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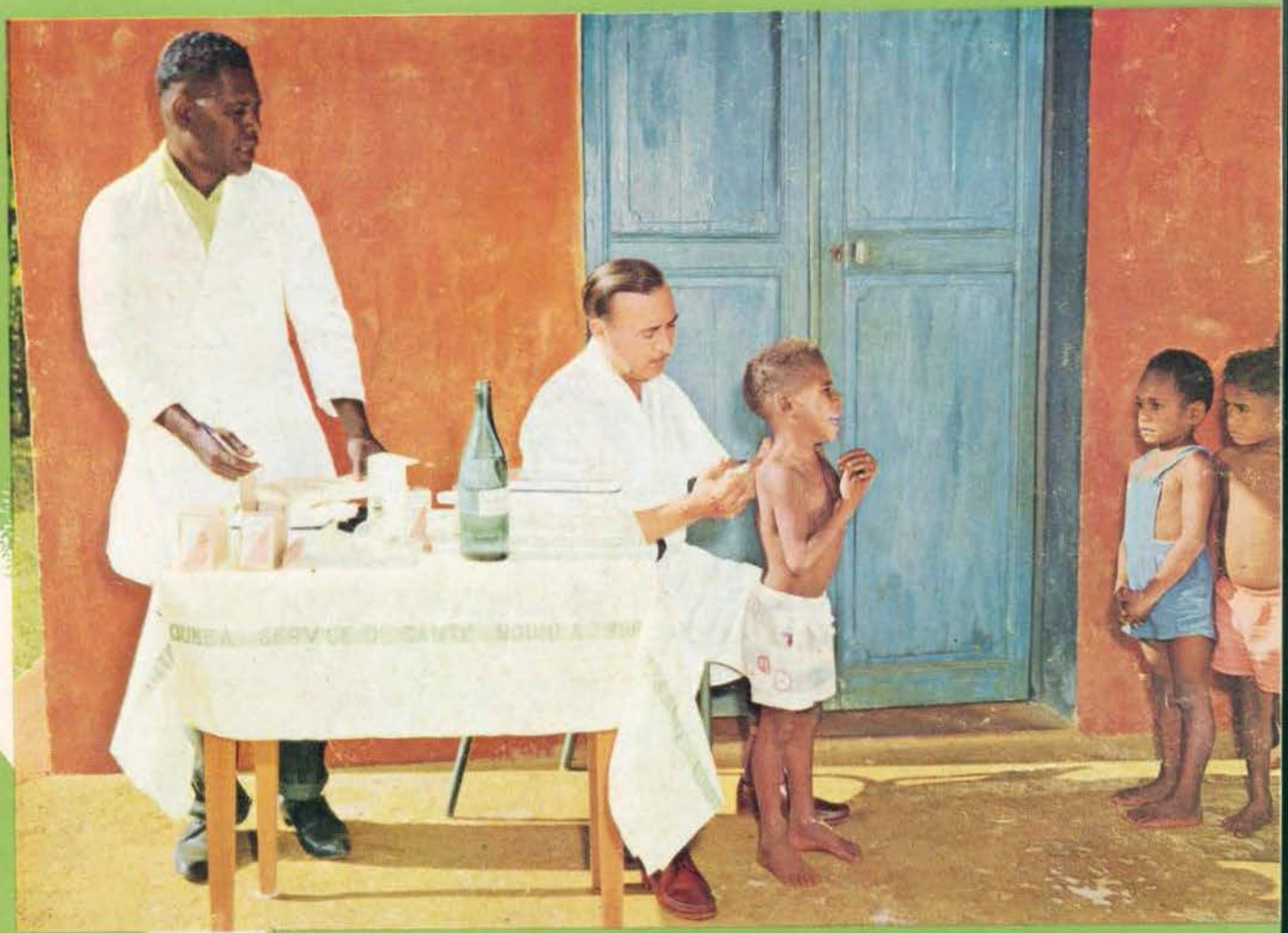

OCTOBER, 1963

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SOUTH PACIFIC BULLETIN

VOL. 13, No. 4 OCTOBER, 1963

CONTENTS

EDITOR: *P. L. Ryan*

Hills

PLAYTIME PRODUCTS

Turn tears to laughter . . . fights into friendships . . . with your choice of the safest range of children's playtime presents. They're built to last a lifetime of the rough and ready wear and tear that their popularity brings!

