

NIGERIA

A QUARTERLY MAGAZINE OF GENERAL INTEREST

Number 21 1940



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NIGERIA

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Edited by E. H. Duckworth, Inspector of Education

No. 21. _____ 1940 _____ Price 6d.

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EDITORIAL

NIGERIA

No. 21. 1940

This magazine although published under the aegis of the Government of Nigeria is not an official publication. The articles do not represent official opinion unless expressly stated.

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This photograph has been chosen for the place of honour in this issue because it presents so typical an example of an African face marked by fine qualities of repose and thoughtfulness. Incidentally, it also illustrates an Ibo style of hairdressing from Achalla (Onitsha Province), the work of professional hairdressers ; the decorations are made in cotton and sewn on.

(Photograph by K. C. Murray.)

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TN days before the war much of the trading energy of Nigeria was directed to the building up of export business, and the possibilities of internal trade tended to be overlooked. The war has provided an opportunity for the latter problem to be attacked, and many interesting fields lie waiting for research.

Not long ago I was at the little lagoon-side town of Badagry, some sixty miles west of Lagos. It is a pleasant place : the waterside is edged by fresh green grass and waving coconut trees, and a strong sea breeze blows most of the day. The soil is sand ; a European finds it hard work to walk in shoes along the loose sandy by-ways. The local produce consists of coconuts, cassava, some dried fish and, strange to relate, excellent onions grown on very special, very old, raised beds. The sand soil, cultivated by ordinary methods, is unsuited to the growing of yams, and most of those sold in the market have to be brought from a considerable distance and are expensive, with the result that the people rely on a diet overloaded with cassava. The excessive use of cassava has a serious effect on the health of the inhabitants, especially those of school age, many of whom suffer from eye diseases causing partial blindness. Here, in one comparatively small area, is presented a problem that can be found repeated, with local modifications, over and over again in Nigeria. It is the type of problem that can only be solved by co-ordinating many activities, especially agricultural, medical, educational, transport and business interests.

The development of village industries presents great possibilities. Industries that are already established but could be much improved include pottery making, weaving, fish curing and brick-making. On the Gold Coast, as a result of experimental work carried out at Achimota, pottery workers are now learning to use the potter's wheel and to glaze their pots with a glaze made from local materials.

We can also learn much from other parts of the world. The following is an extract from the Annual Report on Education in the Straits Settlements and the Federated Malay States, 1938 :--

"Some of the crafts in Perak are on a business basis. There are, for instance, in the schools model soap companies, with a limited company organization but with an unlimited zeal in production. Two of the schools in 1938 had a monthly turnover of fifty dollars with a profit of about ten dollars a month. The soap is packed with a professional finish and stamped with the school trade mark. As for all crafts which have sales in Perak, simple account books are kept by the soap-making companies. These books show stocks in hand, cost of materials and sales. At present teachers keep the books, but pupils will later be required to do so. Profits go in part to the purchase of materials and in part to school funds."

In China, a vast organization of village co-operative industries has been formed and is doing excellent work.*

It is possible to visualise a Nigeria where, by the spread of education and the application of medical science and hygiene, the diseases that hold back our people will have been stamped out ; a Nigeria where our villages are well-planned and full of healthy, joyous folk, all working together for

*An article on Chinese Co-operative Industries is in preparation for early publication in this magazine. 339

the common good, yet enjoying individual freedom; places where our potters, weavers, blacksmiths, carvers and other craftsmen are again able to find a good livelihood by the use of improved technique and systems of co-operative buying and marketing.

A few years ago the Advisory Committee on Education in the Colonies issued a very suggestive Memorandum on the subject of Rural Reconstruction. We have all had plenty of time to read and digest this Memorandum and quite a lot has been done in isolated instances to act upon the suggestions, but there has been no big sustained drive to co-ordinate all the possible forces that might be brought into play. It is a problem that cannot be solved by the writing of minutes and the expression of pious hopes. The development of village industries calls for the application of science, technology, and modern business methods.

In India, the Government of Bengal have a Department of Industries, and here in Nigeria there is little doubt that an organisation devoted to village industries could have a very stimulating influence. Its headquarters might serve as a power house for ideas, a place at which to collect and sort out information, a test laboratory, and a centre from which to design and organise publicity campaigns.

In England the public are supplied with a wealth of information through the agency of the Press, the wireless, pamphlets and travelling lecturers. There are Women's Institutes, Young Farmers' Clubs, and a host of other organisations devoted to promoting health and prosperity. For a few pence you can purchase pamphlets on how to keep pigs, look after bees, poultry, grow potatoes and so on. Travelling instructors are available, exhibitions and demonstrations are arranged and marketing schemes organised.

It is quite true that in Nigeria we have developed a little way along these lines. Many of us can remember health weeks and an occasional, very excellent agricultural and craft exhibition; but our efforts are very intermittent and lack sustained drive. In Africa the latter is all-important.

The words "Rural Reconstruction" convey so much of potential value to Africa, and suggest vast opportunities for an army of voluntary workers, especially in connection with health and village improvements.

Professor Channon, Professor of Biology at Liverpool University, has organised hundreds of boys and young men in that city into a remarkable body of voluntary workers for Air Raid Protection services. They combine the ideal of Health and Service; every lad is expected to aim at first class physical fitness and to engage in community service. Our African boys and young men could also be enlisted and would show a spirit no less determined and keen to serve in a worth-while cause than that of their English brothers. They would not be called on to fight incendiary and high explosive bombs; but ignorance, dirt, mosquitoes, flies, and inertia of mind and body which can be no less deadly.

May the spirit of self-sacrifice shown by our fighting men, merchant seamen and others serve as an example to those of us who have to carry on with the ordinary peace-time jobs. When things seem not worth while, let us review our philosophy of life and gain driving force by seeing a vision of the immense opportunities that Africa yields for service to her people.



A bronze head from Ife, now in the British Museum, London. (Illustration kindly lent by the Museums Association.)

THE BRONZE HEADS OF IFE

EDITORIAL NOTE.—In several recent issues of Nigeria reference has been made at greater or lesser length to the remarkable series of bronze heads discovered at Ife and regarded by expert archæologists as works of the highest importance in the study of the native arts of West Africa.

The subject is very closely linked with the appeals which have been made in this magazine for the provision of museum facilities in Nigeria, since the case of the Ife bronze heads, several of which have unfortunately been allowed to leave the country, furnishes one of the strongest arguments in favour of museum facilities and the preservation within Nigeria of objects illustrating the indigenous culture of the country.

One of these transported heads has found a more appropriate home than some others, since it has become a treasured exhibit of the British Museum in London, and we are able to publish here a photograph of it.

The Editor is glad to have the privilege of publishing below a note from Sir Kenneth Clark, the distinguished Director of the National Gallery, London, which fully confirms the artistic importance of the Ife heads. Appended to this are extracts from a detailed and authoritative description of the British Museum head, from the Annual Report of the National Art-Collections Fund. This most valuable organisation, by raising funds in the form of subscriptions and donations from private citizens interested in art, is able substantially to supplement public funds and to enrich the art galleries and museums of Britain by the purchase or part-purchase of outstanding art treasures which come into the market from time to time. It was the National Art-Collections Fund which purchased an Ife bronze head and presented it to the British Museum.

We hope to be able to publish in our next issue another contribution on this interesting subject from Dr. John Rothenstein, Director and Keeper of the Tate Gallery, London.

From Sir Kenneth Clark, Director of the National Gallery, London.

The archæological discoveries now being made in Nigeria, and in particular the bronze sculptures recently found at and near Ife, are not solely of cultural or ethnographical interest. They are works of art of a very high order, and should be preserved as part of the world's artistic inheritance. Every effort should be made to collect them in such a way that they can be properly seen and studied. They must not be unscrupulously exploited as were, for example, the Temple sculptures in China and Indo-China. I understand that the Colonial Office is fully aware of its responsibility to see that these precious and beautiful works of art are properly looked after, and I remember that Mr. Malcolm MacDonald, when Secretary of State for the Colonies, promised that this should be done. I trust that the war will not be made an excuse for any failure to implement this undertaking.

5.12.40.

KENNETH CLARK.

Extract from the Thirty-sixth Annual Report (1939) of the National Art-Collections Fund

No. 1154 : Nigerian Bronze Head

This bronze head from Ifé, the religious centre of the Yoruba people in Southern Nigeria, is of exceptional interest both from the æsthetic and the ethnological point of view. The naturalistic and sensitive modelling of the features is of a quality unique in negro Africa, and justifies comparison with the finer sculpture of civilized countries. The casting was apparently done by the *cire perdue* process. There are incised lines on the face, which probably represent a form of scarification such as is still practised by some Nigerian tribes to-day. The mouth is surrounded by small holes, probably intended for inserting hair to represent a beard and moustache; two lateral holes in the neck were presumably for attaching the head to a stand or base. The surface is now covered with an attractive green patina, but traces of red paint on the headdress remain.

A number of bronze heads in the same style were excavated at Ifé in 1938 during building operations, and some of these were published by the Nigerian Inspector of Education in *Nigeria* for June of that year, and also by Mr. W. R. Bascom in *The Illustrated London News* for April 8th, 1939. Two of these are now in America. Before their discovery only one specimen of the type was known, in the possession of the Chief, or Oni, of Ifé; it was the subject of an article by Sir Hercules Read in *The Burlington Magazine*, vol. XVIII, March, 1911. Several terra-cotta heads in the same style, moreover, were found at Ifé in 1911-1912 by the late Dr. Frobenius and are now in the Museum für Völkerkunde at Berlin; the British Museum also possesses a somewhat damaged example. Legislation has since been enacted prohibiting the unauthorised export of antiquities from Nigeria, a fact which gives additional importance to any specimen which has left Africa. The age and subject of these works of art have been much disputed. It is impossible to date them with any precision. A high antiquity has been suggested for them, but this is unsupported by any archæological evidence. A more reasonable date would seem to be the fifteenth or sixteenth century, the period of the finest phase of Benin art, which is derived from that of Ifé, according to the traditions of the place as a great religious and cultural centre, traditions which survive to-day; or perhaps the twelfth century, as suggested by Meyerowitz in *The Burlington Magazine*, October, 1939. The preservation of traces of painted detail, and also the good condition of the related terra-cottas, are both arguments against the theory of extreme antiquity.

According to present-day Yoruba belief the head represents Olokun, god of the sea.* But the realistic modelling and the accessory details, including the incised lines and the traces of paint, strongly suggest that this and the other heads of the group were portraits of individuals and not abstract divinities.

Purchased by the National Art-Collections Fund and presented to the British Museum.

* The Yorubas to-day regard Olokun as a goddess, and the Oni of Ifé describes the bronze head in his possession, which lacks the holes for beard and moustache, as a portrait of an aristocratic Yoruba lady. Meyerowitz considers it "much more likely to be the portrait head of a divine king, who, in honour of his divinity, adopted or was given that name."



A brick maker at Awka, Onitsha Province, turning out bricks from a mould to dry in the sun preparatory to firing them in a kiln. Wood is used as fuel in the kiln. The curved lines of the bricks caught the photographer's eye.

OIL, FROM THE WELLS TO NIGERIA

By W. H. LARGE Posts and Telegraphs

CPEAKING metaphorically, the earth turns on an oiled axle. Oil as a lubricant has become a vital element of Progress. Everything depends O on oil; machines, and the machines that make machines, all must be lubricated. We may derive power from all sorts of sources; coal, wood, kerosene, gasoline, gas, water, wind, and so on ; but the contrivances driven by any of these methods must be oiled. Second in importance to oil as a lubricant comes oil as a fuel. Fuel oil, kerosene, gasoline, are used to energise various types of engines. Compared with coal they are cleaner, less bulky per unit of weight, can be stored easily and drawn by pipe from otherwise inaccessible tanks, do not disintegrate after long periods of storage, have little or no waste after combustion, and are in many cases cheaper than coal. Progress is governed by locomotion, and locomotion is dependent upon oil. But let us not confuse Progress with Civilisation. A trader with business acumen may progress when he gives away his bicycle and buys a motor car, but he might not become more civilised with increased prosperity; in fact, he might easily become less civilised. It is a debatable point whether mankind would suffer or ultimately benefit, if, by some magic spell the world's supply of oil fuel and lubricants could be rendered inert for all time.

What is oil ? We are all acquainted with palm oil, coconut oil, linseed oil, olive oil, groundnut oil, etc., used in many ways for many things. But the oil or petrol to which the heading of this article refers is imported into Nigeria for fuel, lighting, and lubrication. Petrol and kerosene are powerful combustibles and their latent energy is transformed into power by vaporising and exploding by ignition in a closed space under pressure. Fundamentally, lubrication is merely separation of two surfaces by a film of oil. When your bicycle squeaks it is an indication that moving metals are rubbing directly against one another. By lubrication the metals are separated by a cushion of oil which reduces the friction and heat and, therefore, reduces the wear. Different types of machinery require different grades of lubricating oil, depending on weight and speed. Modern high speed engines call for an extremely thin oil. Of course, ideal lubrication would be achieved if we could arrange a single layer of oil molecules between two surfaces. These would then act as ball bearings of the most frictionless type, but would require unattainable accuracy of mechanical engineering to accommodate them.

Crude oil as it comes from the bowels of the earth has been formed by the decomposition of animal and vegetable remains over a vast period of time. In the early part of the earth's history, huge tracts of this matter were engulfed by surface upheavals, which by pressure and heat were formed into oil in subterranean cavities. These early upheavals fortunately left distinctive characteristics on the earth's surface, and it is by close study of contours that the geologist and engineer decide where prospects of finding oil are most likely.

Crude oil was first found in small surface seepages, which were to early prospectors an indication that oil in bulk lay underground in that locality. Geologists and surveyors on foot charted vast tracts of country and, with the resulting map of contours and formation, pointed a sometimes extremely accurate finger at the spot where oil would be found; often more than a mile below the surface. Aircraft surveying, by stereoscopic photography, is now a quicker and perhaps more accurate method of studying surface contour. Aircraft fly over the ground at uniform height with A European lady at the Ikare Agricultural Show. She was wearing a dress designed by herself and made from African cloth. The dress was much admired and shows an excellent adaptation of an African cloth to European requirements.

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stereoscopic cameras which are fitted with two lenses. The photographs, taken simultaneously by each lens, are fitted to a viewer or stereoscope which makes objects stand out in relief; the delineation of solid form on a plane surface. Geologists are thus able to study in detail and in relief, immense tracts of country formerly almost impregnable to the surveyor on foot.

Oil is usually found under a dome-shaped structure which is itself deep down in the earth. This fact is taken advantage of to locate such structures by exploding charges in the ground. The vibrations travel down to the dome and are reflected back to sensitive recording instruments spaced over a certain area on the surface of the ground. Crude oil is found in many parts of the world, notably in Northern America, including Mexico, and the West Indies, Southern Russia, Iraq, and in the East Indies. The petrol and oil that come to Nigeria are from Curaçao in the West Indies.

So much for locating the position of the "wells." The next step is boring a shaft through thousands of feet of earth to reach the oil-bearing

strata. An oil well is not a well as we usually assign the name, but rather a porous stratum in which the oil is imprisoned. The machinery connected with drilling is much too elaborate and extensive to describe in detail here, but a brief account is as follows. The machinery consists of a derrick or platform on which to mount the drill, and a source of power to rotate the drill. Various sizes and shapes of " bit " are used, depending on the texture of the stratum encountered as boring progresses. In order to extract the borings or drillings for clearance, and to examine the strata as they appear, liquid mud is forced down the drill spindle, exudes under pressure from outlets in the "bit" itself, and forces the borings to the surface. The mud also serves to cement the sides of the shaft and prevents caving in where soft or crumbly strata are encountered. Microscope examination of samples of borings as the depth increases provides important information for the geologist, not only in ascertaining at what depth oil bearing strata may be reached in this particular well, but also serves in conjunction with other boring samples to produce a strata contour map of this area. As the drill bores downwards, lengths of drill shafting are added at the surface, until the whole revolving shaft may extend down for several thousand feet or until oil is "sounded." When the drill reaches the "well," oil is forced up by natural pressure. The drilling machinery is then removed, the top part of the shaft is cased in, and a suitable pipe connection fitted for delivery of the crude oil. Crude oil, as it comes from the "well," varies in consistency. Different "wells" produce different crude oils. In some cases the crude is a semi-solid substance, in others it may be almost pure gasoline.

