth the labour it entails. They are said to make earthenware pots, though without using the potter's wheel. If such is the case, it is the sole instance of a precibicultural people being acquainted with the art of pottery.

Animal Food.

The wild pig is a favourite food, and is sometimes caught and fattened up. Other varieties of animal food are the iguana, turtle, fish—both fresh and salt water, including prawns—and molluscs, and, to a less extent, pigeons, jungle fowl, flying foxes, bats, rats, sea snakes, turtle eggs, insects, grubs and the larvae of the great Capricorn beetle. They have a great relish for bone marrow, brains, and turtle blood. To extract the marrow they crunch the smaller bones with their teeth, using a stone hammer to break the larger ones.

Domesticated Animals.—Before the arrival of the white man they possessed no domesticated animal, not even the dog, the only instance, so far as I know, of a precibicultural people being without this animal. Now they have dogs, which they prize highly on account of the help they afford in the hunt.

Methods of Securing Animal Food.—The bow and arrow—the latter being long and unfeathered—and the spear are employed in the hunt. Fish are speared and caught in nets made of bark fibre.

Methods of Preparing Animal Food.—At one time they appear to have eaten their animal food half raw; now they cook it thoroughly. A pig is cooked as follows: The viscera being removed, the carcass is stuffed with leaves, which are then set on fire and the carcass placed on burning logs till the skin is scorched, when the meat is ready for consumption. Another plan is to boil portions of the animal in small pots (kind not specified); or again, the flesh is placed in underground ovens between layers of heated stones, the chief concern of the cook being to prevent the juices from being dried up. Turtle blood is boiled in the turtle shell till it becomes thick. Insects and grubs are collected in quantity, wrapped in leaves and placed on burning embers, the bundle being turned from time to time so that the contents may be thoroughly cooked.

Storage of Animal Food.—Meat is smoked on a grating made of twigs or bamboos placed two or three feet above the hut fire.* Another method of preserving is to pack the interior of dried canes with cooked meat, such as pork or turtle, and then gently heat them over the fire till steam issues, when they are sealed up with leaves and set aside. Thus prepared, the meat will keep for several days. When required for consumption the canes are again placed on the fire, the Andamanese being very partial to hot food, which is somewhat remarkable considering their beautiful teeth.

Vegetable Food.

Colonel Man estimates that one-third of their food consists of roots, fruits, and honey, the remainder being derived from

* Certain Brazilian tribes preserve their fish and game in this way.

the animal kingdom—a fact of great interest, as showing the strong tendency of early man to carnivorism.

Roots.—Man mentions six esculent roots, including yams, as furnishing food for the Andamanese.

Seeds.—Several varieties of seeds are eaten, including those of three varieties of mangrove and of an artocarpus, or bread fruit. Seeds of a species of seaweed are carefully cooked and eaten as a relish.

Fruits.—Colonel Man gives a list of several of these. Some are simply sucked for their flavour; of these he mentions seventeen. The stones of others are cracked for the kernel. Some of the more acid varieties are eaten with the ash left by the pinewood hut fire in lieu of sugar; others are cooked.

Green Foods.—Among these may be mentioned the heart of a species of palm.

Honey.—This, especially the black variety, is procured in considerable quantity. When Colonel Man had charge of the settlements, “a large sum was annually realized by the aborigines towards their support from the sale of honey to free residents.” Nothing could better show the important part occupied by honey in the food of primitive man.

Methods of Preparing Vegetable Food.—Some of the vegetable foods are eaten raw; others are simply cooked, while others, again, are put through special processes for the purpose of removing bitter and other objectionable ingredients. As showing what skillful cooks the Andamanese are, I may refer to the fact that one particular root is cooked in three different ways—either being heated over a fire till it becomes soft, when it is freed from the burnt earth and eaten; or washed, cut into small pieces and boiled; or, again, wrapped in large leaves, and baked on burning logs after being first washed and cut into pieces. Another method of cooking roots is to surround them with hot stones, and then to cover both with leaves and weights so as to confine the heat as much as possible, a method of stone cooking without employing the underground oven.

Instances may now be given of methods of preparation involving the removal of noxious ingredients.