HAPPIER PLAYDAYS THAN EVER BEFORE IN THE SAFETY OF THE HOME

PADDLE POOLS

SUPA—Corner seats, provision for awning Approx. 6' x 4' x 1'. SENIOR—Quality Canvas, galvanised frame. Approx. 6' x 4' x 1'. JUNIOR—Easy assembly and as in "Senior". Approx. 4' x 4' x 1'.

TOTSWING

A delight for the tiny tots. Compact folding frame. DELUXE—Polished chrome and baked enamel. STANDARD—Satin chrome without horsey head.

TWINSWING

With "QUAD" seat. It's more fun with company—and no one is left out when there's room for four.

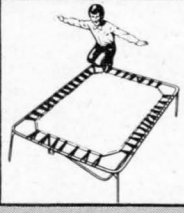
SINGLESWING

There's nothing to compare, in keeping kiddies contented with the ever-popular swing.

TUMBALEEN JNR.

Bouncing fun for healthful relaxation, removable grip bar aids balance

TUMBALEEN SNR.



Bouncing fun for healthful relaxation Electro-Galvanized finish.

MINI-HOIST

Just like Mother's for make believe washdays. It winds up and down and revolves.

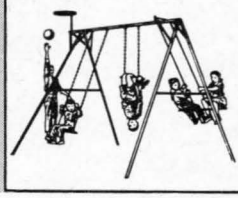
FUNSWING

Ideal for the family of two —where's one's a tot and the other a boisterous funster.

GO-KART JNR.

Captures all the thrills of real-life speedsters. Safety is emphasised throughout.

PLAYGYMS



SENIOR (Illustrated) —Trapeze, roman rings, single swing, glide swing and basketball hoop all in one. JUNIOR—Glide-swing Singleswing basketball hoop.

AVAILABLE AT ALL LEADING DEPARTMENT STORES THROUGHOUT THE PACIFIC ISLANDS

Hills Playtime Products are guaranteed by Hills Hoists Limited, manufacturers of Hills Hoists, Hills Ironing Tables, Hills Laundry Prams.

Trade or General enquiries will be answered immediately and can be forwarded to Hills Hoists Ltd., 586-596 South Road, Edwardstown, South Australia.

SIX REASONS WHY JOHNSON OWNERS HAVE A HARDER-WORKING OUTBOARD

They've got a brawny giant sitting on the stern of their boats. The Johnson giant. And he helps them start a little faster, move a little farther, and carry a little more than you do. Why? Here are six magnificently-engineered reasons:

1 *Lasting 2-cycle Power—each piston stroke is a power stroke. You get the fastest pick-up plus all-day, full-throttle power.*

2 *Faster Starting—just turn the key or pull the rope and your engine comes alive. Starting was never so easy.*

3 *Slip-Clutch Protection—lets your Johnson propeller "give" from underwater obstacles. You can work just about anywhere.*

4 *More Power per Pound—no excess parts or frills. This motor is trimmed down to sheer muscle.*

5 *Sound-Sealed Silencing—you never have to shout above a Johnson. Engine sound is buried under the shroud and in the sea behind your boat.*

6 *NEW 2-YEAR WARRANTY—now all ten 1963 Johnsons are factory warranted for two full years from the date of purchase—and no additional cost to you!*

Quite a list. No wonder more workmen own Johnson than any other outboard in the world! A full line of 10 outboards from 3 hp to 75 hp gives you the widest possible selection. Your local Johnson dealer will help you choose the one model best suited to your needs.

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For homes with electricity. These elegant models are fitted with extremely economical cooling units which compress electricity costs to the minimum.