The next step is to the refinery, which may be close to the pipe head, piped to the nearest rail or shipping transport, or the oil may be shipped to home ports in crude form and refined there. The refinery which I visited at Abadan, in what is now Iraq, is some fifty miles from the "wells" or oil field, locally called "fields." Oil from this field is also piped an immense distance overland to Haifa in Palestine, and British control of the pipeline plays no small part in the political and economic future of that country. Inquiring into the management of fluidity in a long pipe line during the cold winter months, I was informed that crude oil generally contains a sufficient percentage of volatile products to keep in a flowing state, and that this is helped by the fact that coming from a considerable distance underground its temperature is above that of ground level. The pipeline is buried several feet under the soil and pumping stations operate at intervals along it.

A refinery is a large-scale distilling plant, which converts the raw, thick, black, crude oil into gasoline, kerosene, gas oil, fuel oil, lubricating oils, paraffin wax, asphalt, and other products. Very briefly the process of refining is as follows:—The crude oil is heated and distilled in a special tower structure. Distillation separates the different fractions of the crude oil according to their range of boiling points, the lowest being gasoline. Heating the crude oil converts it into liquid and vapour, the proportion of vapour depending upon the temperature. The liquid is fuel oil and is drawn off, superheated to drive off remaining vapours, and then collected in storage tanks. The vapour ascends through a series of "bubble trays" in the tower, where the heavier fractions condense and are drawn off as kerosene and gas oil. The light vapours collected at the top of the tower are drawn off and condense into petrol and kerosene.

The operation of splitting crude oil by distillation into gasoline, kerosene, gas oil, and fuel oil is known as "topping," and the fuel oil so obtained is called "topped" crude. We have now separated the crude oil into two main products; the light vaporous gasoline and kerosene, and the heavier residue of fuel oil. The fuel oil can be left as such, or it may be further distilled to produce other substances, such as paraffin wax, heavy gas oil, and a waxy residue. If the crude oil is of paraffinous type, the "topped crude " or fuel oil can be further distilled to produce distillates containing paraffin wax, and after the removal of this wax these distillates will produce lubricating oils. Distillation of " topped " crude must be carried out at a higher temperature than was used in the first instance to distil the crude. High temperature causes decomposition, and this second distillation is therefore carried out under reduced pressure or " vacuum."

Now, if the "topped" crude, or fuel oil, is of the asphaltic type, it can be distilled to produce heavy gas oil (i.e., Diesel oil), lubricating oils and an asphaltic bituminous residue. Another important operation in the refinery is the conversion of heavy products such as gas oil and fuel oil



A new plant for Nigerian gardens—Moss verbena (Verbena erinoides). This plant is a new arrival for Nigerian gardens and has quickly proved a great success. It is a perennial with low spreading habit, finely-cut foliage and mauve flowers. It flowers non-stop all the year round and produces a mass of colour. It likes a dry, sunny position and will quickly spread to cover a large area. It can be grown in beds or pots and is very easily propagated from cuttings. A white variety is equally successful. Seeds of the mauve and the white varieties can be obtained in 1s. packets from Sutton and Sons, Ltd., Reading, England (postage extra). When the plants look shabby they should be cut well back. In a few days' time they produce an abundance of new fresh growth.

into the more valuable gasoline. This is done by deliberately decomposing these oils by applying high temperature under pressure. This is called "cracking," and the cracked gasoline has a better octane number (i.e., a better "anti-knock" value) than the "straight run" gasoline obtained by the first distillation. There is, of course, nothing to prevent straight run gasoline being subjected to cracking to produce anti-knock gasoline. So produced, this is called "reformed" gasoline. The gasoline or kerosene obtained by any of the above processes is further purified and refined by sulphuric acid to remove bad odour and discoloration. After mixing, the acid settles at the tank bottom and is drawn off. Surplus acid is removed by mixing water with the gasoline, which is again drawn off from the tank bottom. Final traces of acid are removed by solution of caustic soda, which is removed by mixing with water, and we are left with the clear, colourless, sparkling gasoline or kerosene as it is sold in Nigeria. A somewhat similar treatment is given lubricating oils to improve colour and stability.

At the refinery, all these products are stored in large tanks with floating roofs which compensate for temperature expansion. The expansion is considerable in hot climates and I have experienced as much as 123 degrees at Abadan in September.

Bulk fuel is usually conveyed to home or foreign ports in tanker ships. These vessels are specially constructed for the purpose, with the most exacting and rigid regulations imposed for the carriage of inflammable cargo. Some of the largest tankers in the Shell fleet have a carrying capacity of 12,000 tons. If the cargo is gasoline, this amounts to 3,630,000 gallons, which is not a cargo with which the smallest risk can be taken. All electrical gear, switches, etc., are elaborately protected and enclosed in spark-proof containers. The greatest danger of explosion is not with a full ship, but in the early part of the outward voyage when covers are removed to air out the tanks. The fuel is usually piped on board by gravity, and discharged at the terminal port by the ships' own pumps. When fully loaded, tankers have the least freeboard of any vessel; the decks being awash with the slightest sea running. Tanker companies pay good salaries, and provide more than the ordinary amount of comfort for their officers and crew. This in some measure balances the long voyages, and exasperatingly short periods in home ports.

In Lagos, tanker ships may be seen at the Shell wharf pumping fuel up into the large circular tanks at Apapa. From there it gravitates to the canning sheds where the familiar four-gallon tin is manufactured on the spot. This box- and tin-making department of the Shell Company in Apapa is well worth a visit, and one is impressed by the speed with which a petrol tin takes shape under the dexterous hands of the African workmen there. Sheet tin, cut to suitable sizes, and wooden sides of boxes are imported in bulk and then manufactured into containers at Apapa.

From the Shell Company Wharf at Apapa, kerosene and gasoline are carried to all corners of Nigeria by all sorts of means. Tugs and barges creep up the swampy creeks, trains rattle through jungle gorges, rickety lorries travel immense distances to outlying stations; camels, donkeys, and human carriers, all contribute to distribute this canned energy through the length and breadth of the land. To the casual reader, the empty petrol tin or wooden case has little significance. Not so to the poorer African, who has contrived to make the most astonishing uses of the discarded tins. Flattened out, they are only second to galvanised iron for roofing. Water carriers, buckets, braziers, flower-pots, dust-pans, ovens, drums, are only a few of the articles which can be easily fashioned from the empty petrol or kerosene tin.

We have now seen how the crude oil is brought from the depths of the earth, refined into its various constituents, and landed in Nigeria. What products of this crude oil are we familiar with in Nigeria? Petrol for motor-car and motor-cycle engines, petrol for our aircraft engines, petrol in our domestic bottle for cleaning purposes, petrol for lamps and stoves ; kerosene for engines, house lamps, bicycle lamps, stoves, blowlamps ; lubricating oils for engines of every kind, for bicycles, sewing machines, clocks ; wax for candles, insulation for telegraphs and wireless, waxed paper, waterproofing ; vaseline for hospitals ; Shell Tox to kill mosquitoes ; medicinal paraffin. All these are the offspring of crude oil.



An instrument maker of the Posts and Telegraphs workshop, Lagos, using a coil winding machine. Many wireless transmitters and receivers have been made in this workshop.

THE NIGERIAN TELEGRAPH SYSTEM

By J. A. GUNDRY

Engineer-in-Chief, Posts and Telegraphs Service

F you live in Lagos or pass through that town as a visitor to Nigeria, you are almost certain to cross over Carter Bridge at some time or other and you may notice that on the East side of the bridge the lamp-posts have a sort of lop-sided bracket carrying a number of wires; you will probably think that they have something to do with the electric current for lighting the street lamps, but they are really telegraph wires and they carry all the telegrams between Lagos and the rest of Nigeria. One of these wires goes all the way to Enugu, over 500 miles of line. That wire follows the railway line for 180 miles to Oshogbo and then along the road in the heavy forest country through Ilesha, Akure, Ifon, Owo, Benin and Agbor to Asaba, under the River Niger to Onitsha and so over the hills and down into Enugu. It changes its shape several times and dives in and out of many Post Offices on its way, but it is still the same wire at Enugu, so that every time the telegraphist presses the signalling key at Lagos, current from the Lagos batteries flashes in a fraction of a second along all those 500 miles of wire and "goes to earth " at Enugu.

And it is not a very big current that is used. Ten milliamperes is sufficient to make good clear signals (about one twenty-fifth part of the current in an ordinary house lamp), and at every point along the route a little part of the current that is sent out is liable to leak away down to earth instead of reaching the distant end. The wire is held up by porcelain insulators on each pole so as to make this leakage as small as possible, but every bit of dirt on the insulator, every cobweb connecting one wire to another, every leaf or twig from some overhanging tree and every blade of grass growing into the wires from below, provides a leakage path for stray currents. The loss of current at each point is very small indeed but if there are too many points the effect is so noticeable that signals are difficult or impossible to receive.

The telegraphs of a country are like the nerves of the human body, along which messages are flashed before the brain can act or the limbs move. They are very delicate nerves too; not only do they have to be kept clear of possible sources of leakage, but they are also liable to damage by lightning, wind, flood and fire, to say nothing of birds and wild animals ! It is not possible to protect the lines completely but everything possible is done to lessen the damage done by lightning and wind, their two greatest enemies in Nigeria. The only way to protect the lines against damage by lightning is to provide an alternative path for it and this is usually done by fitting lightning rods on the top of each pole so that the rods will be struck before the wires. Even so it is not uncommon for a number of insulators along the line to be shattered one after the other. Most of the damage done by the wind is caused by falling trees or branches, and for this reason wide clearings are made in the forest country but sometimes the poles themselves may be blown down during a very strong tornado.

Not all the wires that you see on Carter Bridge go for long distances. One of them goes to Kaduna while others go to Ebute Metta, Ilaro, Abeokuta or Ibadan. (Some of them are Trunk Telephone wires but that is another story). The main telegraph lines follow the railway to Kano and along the Eastern Railway to Port Harcourt. The only long main line off the railway is the one we have already followed across country from Oshogbo to Enugu. There are other long single lines in the Northern Provinces that were originally put up under Lord Lugard more than thirty years ago. One of them from Zungeru to Sokoto through Kontagora follows the same route as it did in 1905 and most of the original poles are still standing. The old trunk line from Lokoja to Ibi has been completely abandoned except for a short length between Nassarawa and Keffi but the extension from Ibi to Yola follows the original route. The third line from Zaria through Bauchi to Maiduguri has since been brought alongside the Jos-Maiduguri Road. Probably the oldest length of telegraph line in Nigeria is that still standing between Ibadan and Ovo. It used to be a part of the main line from Lagos to Jebba which was commenced in 1895, with the Lagos railway to Abeokuta.

There was once a small boy who used to sit for hours watching the telegraph wires waiting to see the telegrams fly along them, and even grownups are often rather hazy exactly how telegrams are despatched. Perhaps the simplest way of explaining it is to say that electric current is sent along the line in a series of long and short periods, differently arranged for each letter. The long and short periods are usually called dash and dot respectively and are written — and . The letter A is represented by . — and B by — . . . etc. In order to save time the letters that are most used have the shortest signal and so E is represented by a dot. In all the simpler forms of hand-operated telegraph, the signals are sent out by means of a tapper key which completes the electrical circuit when it is pressed down and breaks it as soon as it is released. In the longer circuits the key reverses the current sent out instead of disconnecting it. The signal is received at the far end by means of a "sounder" which taps out the long and short intervals just as they are sent out by the man operating the key at the far end.

The use of signals to represent letters is called a code and the particular system used in this form of telegraphy is called the Morse Code after the name of its inventor. Before this code was invented there was one system which used a number of wires connected to galvanometers arranged in a triangular form so that when any two of them were operated they pointed to the letters required. Before this there was an "electric telegraph"



Main line telegraph and telephone wires supported by an electric lamp standard on Carter Bridge, Lagos.

which consisted of 26 wires with 26 men each holding the end of one wire and each given a letter of the alphabet which he had to shout out when he received an electric shock. The shocks were given from the other end of the wire by means of the old-fashioned "Wimshurst Machine." One can imagine that they sometimes shouted something else instead of the letters.

People often think that the telephone should be used for all messages as it is quicker to speak the complete words than to spell them out letter by letter. This may be true for certain straightforward messages, but where accuracy is important the letter by letter message is quicker in the long run. The modern teleprinter can type messages at the distant end at a speed of 50-60 words a minute and there are high-speed machine telegraphs that can send the Morse code at 300 words a minute. These modern systems may be used in Nigeria when the number of telegrams to be sent between any two towns justifies the extra expense.

It must not be supposed, however, that the Nigerian telegraph system is made up entirely of simple circuits with a key at one end and a sounder at the other. There are duplex and quadruplex circuits over which two and four messages can be sent simultaneously. There are telegraph repeaters for relaying messages at a half-way office when the distance between the two main offices is too great for direct signals; and there are central battery telegraphs in which the only battery used is at the head office. Duplex telegraphy means the simultaneous transmission of two messages in opposite directions over a single wire. The current sent out from each end is split, so that only half goes out to line and half goes through a "balance circuit." So when both ends depress their keys to send current out to line at the same time the net result is that the currents oppose each other and nothing happens in the line at all. How then is the signal received at the distant end? The answer is that it is given by the current through the balance circuit from its own battery.

In Quadruplex telegraphy four messages are transmitted simultaneously, two in one direction and two in the other. The sending of two messages at once in one direction is achieved by making one set of signals dependent on the *direction* of the current and the other signals dependent on its *strength*. One operator works a reversing key and the receiving instrument at the far end (a " polarized " relay) responds to reversals of current, taking no account of its strength, while the other operator works an " incrementing " key and the receiving instrument at the far end responds to differences in strength of the current, taking no account of its direction.

It will be easily understood that to get consistently good signals over a line such as the one between Lagos and Enugu it is necessary to have all instruments very precisely adjusted and to have the line in good condition throughout so that the balance circuit can be made exact. Even so, with the rising temperature and falling humidity during the day it is often necessary to adjust the balance circuit because the resistance of the line increases and the leakage gets less.

At the Lagos Telegraph Office and other large offices such as Oshogbo, Kaduna Junction, Enugu and Aba, the condition of all the main lines is tested every week so that any falling off from the high standard set is observed at once. Telegraph instruments at the main offices are specially tested, and unless they pass precision tests exactly they are not used on the important circuits but can be used on the shorter and simpler lines where conditions are not so exacting.

Something has been said of the protection of the open lines from damage from storms, but the damage that can be done to the line is small when compared with the havoc which would be wrought by lightning if it passed unchecked from the open wire into the instrument room. We cannot control the lightning and can do very little to check it, but what can be done is to give it an easier path to earth than through delicate instruments. It is necessary to make this path available for lightning only; otherwise the signalling current would stray down there also. An "air-gap" is put in the path which the lightning can spark over and the problem then is to provide an air-gap which will allow repeated flashes due to lightning without burning away or welding together the two electrodes. The gap is sometimes made in a vacuum instead of air but in violent storm the vacuum protectors (like wireless valves to look at) are themselves shattered, and one old lineman in a wayside station always used to remove them when he thought there was a storm coming ! He thought he was preserving the Department's property when actually he was endangering the instruments and the operators.