One variety of root is cooked as found, and, after the skin has been peeled off, cut into slices, which are immersed in water for two days, after which they are baked by means of hot stones, or boiled. Mangrove seeds are prepared as follows: After being freed of their outer covering, they are boiled till quite soft, when they are cut into slices and left to soak in fresh or salt water for a couple of days or more, and are finally baked in leaves or boiled again. The seeds of a species of bread fruit are prepared in a still more elaborate way: First, the skin is removed; a quantity of the fruit is then placed in a wooden platter, and each person present renders assistance by sucking it; it is then half boiled, wrapped in leaves and buried in moist soil: here it remains several weeks, until the monsoon breaks, when the decaying and malodorous deposits are dug up and the seeds freed from the decaying matter, dried in the sun or by the fire, and subsequently stored in leaves or nets. When required for use they are again cooked. This is the only instance among the Andamanese of food being sun-dried.

Storage.—The above may be regarded as an example of storage. Other seeds are also stored.

Quantity of Food Available.—According to Man, the Andamanese “find ample provisions for their simple wants in their immediate surroundings without exerting themselves to any great extent.”

Drink.—The only drink available is water; they employ nautilus shells as cups, and large flat shells as plates, and joints of bamboo for holding water and food. Admirable examples of both are to be seen in the British Museum.

THE NEGRITOES OF THE MALAY PENINSULA: THE SEMANGS.

Like the Andamanese these Negritoes are sooty black, and have short woolly hair. They peopled the Malay Peninsula in the stone age, stone implements having been found in the Peninsula, but, like the Andamanese, they have abandoned their use. Although the two people are undoubtedly of common descent their languages are entirely different. “Hence the two groups have been separated for many thousands of years, and their speech has diverged too widely to be now traced back to a common source.” (Keane.)

For ages past the Malay Negritoes have been oppressed by the surrounding Malays, some nearly as wild as themselves. They go about almost naked, the women wearing a waistbelt of upas bark or a girdle of leaves, and they live in temporary shelters made of props and matted palm leaves, choosing

for these temporary abodes spots wherever game happens to be plentiful.

Animal Food.

Monkey, deer and other game. Fish from the streams which are innumerable in their country.

Methods of Obtaining Animal Food.—They use the bow and arrow, the bow being made of palm wood and the string of bast tissue. Their chief weapon, however, is the blow-pipe, 6 to 7 ft. long, from which they shoot poisoned darts. Quivers (made of bamboo) full of these darts are to be seen in the British Museum, as is also a spatula for mixing the poison obtained from the upas tree. They also make sharp-pointed spears from bamboo. Fish are caught in basket traps.

Preparation of Animal Food.—Fish are cooked by being held over a fire with a cleft stick. Monkey and other flesh is sun-dried.

Vegetable Food.

I am unable to give in detail the vegetable foods consumed, Clifford merely referring to “yams and other jungle roots.”

Preparation of Vegetable Food.—Doubtless elaborate methods are adopted, but I have not found any description of them. In the British Museum is a wooden pestle and mortar (mug shaped) used for pounding the food of the semang men when suffering from toothache. This suggests that they have special methods of preparing their food.

Salt is greatly appreciated. Clifford and two companions came on a camp of these people—a dozen squalid aborigines sitting round a fire—and were entertained to a meal which consisted of smoking yams and other mealy jungle roots, a few fish fresh caught and cooked over a fire, and “the meat of some nameless animal—monkey, I feared—which had been dried in the sun until it was as hard as a board.” After the meal Clifford produced a bag containing a few pounds of coarse Chinese rock salt; and he tells how with eager fingers they clutched at it, and how in an incredibly short time the whole four pounds had disappeared. Clifford says that lacking salt they look upon it as a luxury, “much as a child looks upon the contents of a bon-bon box.”

Drink.—This is confined to water.

THE PHILIPPINE NEGRITOES: AETAS.

These are a dwarf, sooty-black people, with woolly hair “like Astrakan.” They were formerly masters of the Malays, but after a time the Malays got the upper hand and forced them to retire to the high lands, and since the arrival of the Spanish, terror of the white man has kept them more than ever within these limits.