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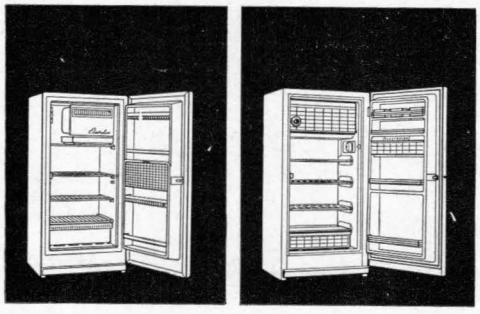
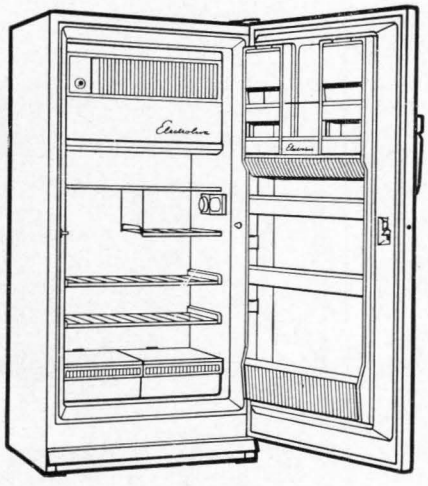
For perfect cooling in non-electrified areas. Electrolux kerosene refrigerators are completely silent and have no moving parts to wear out.





The new Electrolux economy line offers you a full range of refrigerators which caters for everybody—with both compressor models that really economise on electricity and kerosene models.

There's a wide range of sizes, all beautifully equipped with plenty of space for food and large bottles. You'll find exactly what you need—in the size you want—in the Electrolux new economy line.

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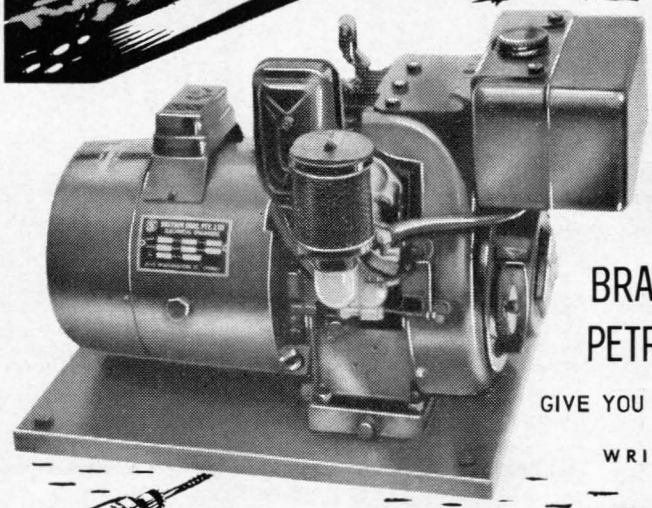

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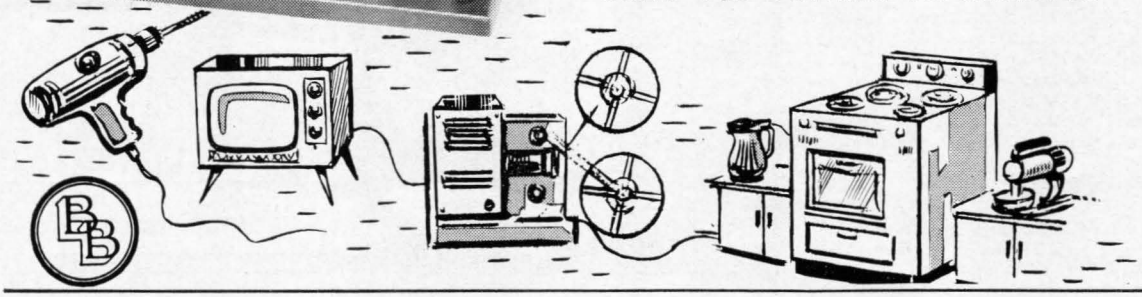
WRITE FOR FURTHER INFORMATION