When there is a severe storm you can stand by the protector frame in one of the larger offices and see the flashes across the air-gaps one after another for the whole time the storm is in progress.

In a short article such as this it is not possible to describe in detail all the aspects of telegraph work in Nigeria. There are under-river cables across the Niger at Baro and Onitsha and elsewhere, and long cables in the Creeks connecting Port Harcourt and Bonny, Warri and Burutu, Calabar and Oron; the laying and repairing of these cables are full of interest. Across some of the smaller rivers there are long overhead spans of bare wire which need special attention both for erection and renewal.



A mechanic at his bench, with a row of telegraph instruments facing him, in the Posts and Telegraphs workshop at Lagos.

Mention should be made of the use of wireless stations which have replaced some land telegraph lines. There used to be a long and troublesome line from Enugu through Obubra, Mamfe and Kumba to Buea in the Cameroons. In 1932 wireless stations were established at Buea, Mamfe and Bamenda to work directly with Lagos. Since then stations for internal telegrams have been established at Badagry and Okitipupa. Wherever an isolated town is to be served and there is no telegraph line nearby, a wireless station is to be preferred to a land telegraph line; where there are several towns to be served along the main road or railway a land line may be preferable and when once it is built it can carry through traffic and telephone wires as well without great extra cost.

No attempt has been made to describe the trunk telephone system of Nigeria. It is in its infancy and has only started to grow in the last few years. One result of the provision of long trunk lines is the gradual elimination of the single telegraph wire. A telephone line always needs two wires and it is not necessary to provide a third for the telegraph. Instead, it is worked as a "phantom" on the two telephone wires and the two types of communication are thus carried on without interference on the same wires.

A period of forty years has seen the growth of the telegraph system of Nigeria from the first line of iron wire on wooden poles out of Lagos to the network which covers Nigeria to-day. Its growth has been gradual and not spectacular, but it has become a vital part of the life of the country.

3

BIRD MIGRATIONS BETWEEN AFRICA AND EUROPE

For many generations past European naturalists have devoted study, which has gained steadily both in particularity and in scientific method, to the subject of the migration of birds—i.e., the custom regularly followed by birds of numerous species of spending part of each year in countries far distant from those in which the remainder of the year is spent. This remarkable aspect of bird life is obviously a subject of dual interest; it is interesting to people at both ends of the long double journeys made annually by the birds. So far, however, the study tends to be unequally divided as between the two ends of the migratory routes, so that while European observers record with great care and interest the arrival of birds from Equatorial Africa, much less attention is given at the African end to recording the departure of bird-flocks for Europe and their subsequent return (sometimes accompanied or closely followed by the year's offspring) to Africa.

Here is a subject to which young African students might well devote their attention. It is a particularly attractive subject from their point of view for two reasons. One is that it is still, at this end of the migration routes, a subject of which comparatively little is known or of which at least there are only scanty scientific records, so that there is an excellent opportunity for doing original work and making real contributions to scientific knowledge. The other reason is that it is concerned with the nature and movements of living creatures and consequently holds a fascination of its own compared with those branches of scientific research which are concerned only with inanimate objects.

The two examples of regular large-scale migrations of birds between Africa and Europe which are most familiar to Europeans are those of the cuckoo and the swallow; but many other less familiar species make these long annual flights with unfailing instinct inherited through countless generations of predecessors. It is remarkable to think that these long flights to a more or less regular time-table were being made by the birds centuries before man invented such means of travel as the steamboat, the railway train, the motor car and the aeroplane.

The general subject of bird migrations between Nigeria and Europe has been brought to notice by one or two specific instances lately recorded. A visiting teacher who had been to the R.C. Mission School at Udi, near Enugu, sent to the Editor of Nigeria a few months ago two small aluminium rings which he had obtained there, measuring about half-an-inch long by a quarter of an inch wide. These had been removed from the legs of two small birds, described by our correspondent as sparrows, which had been caught in traps by the local village people. The report mentioned that birds with rings on their legs are caught in traps at Udi every year. Each of the two rings sent to the Editor was stamped in tiny letters with the words "Vogel Warte : Heligoland," followed by a reference number. This showed that these two small birds had, at some time previously, been caught in Heligoland and "ringed" by some unknown naturalist there in the hope that sooner or later the rings would be observed on the birds' legs in whatever distant part of the world the birds might travel to, thus forming a record of their journeys.

Now Heligoland is a small island in the North Sea between Germany and Great Britain; it formerly belonged to Great Britain, although situated much nearer to Germany. The distance in a straight line between Heligoland and Udi is roughly 3,350 miles—a truly terrific journey for small birds of sparrow size. Even this great distance would be increased



Mr. Sawyerr, of the Nigerian Railway Stores Department, at work in his garden at Ebute Metta. He is training a climbing plant, Jacquemontia violacea, to climb up the balcony. This plant has lovely sky-blue flowers that show up to great advantage against the white walls of the house. by deviations from the direct route for various reasons, such as (possibly) avoiding long stretches of waterless desert and finding suitable restingplaces for periodic halts. Perhaps when the war is over and exchange of scientific data between the British Empire and Germany again becomes possible, we may be able to get into touch with the Heligoland naturestudent who placed the rings on the legs of these Udi sparrows and obtain interesting information from him as to the periods of arrival and departure of the species concerned. Meanwhile, the Editor would be glad to receive news of any other ringed birds found in Nigeria. The best plan would be for correspondents in such cases to send the actual rings, following the excellent example of the Udi headmaster, so that we can report exact details of the inscriptions on such rings to some appropriate body or individual in the country in which the rings were attached. It is strongly desirable that the fullest possible details should accompany such reports. The kind of information desired is :---

(1) The exact date and place at which the ringed bird was found.

(2) The exact species, if known, or alternatively a careful description of the bird (size, colour, etc.).

(3) The circumstances in which the bird was found—e.g., picked up dead, caught in a trap, shot, etc.

(4) The condition of the bird—e.g., whether healthy or exhausted or starved.

(5) Whether the bird was a single specimen or one of a flock.

(6) If one of a flock, had the flock been observed to arrive in the locality at a known date ?

(7) Is the bird of a species common or uncommon in the locality in which it was found ?

To turn to another Nigerian bird-migration record, information reached the Editor of Nigeria of the discovery of a ring marked B.5824 on the leg of a large bird taken at Nguru in December, 1939. He accordingly communicated this information to Professor E. Bourdelle, the Principal of the Central Service for Research into the Migration of Birds, who is a Professor at the National Museum of Natural History in Paris. Professor Bourdelle, writing from Paris in April last (a few weeks before the German occupation of Paris), was able to give the interesting information that the ring had been placed on the leg of a white stork on June 1st, 1939, at La Casbah de Benara, about 50 miles from Rabat in Morocco by Captain Sourdier, attached to the Scientific Institute, Cherifien, in connection with researches into the migration of white storks from Northern Africa. Although, in this case, the migration route was not nearly as long as in the case of the Udi birds, the matter is one of great interest regarding migrations of birds within the African continent, especially as exact details of the ringing are so happily available. Professor Bourdelle mentions in his letter to the Editor that nearly 5,000 storks have been ringed during recent years in Morocco and Algeria on the initiative of Dr. Bouet and under the control of the Central Service for Research into the Migration of Birds.

Is it too much to hope that we may soon have in Nigeria also a regular service for research into this interesting subject ?

One more example—which is all we have space for on this occasion, although the subject could be expanded indefinitely—of bird migration, reaching this time from Britain to the southernmost point of Africa, is afforded by the movements of sea terns. These birds are alternatively known as "sea swallows," on account of their forked, swallow-like tails, and are also, no doubt, often referred to in popular speech as small seagulls. As instances of their achievements we may quote records of the movements of the species known as the Sandwich Tern (*Sterna sandvicensis sandvicensis*) given in an excellent modern work on the habits and movements of terns in general.* One specimen of the Sandwich Tern which was ringed on Salthouse Marsh, on the coast of Norfolk, England, on June 27th, 1931, was "1ecovered" at Accra on the Gold Coast on October 29th of that year; another ringed at Blakeney Point, Norfolk, England, on June 30th, 1928, was recovered at Takoradi, Gold Coast, on the following November 29th. These were by no means long-distance records, however, for yet another bird of the same species ringed at Salthouse Marsh on July 1st, 1929, was recovered at Port Elizabeth, in the extreme south of Africa, during January of the following year. This case represented a migratory flight of approximately 6,200 miles, even if the bird flew in a perfectly straight line !



The Sandwich Tern (Sterna sandvicensis sandvicensis). (From a drawing by H. A. Powell.)

Sandwich terns wearing rings attached to them at various places in England have been frequently found at Accra and other places on the West African coast, and the present Chief Justice of the Gold Coast has made a collection of rings taken from such birds which have either been found dead or entangled in fishermen's nets. Sandwich terns are also observed from time to time in Lagos Harbour.

What has been written in this article is no more than a brief introduction to a subject of profound interest. The Editor hopes that its publication will arouse interest among his readers in all parts of the wide area over which this magazine circulates and that as a result he may receive either rings or careful copies of ring inscriptions from any birds marked in this way which may come into the possession or to the knowledge of his readers. It may then become possible to return to this subject in the pages of our magazine with articles dealing specifically with the "recovery" of ringed birds of various species in Nigeria or neighbouring territories.

Obviously this subject is one for study by bird lovers, and the pursuit of it should be conducted in a way that does not involve any needless destruction of bird life or the infliction of cruelty upon ringed specimens for the sake of securing their rings.

*Sea Terns or Sea Swallows. By George Marples and Anne Marples. Published by Country Life, Ltd., 1934.

WORD BORROWING

By M. D. W. JEFFREYS, Ph.D. (London)

Senior District Officer, Nigeria

TO-DAY the native languages of West Africa are borrowing words from English to provide names for objects unknown to them. Thus "mota" for motor is one that comes to mind at once, but it is not generally realized that English has borrowed quite a number of words from the native languages of West Africa.

The English word "popinjay" which originally meant a parrot is in Webster's International Dictionary traced back to an Arabic and then to a Greek root, but parrots are not denizens of Greece nor of Arabia. They are found on the coasts of West Africa. On the principle that a language borrows the foreign name of a borrowed object (e.g., in Nigeria we have *mota* for motor) it is clear that the foreign name for the foreign bird must be traceable back to its land of origin and it is far more likely that the Arabic and Greek roots are not Arabic or Greek but African.

The German word for parrot is *papagei*, which is very similar to the English word popinjay. Now in Sierra Leone the Timne word for a parrot is *pampekei*, and tribes on the Gambia have a similar word. It would, therefore, seem that the picture of a sailor with his grey parrot coming ashore in England fixes the date of the use of "popinjay" in England at about the time of the slave trade.

Another West African word, now in common use in English, is Guinea, e.g. Guinea fowl. Just as we speak of a Muscovy duck, meaning a duck from Mexico City and not, as many people think, a duck from Moscow or Muscovy or Russia, so a Guinea fowl means a fowl from the ancient Negro kingdom of Ghana.

"When the bold sailors of Lisbon and Lagos gazed wonderingly upon the land of Guinea, they must have experienced many a rude shock. Their forefathers had thought of ancient 'Ghana' as a vague inland kingdom centred about the western branch of the Nile, with the rich mysterious city of Timbuktu as its great commercial emporium, 'called by our merchants Gheneoa,' wrote the Moor, Leo Africans, '. . this kingdom extends on the river Niger about 250 leagues.' But now, as their caravels ran forward before the wind following the sinuous coast of West Africa, though they found numberless small and hostile tribes, Timbuktu remained as elusive as ever. Accordingly, they broke away from the medieval tradition and gave the name of 'Guinea' to the whole littoral from the river Senegal to the kingdoms of Manicongo, north of modern Angola.

"In Portuguese writings this new connotation for 'Guinea' was preserved, but the word was sometimes used with a different meaning. After 1466 the Cape Verde Islanders were granted the privilege to trade with the mainland from Senegal to Sierra Leone, and the custom sprang up of referring to this strip of coast as simply 'Guinea of Cape Verde,' or 'Guinea.' Thus, we find the name used to distinguish this more restricted region from other parts, like Malagueta, Mina and Sa Thome." (1)

The city of Ghana was the capital of a kingdom of the same name which stretched westwards from Timbuktu to the sea. "The trade of Ghana was important in the eighth and ninth centuries." $(^2)$

This trade was with the Mediterranean and European countries so that it is not surprising to find that the word "guinea" is given to many African items in order that they may be described and understood in English.

¹Blake, J. W. "European Beginnings in West Africa," London, 1937, p. 6. ²Shaw, F. L. "A Tropical Dependency," London, 1905, p. 103.



Two Lagos fishermen sorting out the catch after a throw of the net in Badagri Creek. Fishing in the lagoons is carried on at all times of the night and day, and the waterside dwellers are skilled at making nets and constructing ingenious traps. The money obtained from the sale of fish, both fresh and smoke-dried, enables them to purchase yams and other vegetable food products that do not grow satisfactorily in the sandy and often swampy soil surrounding their villages.

Here are a few of them :---

- Guinea. This word itself pays tribute to Africa. In 1663 a gold coin was struck in England from Ghana gold, and became known as a "guinea." The coin was meant to be a pound and worth twenty shillings, but the gold was so pure that one always got twenty-one shillings for it. These coins were minted from 1663 till 1813.
- Guinea corn (Sorghum): The Dawa of the Hausa and the Dhura of the Egyptians.
- Guinea grains : Meleguette pepper.
- Guinea Wheat: Maize or Indian Corn.
- Guinea Worm : The Dracunculus. (This scourge was known to the Arabs as Pharaoh's worm.)

The first English acquaintance with Sorghum, Guinea Corn, and with Zea Maize, Guinea wheat, is therefore traceable to West Africa. The introduction of the English to these two grains through Africa throws an interesting light on the introduction of maize into Africa.

On the above philological evidence it would seem that maize was already known and cultivated in Africa before Columbus visited America. There is much other evidence to support this point of view.

The word Meleguette, in 'Malagueta coasts' and in 'Meleguette pepper' which is also known as "grains of paradise," but more popularly as cardamom, is probably of African origin.

"The *Malagueta* coast acquired its name early. Eustache de la Ferre, a Fleming, refers to the 'Manigette coast 'which he had navigated in 1480: the Journal of Columbus mentions 'la costa de la maneguete 'which the famous Genoese explorer visited : while the term 'Malagueta 'is frequently used by Pacheco to describe the district where a species of pepper of the same name was gathered in abundance. All through the reign of King John III of Portugal, Portuguese and French writers continued to use the same word to designate the stretch of shore from Sierra Leone to Cape Palmas. In the middle of the sixteenth century, however, English corsairs began to refer to Malagueta pepper as Guinea grains, and so the fashion arose of describing Malagueta as the Grain Coast." (¹)

Though a study of the word Maleguetta has explained why part of the West Coast is called the Grain coast, the reason why that same part of the coast was formerly called Malagueta has not been disclosed. There are two explanations : either there was a territory by that name from which the first cardamons were obtained or else, like the word for parrot (pampekei), malagueta is a native name for this condiment. Mary Kingsley discusses the word and leaves the issue uncertain but offers the choice between a native name for the spice or a name of a native Kingdom.

"The reason why this African Cardamom received either the name of 'grains of Paradise' or of 'Meleguetta pepper' is, like most African things, wrapt in mystery to a certain extent. Some authorities hold they got the first name on their own merits. Others that the Italian merchants gave it them to improve prices. Others that the Italians gave it them honestly enough on account of their being nice, and, no one knowing where on earth exactly they came from, said therefore, why not say Paradise? It is certain, however, that before the Portuguese went down into the unknown seas and found the Pepper coast the Italians knew these peppers came from the country of Melli, but as they did not know where that was, beyond that it was somewhere in Africa, this did not take away the sense of romance from the spice.