They are now found scattered among mountainous regions over the entire group of islands. Some have formed with the Malays a mixed Negrito race, but others are more or less entirely cut off from their Malay neighbours, and wander about almost naked in the forests in groups of twenty to sixty under a chief or elder, living in temporary dwellings made of saplings and canes covered with leaves. They are fond of lying in warm ashes and close to fires. They are remarkably agile, and are said to climb trees like monkeys, using their toes like fingers. Intellectually they appear to be very low in the human scale, Sawyer remarking of them that the only use they “can be to the United States will be as a subject of study in the elucidation of problems in ethnology, and to furnish skeletons for museums.”

The more isolated and primitive tribes do not cultivate the soil but subsist on jungle fruits, edible roots, mountain rice, and wild honey (which they regard as a great luxury), as well as upon everything that “crawls, runs, swims, or flies.” The chief animals they hunt are the deer and the wild pig.

Those living in touch with the Malays have developed a barter trade, exchanging edible roots and medicinal plants, said to be of extraordinary virtue, for tobacco, textiles and scraps of iron with which they tip their arrows and darts. They also barter bees' wax for rice and potatoes.

The only animal they have domesticated is the dog which assists them in the chase. The weapons employed are the bow and arrow, the bamboo lance and the wood lance. The bow is 5½ ft. long, and is made of palm wood; the arrow is iron-pointed and poisoned.

It is much to be regretted that we have no information as to the manner in which they prepare either their animal or vegetable food. I can find no mention of their employing underground ovens or stone cooking, nor of their removing acid or poisonous principles from vegetable substances.

The Quantity of Food.—According to Sawyer the stomachs of the Philippine Negritoes are generally greatly distended,

owing to the large quantities of innutritious vegetable food they consume.

Drinks.—Alcohol they do not make. They chew a substance called "buvo," which they obtain from the Malays.

THE VEDDAHS OF CEYLON.

Among existing Precibiculturists are two Caucasian peoples, namely, the Veddahs and the Ainus. The Veddahs (= hunters) are a primitive Caucasian dwarf race dwelling in Ceylon, the men averaging 5 ft. 2 in., with a cranial capacity of 1,320 c.cm., and the women 4 ft. 10 in., with a cranial capacity of 1,230 c.cm. They were the sole inhabitants of the island before its conquest by the Hindus (Cingalese) 2,000 years ago. At the present time they are found in the south-eastern part of the island. Some live on the coast, freely intermingling with their Cingalese neighbours; others are semi-nomad agriculturists; others, again—the "wild," or "rock" Veddahs—live among the rocks and cliffs of the inaccessible forests, and apparently have done for the last 2,000 years, entirely cut off from their civilized neighbours. They may be regarded as pure pre-agriculturists. They roam almost naked in small groups about the forests, live in caves or rock shelters, or huts made of boughs and bark, and subsist almost entirely by the chase.

Animal Food.—This includes the scaly ant-eater and pengolin (both prime favourites), the deer, monkey and pig; birds and fish; eels are greatly sought after. Certain animal foods are tabooed—for example, the elephant, bear, jackal, lizard, bat and snail.

Modes of Securing Animal Food.—They use a large bow and arrow and two kinds of axes. The bow is 6 ft. long, the arrow 3 ft. 6 in., and the weapon demands great strength of arm. The arrow heads are often made of iron obtained in barter. Birds are caught with bird-lime obtained from the juice of the bo-tree, or are followed to their nests and taken at night; fish are stupefied by impregnating the water with certain vegetable substances. They employ dogs and the buffalo in the hunt.

Preparation of Animal Food.—Meat is often eaten very high, sometimes raw, and is rarely more than slightly cooked. Honey is used to preserve meat: a hole is cut in a tree, packed with honey and meat, and finally sealed with clay.

Vegetable Food.—Particulars as to the kind of vegetable food consumed by the Veddahs are wanting, but they are known to dig for wild yams with a pointed stick, this being apparently the work of the women, for it is expressly stated that a girl can dig for them when very young. Nor is anything known as to their methods of preparing vegetable foods.

Honey and the grub in the comb constitute a staple food.

Drink.—Water only is drunk. They chew betel if they can get it; if not, they make a substitute, the astringent bark of the demette tree, or leaves of an aromatic plant, taking the place of the betel leaf, the bark of other trees that of the areca nut, and calcined snail shell that of lime.

Quantity of Food.—Food is evidently at times scarce; for we are told that when short of it they mix honey with decayed wood in order to satisfy their cravings.