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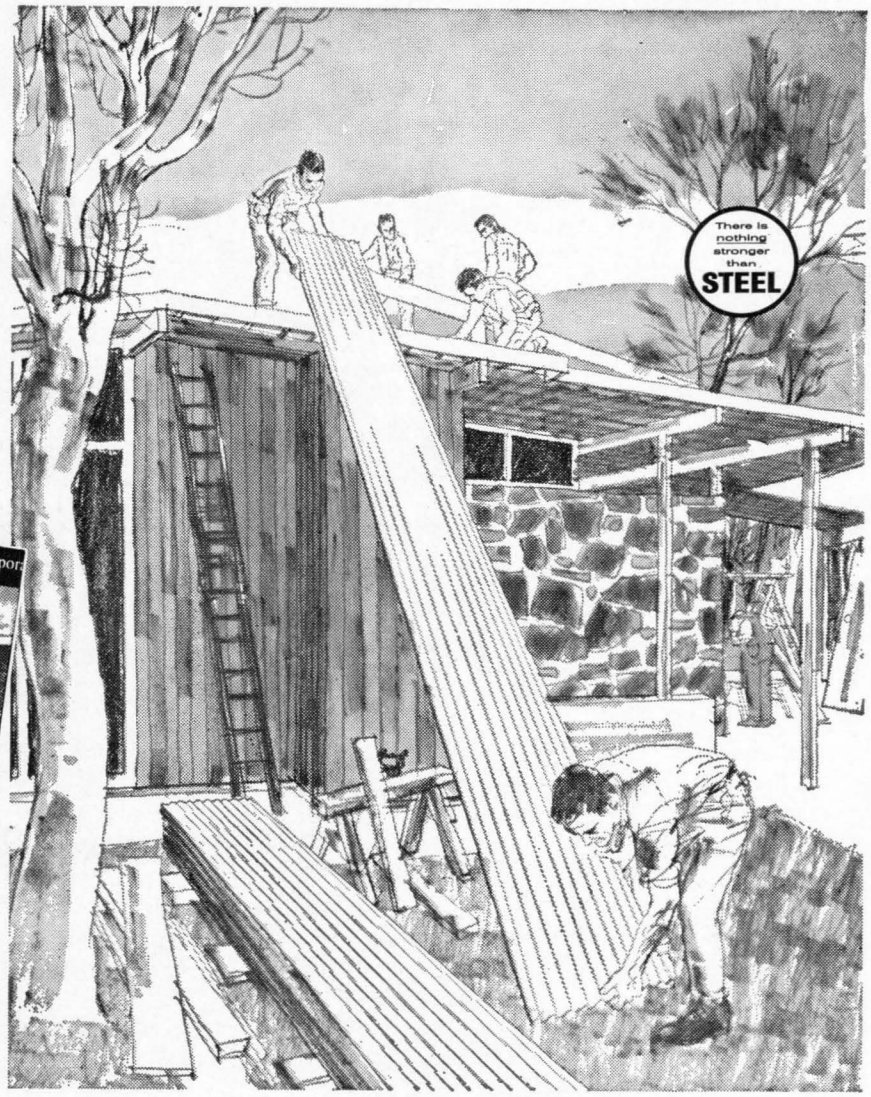

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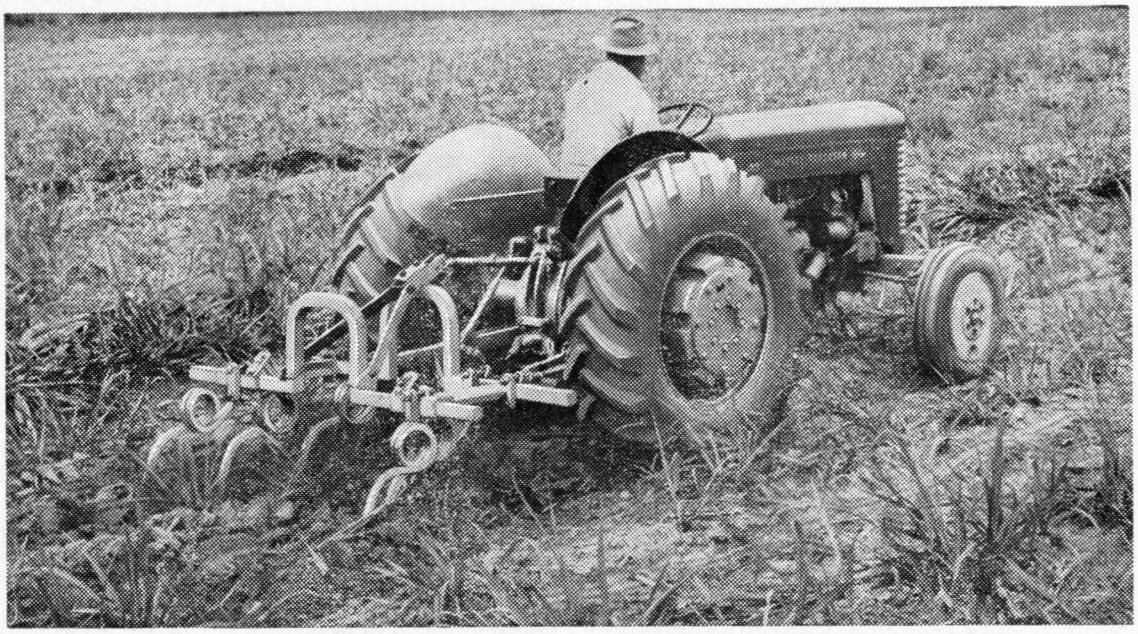