¹Blake, J. W. "European Beginnings in West Africa," London, 1937, p. 9. 360



Curing small lagoon fish by means of smoke from a wood fire. The art of fish curing by the use of salt is an industry that might be developed in Nigeria. Although our sea and river waters swarm with fish, we import many thousands of pounds' worth of dry salt fish from Norway. Fish curing is referred to in our Editorial article in this issue (page 339) as one of the village industries which, although already existing in Nigeria, present great possibilities of improvement. "As for their name Meleguetta, an equal divergence of opinion reigns. I myself think the proper word is Meneguetta. The old French name was maneguetta, and the name they are still called by at Cape Palmas in the native tongue is emanequetta." $(^{1})$

So the weight of evidence is that Malaguetta is a West African word. The native names for this spice along the West Coast might help to solve the riddle.

The oldest West African word in use in English is Gorilla. It dates back to the time that Hanno about 400 B.C. circumnavigated the continent of Africa. Somewhere off the coast of the Cameroons, he and his sailors called at an island.

"The inhabitants, humanlike in form, were covered from head to foot with shaggy hair to which they gave the name Gorillae, a word of African origin." $(^{a})$

Here again we do not know to-day the African tribe which calls these giant apes by this name.

The word "buck" has many roots but it would seem that at any rate from Webster's International Dictionary one root has been omitted. In the expression used in the Southern States of North America "buck negro," it is most likely that the word "buck" is of African origin and is a syncopated form of the word "buckra," which derives from the Ibibio word "mbakara" and means a ruler, i.e., one who has dominion over others ; one who domineers and is generally aggressive and offensive. The word *Obeah*, which is in common use in the West Indies and in the Southern States of North America, is also a West African word. "The word *Obeah* itself is really the Ashanti *Obayifo*, a witch, or, rather more properly, a wizard, being derived from sorcery . . ." (⁸)

This derivation is, I am afraid, quite wrong. In the West Indies an *Obeah* is a person expert or skilled in the use of magic. Among the Ibibio there is a word *Abia* which means a person skilled or expert in something. In this tribe, either an *Abia Idiong* (one skilled in divining or magic) or an *Abia Ibok* (one skilled in the knowledge of medicinal herbs) is called in for cases of sickness. An illness is generally attributed by the Ibibio to magic and it is the function of the Abia Idiong to discover the nature of this magic and to provide counter-measures. It is thus clear that as many Ibibio slaves were shipped from Bonny and Calabar to the West Indies, *Obeah* is not an Ashanti but an Ibibio word.

The Ibibio have contributed one more word to the English language. This word is the nut in the dread expression, "He done die, he dey chop nut." To an accusation of witchcraft there is by Ibibio custom only one answer, the test of innocence by eating the poisonous bean (nut) of the phygosistamine : the Esere or Calabar bean.

From this poisonous bean is derived an alkaloid used in ophthalmology—eserene.

There are other West African words which have become adopted into the English language but I will leave their discussion to others.

¹Kingsley, M. H. "West African Studies," London, 1901, p. 48-49. ²Lord, W. F. "Lost Empires of the Modern World." ³Williams, J. J. "Hebrewisms of West Africa," London, 1930, p. 17.



A LITTLE-KNOWN GARDEN ANNUAL

A flower of the delicate mauve Centaurea americana. The flowers measure about $3\frac{1}{2}$ ins. in diameter, being carried on long stems, making them useful for gathering and vase decoration. They last well in vater. This Centaurea, an annual growing to a height of three feet, has proved very successful in Lagos. English and American seed merchants supply seeds of many other Centaureas, but this is the only variety tested that has made strong growth, flowered and formed fertile seeds in Southern Nigeria.

DISCIPLINE

B_{y} D. O. FAGUNWA

N social organization, discipline is indispensable. Whenever any act of Government is performed, some form of discipline is carried out, and social organization is established at every step in acts of Government.

Discipline has had different meanings for the different nations of the world at various stages of their evolution. Among the ancient Greeks, two types are distinguishable. To the Spartan of about the seventh century B.C., discipline was reached by a process which a writer describes thus : "From birth to death, the daily life of both children and adults was as rigorous as the life of the camp. The boys had to go barefoot in all weathers, each clad in a single garment. Their food was coarse and their beds hard. . . . The boys on their part were encouraged to take their beatings with a good grace as a training in hardiness. It was part of their preparation for the supreme test of their powers of endurance, when, as ephebi, they submitted themselves to the ordeal by flogging on the great altar in the sanctuary of Artemis, and the prize was awarded to the lad who could endure the greatest

number of strokes without flinching or uttering a sound." This was military discipline meant chiefly for war. The second kind was the Athenian one which was meant chiefly for peace. "Above all, in Athens the growth was far freer . . . a true Greek City asked more of her son than Sparta asked . . . her citizen's courage must be that of thoughtful and sensitive men . . . their temper must not be mere asceticism."

Both kinds of discipline have their relics in the modern world. We still train the soldier for war and the medical man for peace, although our methods of training have undergone modification. Generally speaking, we believe that we are better than the ancient people in our method of controlling, although we still have our own critics and experts who tell us quite often that discipline is not as simple as we sometimes think and that there are many people in the world who yet do not understand what it means. It is a matter of common experience that our powers of controlling differ one from another: a set of unruly labourers under one farmer may be orderly under another; disobedient clerks under one head may be obedient under another; slackers under one builder may be industrious under another.

What constitutes the differences might be stated in this form : that, whereas one ruler employs a discipline of the harsh Spartan type, the other uses that of the free Athenian, the result being far-reaching and fundamental. The Spartan system, with its rigid military form, gave little to posterity, whilst that of the Athenians bequeathed to subsequent generations much that has been of value in the solution of their many problems. It brought one of the first lights to those people in the dark ancient world, that the best way to control a person is to give that person freedom to control himself. Mind evolves; and the Athenian method has become elaborated in our own day. Taking education for our guide, if a competent modern man were to be asked what the idea of a good school discipline involves, he would not speak in terms of cane or birch or any extraneous repressive form like men of the Middle Ages. To him, good school discipline would involve punctuality, politeness, orderliness, neatness, cleanliness, general behaviour which shows consideration for the happiness and well-being of others, a disposition to work industriously, to do one's clear duty, and to adapt oneself readily to the universe of organized circumstances wherein one lives. It would not involve the pupils' unquestioning subordination of his will and natural inclinations to that of the teacher, nor does it insist on any rigid conformity to arbitrary standards. It is a discipline that fully shares the view that every rational being shall be accounted an end in himself, not simply a means to the ends of others. Then, the African child as a being potentially rational should be accounted an end in himself, not simply as a means of securing for the teacher fame, honour, salary, grant, church appreciation, or official praise, all of which may or may not come, and should never be sought at the expense of the child. In short, it is self-control of the child which is appreciated by him, and not control imposed from without.

Whenever we embark on any form of government the nature of the governed should be studied. If a person is naturally curious (instinct of curiosity), show him the reason for what you want him to do; if he likes social life (group instinct), do not always give him what will isolate him; if assertive (instinct of leadership), do not always demote him; if pugnacious (instinct of combat), do not play with his temper; if fond of hoarding things (collective instinct), do not always fine him for trifling offences.



The Praying Mantis, photographed in characteristic attitude while standing on the back of a chair. Our illustration shows the insect in approximately life size.

THE PRAYING MANTIS

By L. J. LEWIS

Principal, C.M.S. Grammar School, Lagos

When we say that a creature is an insect, we mean that it is a living being possessing certain characters, which it shares with a large group of other creatures, and which differentiate these creatures from other large groups of animals. A typical insect has three well-defined regions to the body, head, thorax and abdomen; two pairs of wings, and three pairs of legs. The Praying Mantis has all these characters. It belongs to a group of the insects which is called the Order Orthoptera. The Orthoptera include the earwigs, cockroaches, stick-insects, locusts and crickets. This group of insects is distinguished from other groups of insects by the possession of certain distinguishing characters. They have mouth-parts which are specially adapted for biting; two pairs of finelyveined wings, which are folded over the back when not in use. The anterior wings are thicker than the posterior, and fold over the latter. At the posterior end of the body there are two short stiff tail-pieces, known as cercopods.

The Praying Mantis is easily distinguishable from the other members of the Order, by the elongation of the first segment of the thorax, and the form of the first pair of legs. These are adapted to the function of seizing the insects which form its food. The legs are three-jointed, the distal joint folds back upon the middle joint, and bears on its lower edge teeth-like projections which fit between similar teeth on the middle joint. The wings are usually some shade of green, making it difficult to observe the mantis when on the foliage of trees and shrubs. The antennæ or feelers are long and slender, and when the insect is poised on the second and third pairs of legs, looking for prey, the antennæ are kept in motion. At the same time, the head is continually turning from side to side, with the forelegs drawn up beneath it, ready to be shot out when an insect alights within range. The movement of a mantis towards the prey is exactly comparable with that of a cat when stalking a bird.

During the processes of its life-history the mantis exhibits two types of mimicry, both protective in nature. The young mantids, when they are moving about in the early stages of their existence after emergence from the ootheca or egg-case, have the general appearance of ants. This type of mimicry is confined to active stages of their early existence. The similarity of movement gives the young mantids a measure of protection, on account of the obnoxious nature of ants as food to most insect-eating creatures. In the older stages of life, the mantids develop colour protection. and in some species there is a form-mimicry. This mimicry is produced



Structural details of the Praying Mantis. 1a. Egg-case or ootheca; b. single egg; c. pattern of eggs in single layer of ootheca. 2. Adult Mantis from side: i, compound eye; ii, antennae or feelers; iii, anterior leg, modified for catching prey; iv, second walking leg; v, third walking leg; vi, cercopod or tailpiece; vii, portion of posterior wing; viii, anterior wing; ix, first thoracic segment. 3. First walking leg modified for catching prey; i, first joint; ii, second joint; iii, third joint; iv, teeth (arrow shows direction of motion). 4. Anterior wing of a common species bearing "eye-spot."

by the thorax and second and third pairs of legs having extensions which result in them having the appearance of leaves, which harmonise with the surrounding foliage and make observation difficult. In some cases, the mimicry is of such a character that the insect feigns the form of a flower, which aids it in capturing for food flower-visiting insects.

The male mantis is generally smaller and more delicate in structure than the female. The latter frequently devours the male after mating and conjugation have been completed. If kept together in captivity, the females fight and eat one another.

The eggs are cylindrical in shape, and are laid in a double herring-bone pattern in layers, enclosed in a paper-like egg-case, which is made from a frothy substance. The frothy substance is exuded at the same time as the eggs are passed out of the body, and before it hardens, is moulded by means of the wing tips. Each species has its own characteristic pattern of ootheca. The egg-cases thus formed are attached to stems, twigs, walls and similar situations.

The young mantids which emerge from the ootheca have the typical thorax and anterior limb form, but do not possess wings. Immediately after hatching they secrete silken threads from the posterior of the body, and attach themselves to some object. They remain in this position until after the first moult. They do not seem to be able to retain this spinning ability beyond the first stage of their existence. The name Praying Insect or Praying Mantis has arisen from the attitude of the insects when seeking for food. They are widely distributed throughout the warmer areas of the world, and were known to the ancient Greeks.

They are frequently parasitized by threadworms, and this fact is probably the source of the belief that the dead mantis gives birth to a snake. The following suggestions, if carried out, may produce further facts and ideas :—

Collect fresh oothecae, keep and observe development, note the period of emergence, the thread-spinning, and the ant-like movement of the young.

Compare the different kinds of oothecae.

Make drawings of the external characters of different species. Look for mimicry devices.

Compare a mantis with a locust, cricket, cockroach, and stick insect. Collect any local stories and sayings about the mantis.



A fishing net set out to dry. Nets of this type are hand-woven and call for a high degree of skill both in their construction and use. They are used for casting from the land or from canoes.

Other illustrations of Nigeria's fishing industry appear on pages 359 and 361 of this issue.

IMPROVEMENT IN AFRICAN BEE KEEPING

By J. D. CLARKE

(With acknowledgments to an article by T. W. Chorley, F.R.E.S., Laboratory Assistant, Entomological Section, Uganda Forestry Department.)

PART 2.—WAX EXTRACTION

(The first part of Mr. Clarke's article appeared in our last issue, pages 300-304 inclusive.)

EXTRACTION OF DARK WAX

Removal of Honey and Preparation of the Comb.

Any comb which does not contain honey should be put at once into one of the pots, but if there is honey in the comb the honey should be squeezed out first in the manner already described. The bag used for squeezing is then turned inside out over one of the two cooking pots containing water, and the crushed comb from which the honey has been removed is emptied into the pot, together with the comb with no honey in it which was set aside before.

First Boiling.

The pot containing the wax and water is then placed over a fire, which must be small, because a fierce fire would burn the wax. The pot is supported over the fire by three large stones. It must be put on to the stones very carefully, because pots of this kind are very fragile, and if it is cracked and breaks during the boiling of the wax the people doing the work are likely to be badly scalded. The water in the pot is allowed to boil until all the comb has melted and there is a yellow froth on top of the water in the middle of the pot and at the sides. While the pot is on the fire the water must be stirred all the time, as otherwise the wax at the sides of the pot will be burnt.

Straining.

When the yellow froth appears the wax is nearly ready for straining, and an empty wide-mouthed pot should be placed alongside the fire with its bottom in a hollow made in the ground to prevent it falling over. The hessian bag is next held with its mouth open over the empty pot by one person, while the second person skims the boiling wax off the top of the water with the gourd and pours it into the bag. Not more than twenty gourds of the wax should be put into the bag each time, because otherwise much of the wax is left in the bag while the latter is being squeezed.

The person holding the bag then closes the mouth of the bag and holds it tightly over the empty pot while the second squeezes the wax and water out of it with the two sticks. (He must not squeeze too hard at first, otherwise the hot water will squirt out of the bag and scale his arms.) After he has squeezed the bag with the sticks a few times, he should hold it tightly with two sticks while the other man twists it so as to squeeze out the rest of the wax.

After a few minutes, nearly all the wax and water will have been squeezed out of the bag, which now contains only "slum-gum," composed of pupaskins, dead bees, grass, pollen, and dirt.

Second Boiling.

After all the wax has been extracted from the comb, the pot in which the comb was boiled should be washed clean and filled about a quarter full of water. The wax in the wax pot should be squeezed with both



The carved doors of Nigeria, in which a traditional style of design and craftsmanship has persisted strongly right down to the present day, have from time to time provided subjects for illustration in this magazine. Here is a detail view of part of a carved door from Ikare. It is an interesting example of adaptation of a modern theme to an old mode of representation, for it shows Mr. Bower, who was Resident of Oyo Province in the early days of the British administration of Nigeria, travelling on horseback with a companion.

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hands so as to make it into small balls, which are placed in the pot in which the wax was boiled before, put on a very small fire, and allowed to simmer. When all the balls of wax have melted, the wax should be skimmed off the top of the water with the gourd and put into the bag, which must be held over a basin or the bottom part of a broken water-pot.

This time most of the wax will ooze out of the bag without squeezing, as there is no longer any rubbish (dead bees, pupa-skins, etc.) in it to prevent it coming out easily. It is only necessary to use the sticks to squeeze out the bag when nearly all the wax has gone into the basin or broken pot. If there is a lot of wax to be rendered down, several basins or broken pots will be necessary.

When the basin or half-pot is nearly full it must be removed to a safe place and left there until the following morning, when the wax will be found to have solidified. The wax is then removed from the basin or pot by cutting round the edges with a knife, and it will come out as a solid block. There will be a little dirt sticking to the bottom of the block, and this should be scraped off with a knife; the block of wax is then ready for sale.

The scrapings from the bottom of the block of wax should not be thrown away but should be added to the next lot of comb which the beekeeper renders down.