THE HAIRY AINUS.

The Ainus are a hairy race of Caucasian stock. Originally inhabiting Japan and portions of the neighbouring mainland, they are now for the most part confined to the islands north of Japan collectively known as the Hokkaido. Many of them are half-breeds. The pure race is still in the pre-agricultural stage, living by hunting, fishing, and on wild vegetable produce, but is now fast dying out. The Ainus are said to make pottery without the wheel, but whether this art is indigenous or has been acquired from without does not appear. According to Landor, they subsist chiefly on fish, meat and seaweed, but other travellers assert that they secure a considerable quantity of vegetable food. Thus B. O. Howard refers to "the season for collecting various roots and bulbs which are used for food all the year round; the women, in groups, start out very early in the morning, taking with them nothing whatever to eat. Not until they returned with their loads on their backs at night would they break their fast;" and he says that the women are busily occupied throughout the summer in laying in wood and edible roots for the winter, their habit of carrying heavy loads slung from the forehead producing great hypertrophy of the cervical muscles. Batchelor, who has carefully studied the "Ainu economic plants," gives forty-four varieties of medicinal plants and ninth-three which are used for food, the latter including leaves and stems, roots, root-stocks, bulbs, fruits and acorns.

Some of the vegetable foods are eaten raw and some are dried for winter use. Such as are cooked are either boiled or roasted. Presumably the boiling is done in earthenware; I have found no mention of stone boiling nor of the employment of underground ovens. Whether, like some other pre-agriculturists, they adopt elaborate methods for getting rid of noxious ingredients from their vegetable foods I cannot say. They do, however, remove bitter principles by boiling. Thus we are told that the bitterness of the *Corydalis ambigua* bulb is removed by "repeated boilings in water," a certain kind of earth being sometimes added; and, again, that acorns "are usually boiled in two or three waters," sometimes so completely as to convert them into a kind of paste. Acorns of the *Quercus datata* are especially chosen as being the least bitter and astringent.

Fish are dried and preserved for winter use. There appear to be no regular times for meals.

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OPENING OF THE WINTER SESSION IN THE MEDICAL SCHOOLS.

MEATH HOSPITAL AND COUNTY INFIRMARY, DUBLIN.

THE educational work at the Meath Hospital for the winter session began last Monday, its commencement being graced by a ceremony at which the Earl of Meath presided. The principal event of this was an address by Sir John Moore, M.D. Dubl., D.Sc. Oxon., F.R.C.P.I., Physician to the Hospital. On its conclusion sundry votes of thanks were moved and the formal proceedings brought to a close by a short speech from Lord Meath, who complimented Sir John Moore on his paper and alluded to his own connexion and that of his family in past times with the Meath Hospital. It appeared to him that great improvements had of late years taken place in the majority of hospitals not only in Dublin but throughout the United Kingdom. He wished that some millionaire would come forward and enable the cleverer young medical men to pay visits to hospitals throughout the world. He thought they had much to gain by knowledge of what their neighbours were doing and that further intercommunication between hospital and hospital would be to the advantage of all concerned.

Sir John Moore in his lecture covered, as will be seen, a good deal of ground, but addressed himself mainly to older students, and especially to those who have reached the period at which they are eligible for admission to the clinical classes held at the Meath Hospital.

After speaking of the difficulties which surround the practice of medicine and urging the importance to the practitioner of a liberal education in Arts, Sir John Moore said that his special object was to impress upon those present the paramount importance of a regular daily attendance at the hospital, or rather at the bedside of the sick. He was far from wishing to decry work in the dissecting rooms, the laboratories, and the lecture theatres of the medical schools. A ripe and practical knowledge of anatomy and a sound acquaintance with physiology and histology, chemistry, and physics was essential, and medical authorities did well to insist upon a curriculum which would teach, and on examinations which would ensure, a knowledge of these all-important ancillary subjects. But, when all was said and done, the preparation for their life-work would have to be carried on in the out-patient department, the clinical wards, the operating theatre, and the *post-mortem* room of a well equipped general hospital. The student's powers of observation must be trained day by day till they became part of his being—even his second nature. He should learn to reason about observed facts, to arrive at a diagnosis from symptoms and physical signs, and to form an opinion as to the proper treatment of