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WITH MASSEY-FERGUSON 560 TOOLBAR AND MATCHED TOOLS

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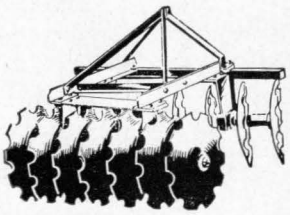
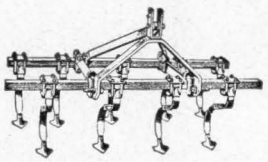
If you want to furrow, plant, till or cultivate, quick changes of attachment make it possible for you to spend more productive time on the job — less in making adjustments.

Available with straight or arched bars for either Cat 1 or Cat 2 tractors and built for rugged use, the 2" square steel bars will hold any settings you like to clamp on, take all the punishment your land can hand out.
This is the way to low-cost farm mechanisation. Ask your Massey-Ferguson Distributor for full particulars.

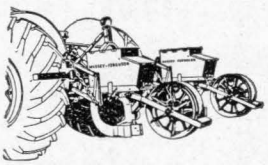


581 DISC HARROW is tool bar mounted for Cat. 1 or 2 tractors. An extremely manoeuvrable harrow for orchard, vineyard, cane and small-field cultivation.

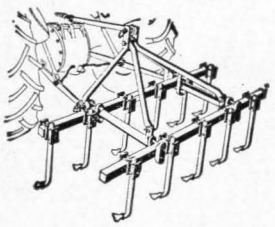


560 TOOLBAR RIGID TINES. Double Toolbar is built up as a rigid tine cultivator. Light or medium tines. Wide range of points.

560 PLANTER is ideal for market gardeners, maize, peanut and other row crops. All-metal seed and fetiliser hopper with adjustable partition.



560 TOOLBAR SPRING TINES. Identical to those used on Massey-Ferguson Drill Cultivators. Points are available to suit all cultivating requirements.