EXTRACTION OF LIGHT WAX

The light-coloured wax is obtained from the comb which has never had brood bred in it, the darkness of the brown or black comb being caused by the bees breeding in it, and the depth of colour depending on the number of generations of bees for which the comb has been used.

The process for the extraction of the light-coloured wax is nearly the same as for the dark wax, and the honey must be removed first. The only differences are that the boiling need not be continued so long; that the froth which indicates that the wax is ready to be skimmed off is paler coloured; that since the wax contains practically no rubbish it is easier to squeeze through the bag and can be squeezed into the basin or half-pot at once; and that there is no need to put it through the bag twice like the dark-coloured wax.

* * * *

Beekeeping, from a native point of view, should prove a profitable pastime, because the amount of comb thrown away that could be made into wax is considerable, and the price of bees-wax very rarely fluctuates to any great extent and the wax fetches a high price. The native producer can rely on fifty cents a pound being paid for this wax, provided that he does not adulterate it with animal fats and keeps it reasonably clean. Samples of wax were submitted to H.M. African Dependencies Commissioner for valuation. Native-produced, dark wax was valued at $\pounds 92$ per ton net weight, packed in bags free, c.i.f. and main European ports, and paid wax, produced from the new type of hives having queen-excluders, was valued at $\pounds 97$ 10s. per ton in February, 1934. The quotations were received from Messrs. Poth Hille & Co., Ltd.

EDITORIAL NOTE.—The bee-keeping industry of Nigeria would seem to be a very suitable subject for the type of systematic development and organisation, both on the production and marketing sides, recommended in our Editorial article in this issue. Articles on bee-keeping in this country appeared in issues Nos. 5 and 8 of this magazine.



A Town Crier Reproduced from a lino-cut by Friday J. Udo Ema, Class I, Middle School, Oron.

LINO-CUTTING AND PRINTING

 B_V A. J. Udo Ema

Methodist Boys' High School, Oron, Calabar Province

INO-CUTTING is a branch of art to which very little attention is given by schools in this country. To an amateur it is an entertaining pastime for occupying leisure hours that can be done almost anywhere, while to school children it opens a new field for activities and energies.

The argument that lino-cutting and printing is not an indigenous Nigerian art and therefore should not be taught is a lame excuse for its neglect. Man's life is full of adjustments, and if Art is an expression of the people's life it should not be excluded from the field of adjustments. To improve Nigerian art we must move with the times, and this requires a lot of readjustments : a new religion and civilization and new inventions have been introduced into Nigeria. Surely if these things have influenced our life, try how hard we may we shall not be able to divest Nigerian art of their infiltrating forces.

The word " lino " is contracted from linoleum, which many of us know ; but the kind of linoleum for picture cutting is specially prepared, and therefore is much thicker than the ordinary kind, and seldom exceeds one square yard in size.

Tools. The chief tools for the work are knives and chisels. The best type of knives (gouge and divider) is of sizes 1-6, and that of chisels is of sizes 1-3. Size one knife is $\frac{3}{22}$ inch, while size six is $\frac{1}{8}$ inch. In the case of chisels, size one is $\frac{1}{16}$ inch, and size three is $\frac{5}{22}$ inch. However, should these figures baffle you, when ordering the tools it is only necessary to state the sizes. A special kind of ink has to be used; it is called Lino-printing Colour. You can choose any colour of your choice; a 4-inch tube costs 8d., and, carefully used, this tube will last for many months. You will need one or two handles for the knives and chisels, a rubber-covered roller for inking, and two flat, well-planed boards for a press. A press consists of one inked block of wood from which the lino block is inked and another block of wood on which the sheet of paper is placed to receive the impression when the inked surface of the lino-block is pressed against it. All these items are made by Reeves & Sons, and can be obtained through any of the Mission Bookshops for 5/6 or 7/6 according to the grade required.

Method. Step 1. After deciding upon the picture you wish to cut, draw it on a piece of paper cut to the size of the lino-block to be used. With pencil, pastel, or charcoal rub black the areas which you wish to appear black on the picture when printed.

Step 2. Trace the picture on to the lino-block. There are two ways of doing this. One is to use carbon paper. In this case you have to place the carbon paper between the lino-block and the picture, allowing the carbon side of the paper to lie on the block. Then with your pencil trace the picture, shading the required areas by rubbing on the blackened patches. After that, remove the picture and the carbon paper. When the block is cut and a picture is printed from it, the objects appearing on the right-hand side of the original picture will appear on the left, and vice versa. When this is the case, do not be distressed; it is a trick to be learned by common sense !

The other method is to use a pencil with soft black lead, and after completing the drawing, place the picture face downwards on the linoblock, and using a spoon, rub on the back of the picture. The picture will be transferred on to the lino-block, but the objects appearing on the left part of the original picture will appear on the right on the lino-block. However, when the block is cut and pictures are turned out, the objects will appear on the same side as in the original. For this reason many people like this method.

Step 3. Cut out all the unshaded areas, remembering that the cut should be fairly deep to stop ink from clogging there and so giving an unpleasant appearance to the finished picture. It should be remembered, too, that to give strength to the uncut patches, their sides should be cut slantingly to slope outwards so that when pressure is put on the block when printing they will not break and tear off. Use the chisels to level the uneven surface produced by grooves. It is better to place the linoblock on a sloping stand that will enable you to cut without having to bend towards it. Should you wish to cut your initials, remember that unless you use the second method of tracing you must write the letters in the opposite way from the usual.

Step 4. For printing the pictures, get two well-planed blocks of wood and a rubber-covered roller. If the latter is unobtainable, get an ordinary table knife as a substitute for it, but the result thus obtained may not be so good. Apply the printing ink on the first block of wood, and smooth it out with the roller, or knife. If the ink is rather thick, thin it down The waterside at Badagri. In the old slave days Badagri was a busy trading centre much more important than Lagos. Now it is a quiet little town, except on market days, when hundreds of people come by canoe to buy and sell produce on the bank of the lagoon



with either turpentine or kerosene. Then apply the lino-block to the inked block. Placing a sheet of paper on the other block of wood, remove the lino-block and press the inked surface against the sheet on the block. Carefully remove the lino-block, and you have your first picture.

Among the advantages of lino-cutting and printing is that while it would take a person long laborious hours to make one copy of a picture painted on paper, many copies of a picture can be printed in a short time from a lino-block. An ingenious teacher in an Infants' School can, by the use of a printing outfit and lino-blocks, make readers and story books for his class. Lino-blocks can also be used in handwork for printing designs on fabrics. A further advantage is that linoleum is rarely attacked by white ants and so, while pictures painted on walls or paper will soon get destroyed, with a little care a linoleum-block will last for a very long time and can be used again and again to reproduce pictures.



(From a pen-and-ink drawing) 373

ARE YOU A SLOW READER?

[A Talk broadcast over the Lagos Radio Distribution Service.]

H AVE you any idea how many words you are able to get through in a minute's reading? It's not a hard question; all that's needed to get the answer is a book and a watch. And the answer may be quite interesting.

They've been looking into this question of slow and quick reading for 20 years now, and some of the discoveries they've made are quite important.

For example, it was seen that in many businesses the slowest readers got the least money. In one office the man who got the least money was only able to get through 270 words a minute. The best office worker got through 460, and the manager did 600.

The discovery was made that those who are not able to do more than 200 words a minute hardly ever get through any books at all, and so their general education is often very poor; but a girl who did 600 words a minute was getting through two or three books a week, and nine monthly and weekly papers.

Then came the question : "What is the cause of slow reading ?" Well, the first thing was that those who keep on moving their lips when they are reading are all slow readers. These readers say over every word to themselves as they come to it; and if you do that you will not ever be able to do more than 400 words a minute at the very most. Then it was clear that the eyes of a quick reader do not take in the words one by one; they go down the page in jumps and take in a group of words in each jump. The more words you are able to take in one jump, the quicker your reading will be. Some readers let their eyes keep on going back to get some word they have not taken in well the first time; this makes them slow. The old way of learning reading, by getting up in school and reading out loud, made slow readers. In reading out loud you have to say over every word as you come to it. So schools are now using a new way, named "Silent" Reading. You don't see boys and girls getting up and reading out loud; in the place of this, the teacher gives them some questions, and then they take their reading books and have a look for the answers. This way gives training for their eyes in jumping about the page looking for what is needed.

Now is it possible for slow readers to become quicker? It most certainly is. In America there are schools where men and women get special training in making their eyes take longer jumps, and in not letting their eyes keep on going back. But Michael West, in India, made a discovery that is of even more use to African readers. This was that you are able to get quicker at reading English if you get quicker at reading your own language. For example, he took an Indian boy who was only able to do 165 words a minute in English. He gave this boy about 16 hours' training in "silent" reading in his own Indian language. After that, the boy was able to get a good grip of the sense of 539 words in English in one minute. Another boy was able to do 315 words, but after he'd had three weeks' training in reading his own language he did 773 words in English. So it seems as if it may be a good thing for our schools to give more attention to "Silent" Reading in Yoruba.

Another cause of slow reading may be that the books you are reading have many strange words in them. There's a new sort of English now to give you help with this trouble. It's the sort of English I have been using in this talk and it's named Basic English. It is a complete language in which you are able to say all that is needed, and it only uses 850 words and some very simple rules. There is quite a number of books in Basic to be had now, and the reading of books in Basic is a very good way to



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Yama, of Accra, Gold Coast. (Photograph by Milton A. Macaulay.)

make your reading quicker. Every word of this talk is Basic but for one word—"Silent." "Silent" is not one of the Basic words, but all the rest I've used are on the Basic list.

The man who is not able to get through more than 400 words a minute is a slow reader; and it's hard for a slow reader to get on well in his work, or to go on with his education after his school days. Quick readers do 600 to 1,200 words a minute and are still able to get a good grip of the sense of what they are reading. The quickest reader who was ever tested was a schoolboy eight years old: in one test he did 2,202 words in one minute. They put questions to him about what he had been reading and there was no doubt he had got a good grip of the sense of it. It is likely that he had eyes that were specially good at taking in a very great number of words at one jump. We may not all have much hope of doing 2,000 words a minute, but I will make this suggestion: get a book, not a very hard one, and a watch, and see how many words you are able to do in a minute. If it is less than 400, then do something about it at once, and I'm certain you will be pleased with the outcome.

[N.B.—This talk was the writer's first attempt at writing Basic English and it is possible that there may be a word error here and there.]

THE CASHEW

By G. E. I. COCKIN (C.M.S. Training College, Awka)



THE Cashew tree is familiar in many parts of Nigeria, being often found in school and church compounds. It is supposed to have been introduced to the West Coast by the Portuguese; whether this be so or not, it was undoubtedly West Indians who first cultivated it widely, in many places in the interior. The tree is remarkable for the fact that the seed appears to grow outside the fruit : actually, the seed is really the fruit, while the so-called fruit is the greatly-swollen peduncle or fruit stalk. In this note, however, the two will be described by their common names of fruit and nut.

The cashew fruit is very juicy and, especially before it is ripe, is highly astringent, drying up the mouth. Children are very fond of it, and for their sake it should be widely grown in school compounds, where it is also useful as a shade tree. Teachers should, however, warn their children to be careful of their clothes : it is best that they should take them off before eating it, otherwise their white uniforms will be indelibly stained with black spots wherever the juice falls on them. Very pleasant jellies and drinks can also be made from the fruit.

Most grown-ups, however, are content to leave the fruit to the children if they can have the nuts. The cashew nut is one of the best of all nuts and incidentally one of the most easily digested : Europeans would find it greatly superior to the ground nuts which are often served—Africans generally know its virtues. The nuts may be collected when the fruit is ripe and kept till required. They are rather difficult to prepare, since the shell or pericarp surrounding the kernel contains a highly corrosive oil which will burn the fingers if the shell is cut. The best method of preparing them is to put them into a saucepan or tin in the bottom of which holes have been cut. The nuts are then left to roast over a fire until they are quite blackened by the fire; the corrosive oil runs out into the fire through the holes and the heat breaks down the dangerous acids. The blackened shell can then be knocked off without any difficulty.

Cashew trees can be grown very easily from seed; they grow quickly and are quite ornamental if well cared for. In some countries the gum from the trunk is used for painting wood to proof it against white ants. Fairly large quantities of cashew nuts are exported from India to Europe; the market is, however, a limited one and the possibilities for the cashew as an export crop are probably not great. But the tree should certainly be more widely grown and used in Nigeria than it is at present.





When space is limited, attractive gardening effects can still be obtained by planting within narrow borders.

SCHOOL METHOD

By B. O. FASEUN (Baptist School, Ikogosi, Ekiti)

Some headmasters think of no other means to maintain order, good discipline, and high tone than by punishments and public censure of any offender. These methods are hostile to the advancement of education because they encourage the offender to devise private means to continue the offence which we hope to remove. Some headmasters inflict punishment mainly for two purposes : (a) To secure the reform of the offender ; and (b) to afford an example which will prevent similar wrong-doing by others. Certainly the result is the reverse ; for, in most cases, it gives rise to dishonesty, deceitfulness and hostility, consequently ruining the tone of the school.

Suppose a case of immorality or other serious offence which would spoil the tone is found in a school, no punishment or blame is necessary; and the details should not be exposed to other school children, as any offence is contagious, exactly like laughter. It must be treated in private. After thorough investigation by the master, the offender can be led to see the error of his ways by a sympathetic appeal to his sense of reasoning. He should be made to see :—

- (a) The gravity of the offence.
- (b) Government's or the community's manner of treating such a charge in the case of grown-up people.
- (c) How such conduct can spoil his chances of happiness in later life.
- (d) In conclusion the teacher must lead the offender to know that he loves him in all these help-talks to him.

Certainly the gentle and slow voice of the offender, either with a bowed head or prostrating to thank the teacher, will promise that he will never do such a thing again. This being a self-reasonable promise, must be more effective than punishment or blame.

THE BICYCLE TRAFFIC IN THE CALABAR PROVINCE

Most strangers who come to the Calabar Province remark at once on the extraordinary number of bicycles on the roads. A census or count taken at Uyo showed that ten thousand cyclists passed Uyo cross-roads in one day. The traveller along the Aba-Oron or Aba-Abak roads is amazed by the endless stream of cyclists. Some of them carry large fat women who make them very unsteady, others are loaded with from three to five tins of palm oil, others carry sacks of garri, kernels or stock-fish or cray-fish, heaps of yams, strings of dried fish and almost every conceivable article, including live goats, pigs, chairs and tables.



A repair shop for bicycles on the Umuahia-Ikot Ekpene road.

It is interesting to study how this extraordinary traffic has developed. Many of the villages of the Calabar Province export palm-oil but have to import yams. Thus the cyclists have to carry the oil from the villages to the nearest beach or water-side and again the yams which are grown near the upper Cross River and are brought down on canoes must be taken from the river ports to the villages by bicycle. Thousands of young men and even a few young women transport articles from Ifiayong on the Cross River to countless bush markets in the interior. Many of these cyclists ride from beyond Umuahia to Ifiayong, a distance of seventy miles or more, and some are said to ride as much as a hundred and twenty miles in a day.

It is not safe for cyclists to ride alone on the Umuahia-Ikot Ekpene road at night; consequently they like to ride in large groups of twenty or more at a time. As they ride, they sing all kinds of songs, from native dance tunes to hymns and comic songs such as "John Brown's body."

Every motorist knows the danger these cyclists are. Few have good brakes and hardly any have any lights. One rarely meets a cyclist who has much control over his machine. Once the N.A. lorry at Abak had crossed a bridge and was starting to climb a hill when a cyclist came racing round the corner and on seeing the lorry threw up his hands and with a cry of "Abasi," the Efik for "Oh, my God," hurled himself, bicycle and all, into the river. Most cyclists when they meet a car suddenly either fall flat on the road or hurl themselves and their loads and passengers into the bush, where they may take five minutes or more to recover.

There are one or two interesting customs in connection with bicycles that are gradually dying out. The most remarkable of these is that when a woman is pregnant she rushes to a bicycle track (that is to say, where any bicycle has recently passed) and scrapes up some of the earth of the track and rubs this on her waist; apparently this protects her future child from various diseases. Another of these customs is for a mother to take a bicycle tube, burn it and then rub the burnt rubber on her infant's body. Bicycles would appear to have some magic quality.



The stall of a cycle accessories dealer in the market at Umuahia.

In places such as Uyo or Abala or Utu Etim Ekpo there are a number of small sheds to be seen along the road : these are bicycle repairers' shops. Many of the repairers are skilful at their work and some of them buy large numbers of spare parts and, having fitted them together, sell them as new bicycles.

There is no doubt that the bicycle traffic is of great benefit to the peoples of the Calabar Province, in that it gives employment to such a vast number of people, most of them being independent traders. It also enables the people who inhabit the bush villages to receive food and merchandise from far distant places and to get better prices for their oil and farm products.



A DAY IN MY LIFE AS A LOCOMOTIVE DRIVER

By DRIVER E. A. JOSEPH Nigerian Railway

A GOOD locomotive engine driver always books on duty at least one hour before the actual time at which he is due. When a driver books on duty he must always attend to the notice book, to see the notices concerning the road. He must go through them before he gives his signature.



The author of this article, Driver E. A. Joseph, armed with oilcan, beside the driving wheels of his engine.

Having mounted the engine, his first duty is to examine the fusible plugs in the firebox, and to see that there is no leakage through them. He must also find out the amount of water in the boiler. Some engines have two fusible plugs but others have three. The driver must then go to the store to receive the travelling equipment—that is, engine oil, valve oil, rakes, firing shovel, and coal trimming shovel.

When the driver is preparing the engine for the journey, the fireman also will be taking care of the footplate, more especially by making the brasses shine and making the footplate tidy. The fireman is required to maintain 90 lbs. of steam on the pressure gauge in the shed. Having completed all this necessary work in the shed, the driver will move his engine When a driver has coupled his engine to the various trucks and carriages, we call these and the guard's van a complete train. An examination of the whole train must next be made by the driver to see that the vacuum hose bags are not leaking and that the A.B.C. couplers between each vehicle are properly joined together. The driver must watch his vacuum pressure gauge and see that he has enough vacuum to master his train on the road. The maximum of 18 to 20 inches of vacuum must be registered before he starts his train. The guard will then give a right away signal to the driver,



The railway track as seen through one of the windows of the cab of an engine.

who must be in possession of the electric train staff. In the day-time, the guard uses a yellow and black striped flag, but at night-time he signals with a green light.

The driver acknowledges the guard's signal by sounding the engine whistle, makes certain of having the electric train staff for the section, looks ahead, then opens up the regulator which supplies steam to set the engine moving. As the engine picks up the load, the driver "notches up" the lever ; by this means he works the steam expansively and so saves coal and water. The driver controls the speed by using the regulator or vacuum brake so as to reach each station of his journey at the correct time according to his working time-table. While on the move, he must keep a look-out on the line ahead, and also give his attention to the fireman, and advise him with regard to steam pressure and boiler water level. After going a distance of about 40 miles, it is usual for a stop to be made for filling up the tank with water, and raking some of the ashes out of the fire grate. Besides his knowledge of the engine and how it should be worked, the driver must know a number of rules and regulations. Careful attention to signals is an important part of his work. Signals are used for controlling the movements of trains, such as :—

Fixed or permanent signals; Hand signals; Temporary signals; Detonating signals; and Station limit discs.

When a signal is at right angles to the post, it indicates danger, and the driver must bring his train to a standstill; but when the arm has been lowered to an angle of 45 degrees below the horizontal it indicates that his train is allowed to come into the station.

When a driver has arrived at his destination, the engine must be detached from the train by a shunter. Before the driver leaves his train, the guard must present a delay ticket to the driver, who must examine the contents properly to see if the guard has booked any minutes against him as delay. If the driver is satisfied with the booked timing from the guard he will give his signature to it, but if he is not in agreement with the guard's booking of time, he may write a note in the guard's journal in his own portion and leave the matter for the authorities to decide where the driver should have submitted his delay ticket. The driver will then move his engine to the shed, where he must again examine it and book necessary repairs if there are any, before putting the engine away to be made ready for the next day's duty.

A good driver does everything he can to keep his engine in first-class condition and avoid the need for repairs caused by bad driving. He must have a thorough knowledge of the mechanism of the engine and be able to effect minor repairs and adjustments that may be required during a journey.

CORRESPONDENCE

[To the Editor of Nigeria]

DEAR SIR,—May I refer to the photograph, on page 220, the 19th number of *Nigeria*, and point out that the person there depicted is undoubtedly a Tera, a tribe which does not, as your caption suggests, live at or near Maiduguri.

The Tera occupy an area between Biu and Gombe, some 100 miles south-west of Maiduguri, and those with the most well-defined tribal marks, like the man in the picture, are mainly of the westerly section of the tribe in Gombe Division of Bauchi Province.

A curious feature of the Tera is that large numbers of their youth enter domestic service, a very large proportion of the "steward boys" on the plateau and in the eastern half of the Northern Provinces being Teras.

Yours faithfully,

(Sgd.) E. K. FEATHERSTONE.

NOTE.—Mr. Featherstone is correct. Mr. W. H. Large, who kindly supplied the photograph, says that the young man comes from Balbiya, near Biu, and is a member of the Tera tribe.—*Editor*.



Dancers of the Edda clan (Afikpo) wearing net costumes of raffia string for a dance called Ali Uku. The one crouching down is not posing for his photograph, but is doing one of the movements of the dance. He wears a skin-covered head-dress a type of work which originated along the Cross River.

(Photograph by K. C. Murray)

DURABLE WHITEWASH

By KENNETH H. PRIOR

(Reproduced from Extension Pamphlet No. 1 Helpful Hints Series issued by the C.M.S. College, Agricultural Department, Awka, Nigeria.)

Value of Whitewash

W HITEWASH is worthy of a much more popular place in West Africa than it enjoys at present. It can be used for a multitude of purposes and when a durable formula is used it can well be considered as a close rival of paint and yet much cheaper. Its ingredients, beside being cheap, are usually readily available; it is not difficult to make and it is easy to apply. The chief uses of whitewash are : to brighten dark interiors; to cover stained and unsightly areas; to mark dangerous corners and objects; to preserve exposed surfaces from the weather; and also to lower temperatures. A white surface reflects heat and results in lower interior temperatures. A durable whitewash could be used with distinct advantage on a good many of the "pan" roofed buildings in the country.

For those who like a little colour on interior walls rather than a "dead" white, colouring matter whose pigments are not affected by lime can be added. Among such are yellow ochre and raw and burnt sienna. For sanitary purposes a disinfectant can be added.

Preparing the Surface

Contrary to common belief, the surface for whitewashing needs to be as thoroughly prepared as for painting. The surface should be scraped if rough and then brushed to remove all dust. If the surface is dampened previous to whitewashing it will help considerably.

Applying the Whitewash

The work should be done quickly and as evenly as possible, but do not attempt to "brush out," as in painting. A wide brush should be used or a sprayer if large areas are to be attempted. When using a sprayer the nozzle should be kept clean or the stream will become uneven and the work patchy.

Estimating Quantities Required and Time Needed

It is estimated that a general basis for work is, I gallon of whitewash for 225 square feet of wood surface, or 180 square feet of brick surface, or 270 square feet of plaster surface. A man using a 4-inch brush can cover 200 square feet of ceiling, or 200 square feet of rough wall, or 350 square feet of smooth wall in one hour.

Preparing the Wash

Water-slaked quicklime is customarily used, and care must be exercised in the slaking of it. It is better done with boiling water, but cold water can be used. Add the water, a little at a time, to the lime in a clean wooden bucket, keg or barrel. When slaking is well started add more water gradually to replace that lost in the slaking process. If not enough water is added the lime will become "scorched," and part of it will be granular. If, on the other hand, too much water is added at one time it may retard or "quench" the slaking process. After the lime is completely slaked, add enough water to make a thick paste, cover the container and allow to stand for several hours or overnight.

Formulæ

No. 1 (for rough work). Carefully slake 38 lbs. of good quicklime; strain the paste, while still thick, through a wire mosquito netting and add it to a solution made by dissolving 15 lbs. of common salt in $7\frac{1}{2}$ gallons of water, mixing thoroughly. Thin with water to a milky consistency.

No. 2 (for high grade work). This is known in U.S.A. as "Government whitewash," as it is used on lighthouses and other places. Even though exposed to the weather it does not peel off.



Painted decoration on the wall of a whitewashed house near Port Harcourt.

Take 38 lbs. of good unslaked lime; slake with boiling water, covering during the process to keep the steam in; strain the liquid through a sieve fine enough to retain all unslaked lumps. Dissolve a one-pound packet of clean salt in a little water and add to the solution; boil to a thin paste 3 lbs. of rice and put into mixture while hot, and 1 lb. of glue, previously melted over a fire, and $\frac{1}{2}$ lb. of whiting. Mix well and then add 5 gallons of hot water, stirring well; cover closely and let stand several days.

Colouring matter may be used, varying the tintings to suit the taste.

No matter what quantity is desired, these are the proportions in which the ingredients are used. If it can be applied hot it will be better and last longer.

N.B.—The whiting can be omitted.

38 lbs. lime will require approximately 6 gallons of water for slaking.



FATTENING GIRLS IN ORON, CALABAR PROVINCE

By A. J. UDO EMA Methodist Boys' High School, Oron

THE age at which girls go in for "fattening" ranges from fifteen to eighteen years, and to the illiterate girls "fattening" is a sacred order which they must take before they attain the age of womanhood. The people of Oron do not fatten their girls in order to produce women with superfluous hanging fat. For them "fattening" is a means for instructing their girls in domestic life and for giving them a rest before they pass into their husbands.

There are two principal types of fattening in Oron, viz.: the ordinary type and the special type which they call *Nkuho-Eket*. It will be well to describe each briefly.

ORDINARY TYPE

Six months before they are to go in for fattening, the girls shave their heads, start powdering themselves with camwood, and wear hollow cylindrical brass rings round their ankles. Into these rings they put some small stones which produce a gentle clanging noise when they walk. Each girl wears about six of these rings, and keeps them constantly polished. The reason for this meticulous care is obvious when we reflect on what girls do when they receive engagement rings. It is during this period that they have practical lessons in cookery.

When the going-in day comes, each girl is smeared all over with palm oil, and is given a secluded room curtained off with raffia strands where she has to lie on a mat spread on the ground. Across the room a raffia string is tied on which she hangs the bones of the fish she eats during this period in order to show her visitors how sumptuously she is being fed. After three days to a week, she is given a bed, the raffia string with its load is removed, and she ceases from rubbing on oil and starts to rub herself with white clay.

A fattened girl being carried to the market place on the shoulders of a young man. (From a drawing by an Elementary Class IV. boy.) She is supplied with a very large, covered calabash which serves her as a portmanteau for storing odds and ends. Articles for indoor pastimes are provided, and streams of friends pay her unceasing

visits which remove the tedium and monotony of her seclusion. Children are brought to her for nursing when their mothers go to market or farm. She has lessons on native etiquette; on how to serve visitors of various ranks, and she is supplied with things like snuff and kola, which are items for showing visitors that they are welcome. She can step out of her room into the parlour, but must not venture beyond that.

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(Continued on page 388).



Reference has been made in our Editorial article in this issue to the great possibilities of successful development of village industries in Nigeria, including blacksmiths' work. Here is a notable specimen of good African craftsmanship in this direction —a decorative iron gate of strong design, well suited to the material employed, made by an Awka blacksmith. Girls start this form of fattening in the months of December or January, and the course lasts about a year.

NKUHO-EKET

Girls of weak constitution who suffer from intermittent fevers, and who have any blood relationship with the people of Etebi-Eket—a part of Oron—go in for this type. It starts in June or July and lasts at least a year and a half, or for three years if the parents of the girl are wealthy.

Before a girl undergoes this fattening, a soothsayer is consulted who names some Oron woman who has to perform the necessary sacrificial rites. To be so named is a sign of good luck, and no past bad feelings between the parents and the nominee are allowed to stand in the way. Both come to good terms at once, for this nomination means a considerable amount of wealth to the nominee and a life-saving course to the parents.

Generally the nominee is one who has undergone this type of fattening. Should a Christian be nominated, she lays her hands on a heathen relation, who then performs the sacrifices on her behalf. After the necessary sacrifices have been made, a curved piece of cylindrical brass is hung with a piece of string from the girl's neck as a sign that she belongs to this type of fattening.

In the fattening room the girls are served by small girls and are fed on special food cooked with special kinds of firewood. They must not eat fresh crops from the farms, and must not step out of the room into the parlour. In some villages they are allowed to place one leg in the parlour and peep out of the room, but on no account must both legs leave the room. The future husband must not see the girl until he has given a goat to obtain permission.

GOING-OUT CEREMONY

Three days before this ceremony, the girls are taken to their prospective husbands to receive what can best be called crowns. These crowns are head-gears designed in various ways and decked with small mirrors and gorgeous plumes of rare birds. No picture can give a true idea of their gorgeousness. The girls stay overnight and return the following day when their families are visited by the players of *ikpa*.

Ikpa is a game played by elderly people of the village; it consists mainly of sing-songs accompanied by the beating of a little drum about eight inches long and about four to six inches in diameter. The parents of the girls have to entertain the players, and the girls are expected to dance intermittently until daybreak.

On the day before the final day of the ceremony, the relatives go to families of the girls to help cook food in readiness for visitors. At daybreak, the young men of the village collect in the village square and let off a piece of arousing music that instantly attracts to the spot all reputed wrestlers from the neighbouring villages. This game of wrestling lasts for about four hours, at the end of which the wrestlers retire for their bath; and fattened girls, carried on young men's shoulders and escorted by hilariouslyyelling crowds of women and children, are taken as exhibits to the market.

After leading the fattened girls home, the women and children return to the market for games, after which the young men display their feats in medicine, such as making an egg or a calabash move by itself. The performers are usually highly praised for their wonderful juju !

The following will disclose what the writer discovered about these juju feats. A part of the shell of an egg was cleverly removed, and two beetles were dropped in through the hole, then the part was carefully replaced and gummed up and the "mend" concealed. When it was placed on the ground and the beetles struggled for air, the egg began to move. A similar trick was used in the case of calabash; but instead of beetles rats were used. When the drumming started the poor creatures were frightened, and in trying to escape rolled the calabash around.

At the close of the game visitors repair to the houses of their friends, where they are given food and palm wine. In the evening the husbands bring young men from their village to play in the compounds of their parents-in-law, while in the village square the village has its own game of the same nature. All the fattened girls, by custom, attend the one of their village and ignore those brought by their husbands. At ten or thereabouts all go to bed, only to wake up in the morning to continue from where they left off on the previous night.

In the evening of the second day the girls are handed over to their husbands. According to custom they are not readily handed over, and husbands are mercilessly tantalised so that when they go home they may learn to value their wives, for things cheaply obtained are often little valued. Generally it is the father who gives away the girl.

The end of the day is marked by the tremendous yelling of the fattened girls as they are being carried away on young men's shoulders to their new homes. Behind the crying, yelling girls follow little boys with reasonably large bells that toll in confusing melodies as the boys run to keep pace with the carriers. After eight days all the girls carried away return to their village, where they visit the market in their best attires and then go back finally to their husbands; thus ends the period of great merriment at Oron.



As an appendix to the article on whitewash which appears on pages 384 and 385, here is an example of how not to use whitewash. The enthusiastic maker of this garden has used stones to strengthen the edges of his beds, but by whitewashing them has created an unnatural effect which detracts from the charm of the garden.