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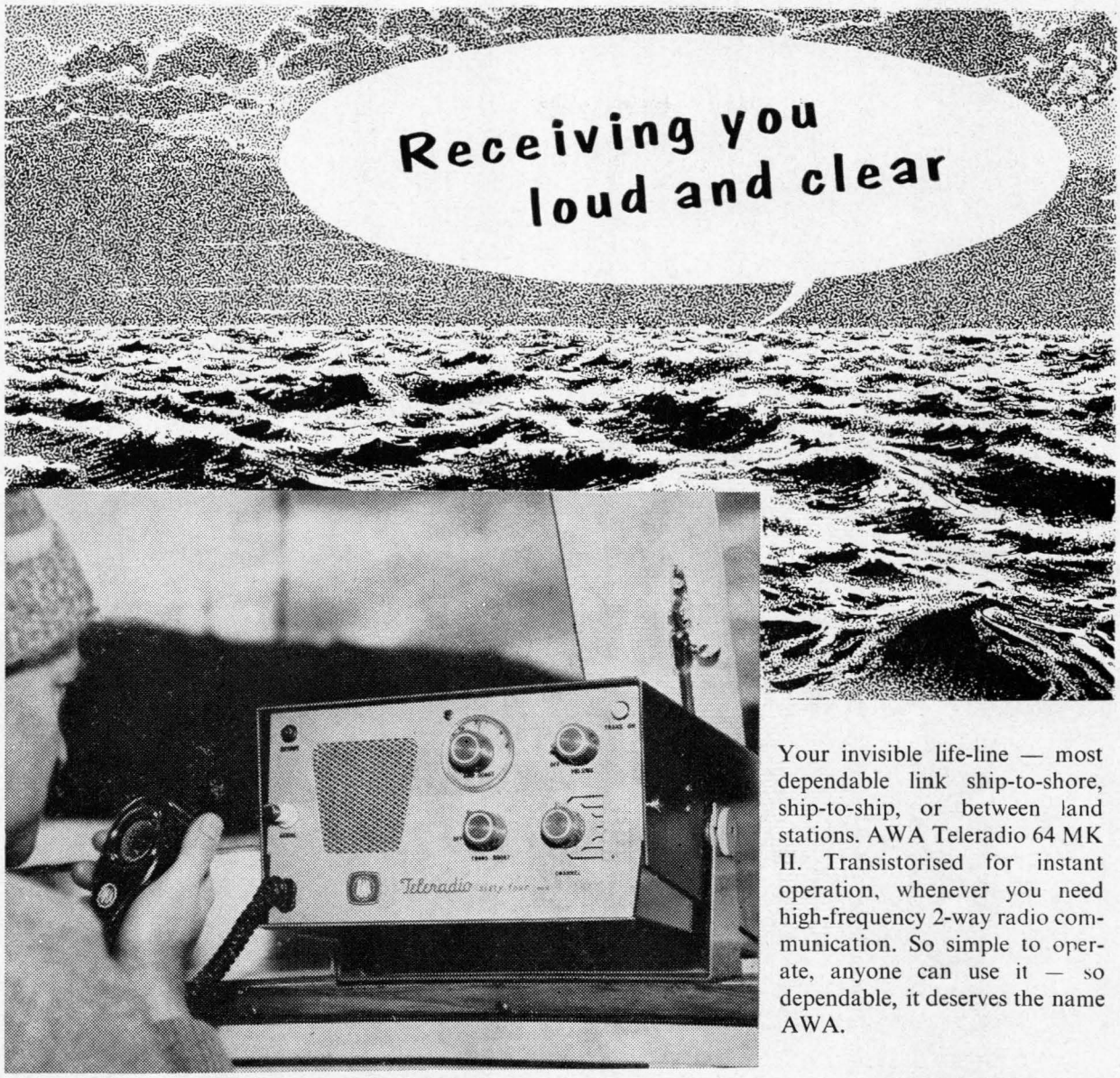

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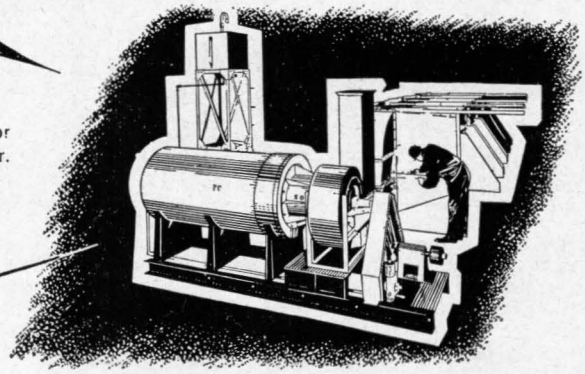

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Please write for full details and the name of your nearest agent.

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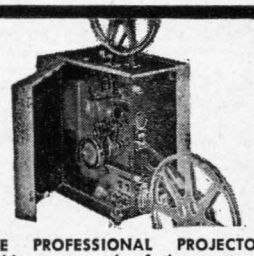

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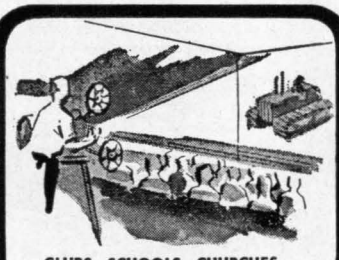

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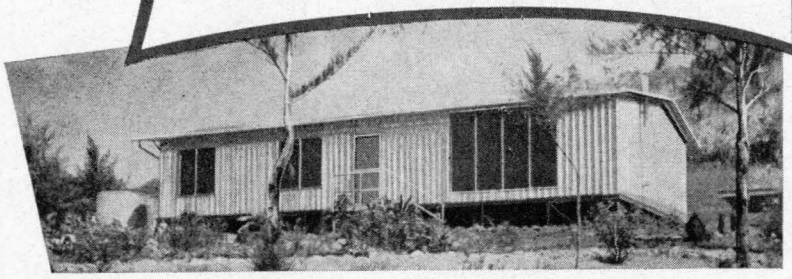