SECONDARY EDUCATION

By K. B. Forge

WHAT do you think was wrong with your education? I find my answer is "Quite a lot." However, as I was at a secondary school from 1914 to 1919, when most of the best teachers were at the war, there's no one to blame about that.

All the same, some of the things I think were wrong are still wrong in many schools.

For instance, we were never taught to look at anything or to listen to anything. No one ever told us how to look at a picture, or a tree, or a house, or a motor car, or a piece of furniture, or how to listen to a piece of music, or the song of a bird, or even a lecture or a play. If we had had wireless in those days, I'm sure we should never have been taught to listen to that either. So when I left school I could not tell a good poem from a bad one, or Beethoven from Bach, good jazz music from bad jazz music, a picture by Botticelli from a picture by Michaelangelo, or an honest piece of prose writing from an unrealised literary fake. I couldn't choose a welldesigned chair or table or knife or fork for my house : I didn't even know where to hang a picture. I was blind to colour and form, deaf to music and poetry.

I didn't begin to understand my emotions either. I knew that I quarrelled with my parents and bullied my younger brothers, and that I hated myself for doing so: but why this happened, or how it could be cured, I hadn't the vaguest idea. I was sadly lacking in self-confidence, and over-assertive in consequence, but no one told me anything about how to cope with these difficulties. I was also unduly timid, partly, I think, as the result of a shock received when I was about nine; but nobody noticed it, or if they did they hadn't any helpful suggestions to offer.

Sex gave me a good deal of trouble. They did tell us a lot about that, but everything they told us was either so vague as to be useless, or else it was thoroughly wrong and harmful.

Then we never learnt to make anything. There was a carpentry shop for the lower classes, but nothing really useful was ever made. We did joints and practised the use of tools—an excellent training for carpenters' apprentices, but a very inadequate outlet for the creative desires of adolescents, few of whom were likely to become carpenters by profession. There was a dark room, but no one ever learnt to take a decent photograph or develop it well. There were drawing lessons, but we never made pictures : we learnt perspective, and how to shade, and other technical tricks.

Mathematics seemed to be a vast sea of problems, proportions or formulæ. Most of the mathematics I've needed since I left school I never learnt, but we spent hours solving equations which did us no good that I can discover then or thereafter. We learnt our algebra and geometry and physics in watertight compartments. I never learnt to keep my own personal accounts and balance them up at the end of the month. I find myself handicapped in geography and geology because I don't know the trigonometry that is needed. We heard nothing about how the history of mathematics was bound up with the history of progress in other sciences. And we didn't even learn to add, subtract and multiply with reasonable speed and accuracy. Statistics play a great part in modern organisation, but we never touched the mathematical processes necessary to cope with them, even in an elementary manner. I hear some schools now use "Mathematics for the Million" as a text book. They're in luck !

We learnt nothing at all about psychology or philosophy or even logic; no one ever seemed to realise that we needed to be taught to think, and to criticise the thoughts of others. Yet in the world to-day we are always

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having ideas and systems in Religion, Science, Politics, and Economics put before us—Nazism, Communism, Ultra-Imperialism, Social Credit, Federal Union, Moral Rearmament, Christian Science, Social Democracy, Liberal Capitalism, and so *ad lib*. All these have a philosophic background of some kind, which we must get at if we are to decide rationally whether to believe Oswald Mosley or Mr. Churchill, Stalin or Bunny Austin. You may say, "Yes, but this is asking too much of the secondary school." My reply is that my brain was as capable of grasping ideas at $13\frac{1}{2}$ as it is at 38, and if half the time we spent learning things we didn't need to know had been spent on learning how to think and to set about tackling the problems that were to face us later, we should have turned out happier and more useful citizens.

Our "social" education was shockingly neglected too. Our school was in a large village; but we learnt nothing of how the village was governed, or what were the responsibilities of an ordinary citizen. We played cricket and football, but not tennis or golf, games that are much more useful to most people. We never learnt to apply for a job, answer an invitation, or generally to comport ourselves with propriety in any society, though many of the boys came from homes where they would never have the chance of learning to solve such problems as what to wear at a dance, which weapon to use to attack an orange at the dinner table, or what wine to drink with the fish.

Health was neglected, too. I suspect our physical training was illadapted to our needs and did more harm than good, especially to the younger boys. We never learnt enough about our digestive and reproductory processes, or our general physiology, to make us safe from the quack remedies whose makers grow rich on just this ignorance. We never even learnt what to eat to keep ourselves in reasonable health.

In fact, the only "needs" we were presumed to have, as far as I can make out, were the ability to pass examinations, win football and cricket matches, and do what we were told.

Religious instruction was inadequate. No one mentioned the uses of solitude and contemplation, or suggested how we could use the exercises and experiences of religion to make ourselves more useful and effective "members one of another." Religion was rigidly separated from science on one side and from politics on the other. It was something that happened in the school chapel.

Now this sounds like a long grouse and nothing else : but two questions arise : Are any of these complaints well founded, and if so, are our secondary schools avoiding similar errors to-day ?

The Spens Report proposes remedies for several of the evils I have mentioned; and many schools in all parts of the world, especially in America, are tackling these and others of the problems I have tried to suggest. What about our own middle schools? I hear the complaint that boys often show great promise up to about Middle Class III, and then fall off badly; and I am wondering whether this may, in part, be because we are not tackling the problems of personality, and its needs and development, with full success.

Meanwhile, I make the following suggestions for reading on the points I have raised :---

Graham Wallas: The Art of Thought: Social Judgment. (Allen & Unwin.)

The Spens Report : Handbook of Suggestions for Teachers. (H.M. Stationery Office.)

Geraldine Coster: Psycho-analysis for Normal People. Yoga and Western Psychology. (Oxford University Press.)

Joanna Field : A Life of One's Own. (Faber & Faber.)

THE PROJECT SYSTEM IN BAMENDA DIVISION (CAMEROONS)

Baptist Mission School :--

"By way of introduction may I say that my husband and I are Americans. We started this work about five years ago. My husband manages the general work while I try to manage the school.

"Our school building was planned to conform to modern teaching methods. It is a two-room brick building with long classrooms designed so that the twenty individual desks (we have set twenty as a maximum for each class) will take up only about half the floor space, leaving ample room for project work. Each room has a large, low work-table which will accommodate twenty children at work. The foundation for the second of three buildings has just been completed and will also have two classrooms with an additional workshop for crafts. The boys do not live in dormitories but in small native huts, three boys to a hut. They are allowed to wear no European clothes but must wear only the regulation school uniform, the loincloth. All pupils are required to do manual labour from 7-9 a.m. each morning. Classes are held from 9.30 a.m.-2 p.m., after which the boys are free. Our aim is to try not to alienate the boys from their village life.

"May I say that I find *Nigeria* an exceptional magazine which satisfies a definite need. For bush schools such as ours, which is so far from the beaten path that no Education Officer or travelling teacher has as yet found his way to us, your magazine serves as a general clearing house of ideas and information on what is being done in other schools. For this reason I venture to submit the attached notes in the hope that others with more experience will offer additional ideas that will be of help to us."

At this time when much interest is being shown in the project system,* would it be amiss to offer for what it is worth a discussion of the thoughts and plans we are putting into practice in our little bush school in the far corner of Bamenda Division? After reading Mr. Ita's article in No. 19 of *Nigeria*, I feel that a few practical suggestions as to *how* to go about developing a project might be of assistance to teachers, especially in small rural schools, who might not have had the advantage of advanced teacher training. Naturally there is nothing definite about this scheme nor do we intend it to be, for the project system must remain flexible enough to meet the changing needs and interests of the community. This is merely a skeleton on which to build and expand and to guide us on our first venture into the possibilities of this method.

In life, one learns by doing. Each process is learned as the need arises. In the unit-project system, the teacher must create these needs in the classroom. Although the first essential in this method is to select projects of interest to the pupils and if possible even suggested by them, a teacher unaccustomed to this method will do better to plan his year's work in advance. This he can do by selecting a unit broad enough to



Here is another picture of Mr. Sawyerr, of the Nigerian Railway Stores Department, at work in the trim little garden attached to his modern house at Ebute Metta. (He is seen also in the larger illustration given on page 355 of this issue.) The picture reproduced above shows a corner of the back garden. This includes a little lawn and a dry, clean, cemented area opposite the kitchen. Flower beds about 14 inches wide have been arranged along the foot of the surrounding vall. These are filled with bright foliage plants, including coleus and calladiums.

involve projects bound to meet the interests of the pupils, and if he is clever, he will guide the class discussion which should precede each project into the selection of the very project he has previously worked out.

Infant I is a transition period between home and school. It is hardly wise to attempt a unit in this group, though correlation of work should take place. It is enough that the child is gradually weaned away from the freedom of home life and initiated into the routine and discipline of school life. The teacher should make use of these first months for getting personally acquainted with each child. To understand a child fully he must know the child's background and home life. The entire class might be taken visiting to nearby homes. This will at the same time teach the children to be sociable and form a bond between parents, home and school. The teacher should win the respect and confidence of the children. Much of their future attitude toward him will depend on his tactfulness in handling them these first months. If they are gently but firmly taught to respect the teacher and obey him they will probably continue to do so. The children should be taught to adjust themselves to their fellow-pupils and to be tolerant of those of other villages. They should also be taught regard for the property and rights of others and especially the property of the school. We are always too anxious to start "teaching" and thus begin with the A, B, C's and I, 2, 3, forgetting that it is much less important to be able to read and count than to know how to live happily together. Remember from the outset that education is not book knowledge but learning to live life to the fullest.

N.B.—Apropos of this article, reference may be made to an article on "The American Activity 'Program'" which appeared in No. 18 issue of Nigeria (pages 114 to 116). The latter article was written by Mr. W. E. Holt, Superintendent of Education, after a special visit to America to study educational methods. Mr. Holt dealt in an introductory way with the Project system which Mrs. Gebauer here describes in fuller detail.—*Editor*.

In selecting a unit of work for Infant II we have chosen to elaborate on the home as the subject nearest to the life and interests of the pupil. Using this as the theme throughout the year, all subjects will be related to it. Let us take the following as a possible outline and see how this unit might be developed :

Unit : "The Home."

1st Project : "How to Build a Home." Approx. time : 8 weeks.
2nd Project : "Life in the Home." Approx. time : 6 weeks.
3rd Project : "Mother's Place in the Home." Approx. time : 6 weeks.
4th Project : "Father's Place in the Home." Approx. time : 6 weeks.
5th Project : "The Child's Place in the Home." Approx. time : 6 weeks.

Summary of Unit : A play, preferably written by the pupils. Parents may be invited.

In order to stimulate interest in the unit it is wise to select as the first project one involving physical activity. A crude hut might be erected in the classroom after the native style of building. It should be sufficiently large to allow the children to play in it. This hut should remain throughout the entire unit and will serve as the stage setting for the play to be given at the close of the unit.

During the construction of the hut the usual subjects will be taught not according to a time schedule but as the need for the various subjects arises. This will require constant alertness on the part of the teacher and ingenuity to make the most of the opportunities when they appear. In this way no subject will be taught as an isolated lesson but in relation to an actual situation and therefore more readily retained.

Arithmetic will be taught by counting bamboos, bundles of grass, sticks and stones. For example, the teacher will ask four boys to bring eight sticks each. When the teacher asks how many have been brought in all, the pupils, no doubt, will count each stick separately. The teacher may then teach multiplication. Or it is decided that twelve poles are necessary to support the roof. One boy is able to carry two poles. How many boys must be sent ? Division.

In like manner, while the class is out collecting materials Nature study should be introduced. Where does the palm grow and how, what type of soil is best for mud walls, the growth of grass, etc. Reading and writing lessons will pertain to the building of a house. For oral composition the boys of different villages may explain the methods peculiar to their country. Bible stories relating to home life may be told during rest periods. Special stress should be placed on moral instruction since such joint work on one project gives rise to many little issues of conduct and is an excellent opportunity to teach co-operation and mutual helpfulness. This subject should be taught throughout the school day whenever the teacher sees occasion to introduce or refer to it. We are too apt to teach moral instruction as the first lesson of the day and consider our duty done. Mere talking has little effect but when related to actual happenings its effect will be lasting. In this connection it is well to remind ourselves that it is better to compliment the worthy pupil than call attention to the misbehaving one, thus making him the centre of attention.

This is sufficient to show how this first project might be developed. The length of time spent on it will depend on the teacher and the pupils. If the teacher sees the interest is lagging it is well to pass on to the next project and the material missed may be included at another time.



A set of carved chew-sticks held up for inspection by a student of the Agricultural Training Centre, Umuahia. These are the equivalent of tooth-brushes, which Africans do not use. In the course of their use for cleaning the teeth, these sticks become frayed and are frequently replaced. Chewsticks are usually plain, but the group here illustrated have been decorated by simple carving.

In like manner, the second project might be worked out. "Life in the home" deals to a great extent with eating and sleeping and gives occasion to stress hygiene which has been neglected in the first project. So, also, the third project, "Mother's place in the home" will include farming and give a chance to discuss a school farm or garden. Appreciation of basket weaving, pottery and other crafts peculiar to the women should be included. Under the fourth project nature study of animals can be brought up in connection with father's hunting trips. "Animal Stories" and "African Folk Tales" might be used for reading lessons to give variety to the general theme of the home. During oral composition the children might gather their stools around the teacher and be encouraged to recall all the various duties of mother and father to more fully appreciate what parents do for their children and give emphasis to "honour thy father and thy mother." The fifth project is a very important one and the teacher should make a point of calling attention to the many little chores a child can do to help his parents. After stressing the usual ones such as carrying water and firewood, the teacher might suggest new ones such as making a refuse pit, planting fruit trees, beautifying the compound, etc. Visits to the various compounds of the pupils will lead to the discovery of additional ones. This subject of the helpfulness of children in the home should be the theme of the play to be written and performed as the summary of the entire unit. It will naturally come at the close of the school term and one could make a special occasion of it by inviting the parents to attend.

In Elementary I the logical unit to follow up that of the home should be the village.

Unit : "The Village."

1st Project : "Model of Native Village." Approx. time : 8 weeks. 2nd Project : "The Court." Approx. time : 6-8 weeks.

3rd Project : "Village Sanitation." Approx. time : 6-8 weeks.

- 4th Project : "The School in the Community." Approx. time :
- Summary of Unit : The re-arrangement of the model as the result of the discussions.
- (As many more projects as the teacher chooses may be added or other ones of more interest to the village in question might be substituted.)

First Project. To create interest, start with a project involving handwork. This will be a model of our own village, to be worked out on the floor of the classroom, on a large work table or out on the school grounds. It is preferable in the classroom if space is available as the model should be kept and referred to constantly throughout the unit. A general discussion of the project and materials to be used give ample opportunity for oral and written composition. This should be discussed quite in detail and the class divided into groups to carry out the various parts of the project. Work on the models should begin at once and will solve the handwork problem for the entire unit. While this handwork is in progress discussion of the requirements of an ideal village might continue.

During rest periods reading lessons should be carried out, the teacher selecting such material from the various books as pertains to village life. (It is perhaps needless to say that in the unit-project method no text book or reader should be followed page by page but appropriate lessons chosen by the teacher. It will be noted that most of the material in the Basic Way to English Books fits into these units very well with but little rearrangement of the lessons. This is also true of the Atlantis Readers and New Method Readers. If desired, units may easily be built up directly around the material in the Basic Way to English series.)

Assembling of the village can be made to give ample chance for teaching arithmetic. It should be laid out to scale, thus introducing linear measure and the addition and subtraction of feet and inches. At the same time geography should be started. Putting in the hills and water courses of their own surrounding country is a good starting point for the pupils in this subject.

Second Project. In the selection of the second project, no doubt "Village Sanitation" should have preceded the Court. However, in order to hold the interest of the class it is better to select a project which is not too similar to the first. We have therefore chosen the "Court" as the second project since it does play an important part in the community life. While the class is assembled around the model village the teacher might easily lead the discussion to the court, since it is the largest building in the centre of the village. He might ask how many are familiar with the procedure of the court and suggest making a pupil court, thus launching the class into the second project.

Do not allow interest to lag by too much general discussion but start immediately to organise the class into a court. Guide the selection of officers by explaining the duties of each and reminding the class that the president should be a natural leader, the scribe a good writer, the messengers prompt and efficient. It might be wise to have two scribes or let a new one be chosen with each new case, thus giving several pupils

the excellent drill. Set to work to arrange the classroom into a court. (I am assuming that the old-fashioned school bench has been replaced by individual desks. If not, with a little ingenuity a teacher can even arrange benches into a semblance of a Court and thus break the monotony of the evenly-placed rows.) Each pupil will take his desk and stool with him. The president and members of the court will sit in front of the room, the president being given the most prominent position. To add to his importance he might be given a native cap and perhaps a robe. The two scribes will sit at a table near the window with their court books. The messengers will take their respective places and the spectators arrange their desks in a half-circle near the back of the room. This seating arrangement should be retained throughout the project regardless of whether the "court" is in session or one is taking time out for a formal arithmetic lesson. It not only adds interest to the lesson but helps to associate it with the project.

Every new project introduces new words and phrases. The teacher should make use of this for vocabulary drill and spelling. A discussion of the purpose and function of the court calls for oral composition. A lesson in moral instruction should be given on the meaning of Justice. The teacher should make reference to the Bible. (Remembering that to hold interest is important, the teacher might enter into the spirit of the project, in this case, by sending the court messenger to fetch the Bible from the school library and allowing the court scribe to verify its authenticity before quoting from it.) Stories might be told of Solomon, Deborah and other judges of the Bible.

In the selection of a trial case, the teacher must have his aims clearly in mind. Since the addition and subtraction of measurements was taken care of in the first project, he might now direct the discussion of the case into one involving the exchange of money. For instance, Binda accuses Chufo of having broken his slate which cost 9d. The court decides Chufo must replace the slate and pay court fees. Since the boy has no money, it is suggested that he carry stones for the new school foundation at the rate of ten large or fifteen small stones per penny. Therefore, how many stones must he carry to equal 2s. 6d.? When the teacher has taught the class to change shillings into pence he might cleverly add complications to the case. Another witness might appear on the stand who has seen Gemda push Chufo, thus making him break the slate. The court decides Gemda should pay a third of the costs. How much is one-third of 2s. 6d.? Thus a good teacher might create interest in the otherwise uninteresting subject of fractions. At the close of the project the entire class might be court scribes and write the history of a case. This will serve as a substitute for examinations which should be done away with, especially in the lower classes. A good teacher knows what his pupils have learned without having to examine them.

Third Project. At the close of each project the teacher must check on aims accomplished and accordingly complete his plans for the next project. He will observe that in the two preceding projects the emphasis has been placed on arithmetic and geography, oral and written composition. Little or nothing has been done with hygiene and nature study. Also all work was done in the classroom. Returning to the model of the village he will guide the discussion into the subject of village water supply or the bathing pool, thus interesting the class in the project of "Village Sanitation." This gives ample opportunity to emphasise the subjects thus far neglected and gives opportunity for field trips and much outdoor work. The co-operation of the chief may be secured and a community project such as making a bathing place be accomplished.

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Fourth Project. "The school in the community" is a project in which a study should be made of the service rendered by the school to the village. Our school building, a two-room brick structure, serves as a community house and is available to groups for meetings at any time when school is not in session. Every afternoon classes in reading and writing are held for adults. Also, to a group of apprentices in carpentry, masonry, etc., is taught simple arithmetic dealing with measurements and simple mechanical drawing besides reading and writing. On Sunday mornings Sunday School is held for children and in the afternoon the school serves as a club house for young men who wish to get together for games, etc. The school has a circulating library of seventy-five books, and a few magazines such as Nigeria. The football field and ball are available to boys three afternoons per week and to men three afternoons per week with a free-for-all on Sunday afternoons. The schoolboys attempt little jobs such as keeping the market clean, repairing bridges, making roads. Further needs of the community will be discussed in oral composition and field trips taken in order to make new plans. As said before, more projects may be included in this unit. The summary should be the re-arrangement of the original village model into an ideal one as the result of discussions on sanitation, orderliness, practical layout of market and public buildings, thus revising the entire unit.

No doubt the absence of the market as a project in the above unit has been noted. The market is such a broad subject in itself, giving rise to the study of such varied subjects that we have made it the unit for Elementary II. Modes of Transportation might serve as the unit for Elementary III and perhaps Tribal Organisation and Native administration for Elementary IV. In a community where native crafts dominate, the following unit might be substituted for one of those mentioned above.

Unit : Native Industries.

1st Project : General Survey.

Listing of native crafts of village. Visits to various craftsmen. Division of class into groups doing 1 to 2 hours per day apprentice work with the craftsman.

2nd Project : Sources of Raw Material.

Emphasis on geography and nature study with research work on the field and in the library.

3rd Project : Production.

Emphasis on handwork. Moral and religious instruction; "honest work is honourable," stories of Jesus the carpenter, Paul the tentmaker, Luke the physician. Exhibition of finished products with general criticism as to workmanship, design and usefulness. *Ath Project*: Distribution.

Discussion of market for produce. Emphasis on history and geography of neighbouring villages. Arithmetic; in estimating amount and cost of raw materials, time spent on production and profit expected.

Summary of Unit: Sale of produce with profits to be used for the benefit of the school.

The discussion so far is sufficient to show the evolution of a unit. The unit-project method so worked out not only gives the pupils a practical education as well as an academic one but makes school a pleasure for both the teacher and the pupils. As the unit develops it becomes more and more fascinating with no end of possibilities for including all the subjects usual in the average scheme of work with the advantage of having it all become an interesting adventure.

REVIEWS OF BOOKS

"Brousse."

W E have been sent No. 3 of *Brousse*, a quarterly of 48 pages written in French which is published at Leopoldville by the "Friends of Native.Art" in the Belgian Congo (price 10 francs). It shows that in that part of Africa the idea of preserving and encouraging African arts and crafts has been taken up with enthusiasm. A museum has been set up at Leopoldville, a decree has been made to protect works of art in the country and steps have been taken to develop the sale of the products of living artists and craftsmen.

Besides chronicling the progress of these measures, the periodical includes articles on Congo art and poetry. In the number before us, the chief article is a study of the carving of the Batshiok tribe. In this tribe dancing masks are based on actual measurements from human faces; it would be interesting to know if any reader of *Nigeria* knows of a similar practice in this country. The writer of the article explains the unnatural proportions of many African carvings thus: "The artist says to himself, 'When I make a carving of a man, I make him as though he were only one or two feet high. When I see a small human being, what do I see from my normal height? I see a big head, much stomach, much knee, much feet, a little of the chest partly hidden by the chin, hardly any thighs and calves, eyes hidden by the eyelids, the nose from above rather long and the mouth close beneath the nose !' In sum, the primitive artist applies the laws of perspective to sculpture without thinking that his sculpture is subject to the same laws, and he thus doubles his disproportions."

In this article and others the future of African art is inquired into and its decay lamented. A slight difference in attitude from that of Nigeria may be detected. It seems that in the Belgian Congo more attention is being paid to the encouragement of African art through the development of a European market for it than in Nigeria, where the emphasis is on the development of arts and crafts for the African. Related to the future of African art is the problem of the relationship of Christianity to native art. A curious development in parts of the Congo is the adoption of Christian saints and even of crucifixes by the animist religion. Sometimes these "spirits" are represented in carvings that are imitations of European religious sculpture, but in a carving of the Virgin Mary which is described the figure has been given a sun-helmet. This is clearly something similar to the use of contemporary dress in the representation of religious figures during the Middle Ages in Europe. The writer on the Batshiok carvings does not consider masks to be religious art. He claims that in Africa they never represent spirits, but are solely for frightening women and non-members of societies. A later development was the exploitation of the latent dramatic possibilities of masks in the Dance.

Brousse is illustrated, but the reproductions are small and not very clear.

K. C. MURRAY.

Omenuko.

This is another good vernacular book from the well-known fount of vernacular literature, Uzuakoli Institute.

The hero, after a severe training in trading methods, sets up on his own, is successful, and has a flock of apprentices who come to him to learn his secrets. But one day misfortune overtakes him. While he is on his way to market with a large consignment of goods conveyed on the heads of carriers, a bridge breaks, the carriers are saved but all the goods are lost. Omenuko is once more a poor man. Desperate, he persuades the carriers

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to follow him to Bende market where he sells them as slaves. Thenceforward, his conscience oppresses him and for many years he strives to reach a position from which he can redeem the slaves.

A review can but touch on all his adventures, on his flight by night to a city of refuge, on his administrative success in his new home, on his later troubles due to the jealousy of some old chiefs, on the intricate negotiations for the redemption of the slaves, on the future of those redeemed, and on Omenuko's later days. All educated members of the Ibo race and non-Ibo people well acquainted with the language will get pleasure and an insight into certain Ibo customs by a perusal of this book.

The work goes with a swing, and there are many pretty idioms. The print is good and the illustrations adequate. There is only one real blot on an otherwise very good work which won the first prize in a competition organised by the Institute of African Languages and Culture a few years ago. This blot is the spelling, which makes comprehension of certain passages more difficult than it should be. Despite this, author and publishers must be heartily congratulated on such a publication. R. F. G. ADAMS.

Oxford Books for General Reading.

Our Letters in the Post. The Story of Gold. The Empire at Work Series. Oxford University Press. Price about 1s. each.

Our Primary School teachers, and our older Primary and younger Secondary pupils have long been in need of reading matter which they could take in easily and with enjoyment, and which would at the same time widen their general education. The supplementary readers to the Oxford and New Method readers have been largely story books; but with the two books named above the reader can combine business and pleasure. They are well printed, contain excellent photographs, and are written in English which any bright Standard VI boy ought to be able to read without difficulty. The books can be recommended for Standards V and VI, Lower Middle, and Training College and Centre Libraries. K. B. F.

Cocoa and Chocolate. Redmayne and Insull. Oxford University Press. 9d.

This is another addition to the "Empire at Work" series. Most children are aware of some of the facts contained in the first part of the book, but the latter part of the book will for the most part be entirely new. It is to be hoped that the publishers will complete the good work of this volume by publishing similar ones dealing with palm oil and ground nuts and their products. Other volumes already published in the series are Our Letters in the Post, The Arm of the Law, and The Story of Gold.

Things African.

African Explorers. T. G. Standing. New Method Library. 15. 6d. Africa and European Trade. Ward. Longmans' African Histories. Book 2.

Is. 4d.

At a glance, these books appear to be an example of overlapping of publications, but in fact they serve different purposes. The first book deals with individual explorers. It is a useful reader to put into the hands of pupils when it is desirable to give a picture of the wide range of activities of African explorers and should help towards a balanced distribution of credit to the many men who paved the way to the opening up of Africa. *Africa and European Trade* is the second volume of a series. It is to be commended because, while written in simple language, there has been no attempt to limit the vocabulary. The absence of exercises and suggestions to teachers gives the book a limitation which might be met by the production of a teacher's handbook when the series is completed.



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A most useful new series of educational handbooks, published by the English Universities Press (whose announcement appears on page ix of this issue), has been making its appearance in England during the last year or two, additional subjects being added at frequent intervals. Many of the volumes in this series should prove extremely useful to students in Nigeria; their modest price of half-a-crown per volume, and their handy size $(7\frac{1}{4} \text{ ins. by } 4\frac{1}{2} \text{ ins.})$ are both points in their favour. Such books are suitable not only for leisurely reading at home but for carrying about on a journey for study at odd moments.

The range of subjects covered is already a very wide one, including biology, chemistry, geography, mathematics, trigonometry, photography, dressmaking, carpentry, embroidery, cooking, economics, book-keeping, aviation, and several languages-French, German, Spanish, Latin-in addition to "Teach Yourself Good English." It was the English and geography volumes which first attracted our attention to the series and impressed us with their suitability for West African readers.

The purpose of each volume is to give a comprehensive general introduction to its subject, showing the various aspects of it from the purely elementary to the more advanced. Naturally there remains much more to be learnt on any subject than a single handy volume of this type can hope to convey; but there is a great advantage in being able to gain a complete bird's-eye view of a subject within the covers of a single volume. The elementary student is thus shown not merely how to commence his study but also the various ways in which it opens out and the ultimate ends to be attained. He knows, in short, what he is "up against," instead of having to buy a series of volumes-elementary, intermediate and advancedin order to get his bearings. Having got his main lines in sight, he can fill in extra details later.

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International Affairs.

No. 29 of the Oxford Pamphlets on World Affairs deals with the Life and Growth of the British Empire. Secondary Schools will find this and the earlier volume (No. 2: The British Empire) exceedingly useful for general background to the British Empire studies in history. History teaching in most schools fails to give a picture in which things stand out clearly in relation to the various parts. These pamphlets should help to remedy that. The general reader will also find this volume and others in the series of considerable value in attempting to understand the present condition of the world.

Science.

The Plague of Locusts. Burr. Oxford University Press. 8d.

This is an excellent addition to the Simple Science in Simple English series. It is well illustrated with photographs and line drawings. Quite apart from its value as an account of locusts and the evil they cause, it supplies teachers with excellent material for illustrating the necessity for nations to work together in promoting the welfare of the world. Teachers might get their classes to discuss the needs and possibilities of organisation similar to the "Locust Police" with reference to other problems such as erosion on the southern edge of the Sahara and in the cattle-raising countries of East and South Africa.

Modern Science. Book III: Biology. M. Munro. Macmillan. 3s. 6d.

This book is intended for English schools, but it has a number of features which make it well worth biology teachers having it on their bookshelves for reference. It would be useful for schools taking the first appendix as a model and carrying out food studies of some of our more common animals. The construction of diagrams similar to figures 115 and 116 could be the basis of another series of class projects. The second appendix could help considerably to take the subject out of the classroom and make Nature Study real and live in our schools. In fact, there are many things which make this book one which should be in the hands of every teacher responsible for Nature Study in our schools.

English.

Detailed English Course. W. S. de G. Rankin. Longmans, Green & Co. 3s. This textbook has been prepared for the use of Middle Schools in

Northern Nigeria, but it will be found useful as an additional reference book by teachers elsewhere. Features which commend it are the suggestions on the preparation of lessons, the supplying of phonetic versions for drill, and the careful working out of the material for each lesson.

Essential English for Foreign Students. C. E. Eckersley. Book II. Longmans, Green & Co. 3s.

The method and material of this book calls for comment. The conversational style of the lesson material lends itself to expression and dramatisation in the classroom in a manner which is bound to give considerable help to the student. The exercises are well-balanced while there is due regard given to expression, the drill in formal elements of grammar and syntax are not disregarded.

The Teaching of Oral English. H. E. Palmer. Longmans, Green & Co. 25.

Teachers familiar with the New Method Books will find this volume an excellent practical summary of the methods with which they are already acquainted. It is essentially a practical book concerned with the speaking of English, and for the teacher who finds difficulty in carrying on conversation lessons it will prove to be of considerable value.

The Oxford English Course. Alternative Books 3, 4 and 5. Faucett, adapted by French. Oxford University Press. 1s. 6d., 1s. 9d., 2s. each. Teacher's Edition 2s. 6d., 3s., 3s.

The original Oxford English Course had a weakness for many schools which is corrected by the production of the alternative series. This edition provides for a more gradual approach to the material in the latter half of the course. The alternative series also have the advantage that reader and language courses are combined in the single volume at each stage.



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