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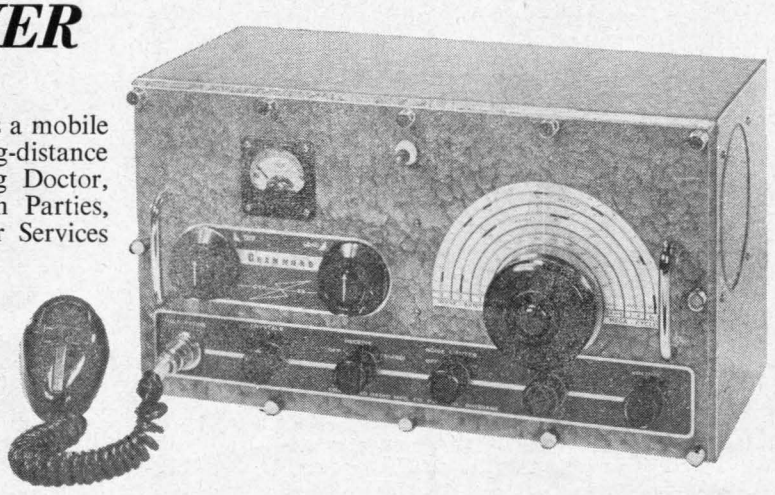

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B-22 is the motor for you!

12 h.p., 21 cu. in. (345 c.c.)
3,000 r.p.m.

BRONZE in the water.

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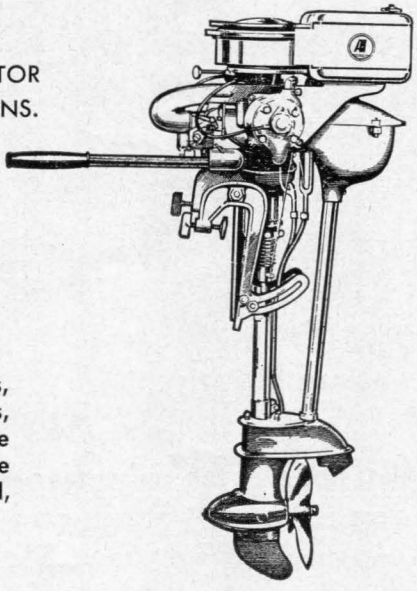

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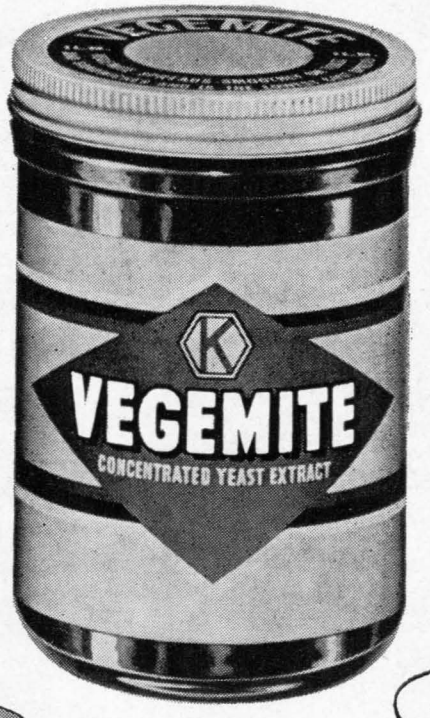
Spreads so smoothly on toast and biscuits.

So nourishing in sandwiches.



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Enriches gravies and soups.

Vegemite is the only *pure* concentrated yeast extract, and yeast is Nature's richest source of precious B group vitamins — the *vitality* vitamins. The body cannot store up these vitamins — it needs a fresh supply daily to build healthy nerves, firm body tissues and clear skin. That's why Vegemite should be an essential part of the family diet — *every day!*

KR48

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. . . but it's nice to be treated like one!"

And that's the way it is when you fly Qantas. Nice things happen. The smile that says "welcome" (and really means it) . . . the flattering and friendly way things are **anticipated** for you . . . the feeling of confidence you get when you realise that with Qantas, you fly overseas with home-travel ease. It's a good feeling—and for good reasons.

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Today, Qantas is a world-wide organisation of over 6,500 knowledgeable people, each contributing to the feeling of comfort and dependability that invites comments like, "I'm not really a Duchess, but it's nice to feel I'm being treated like one!"

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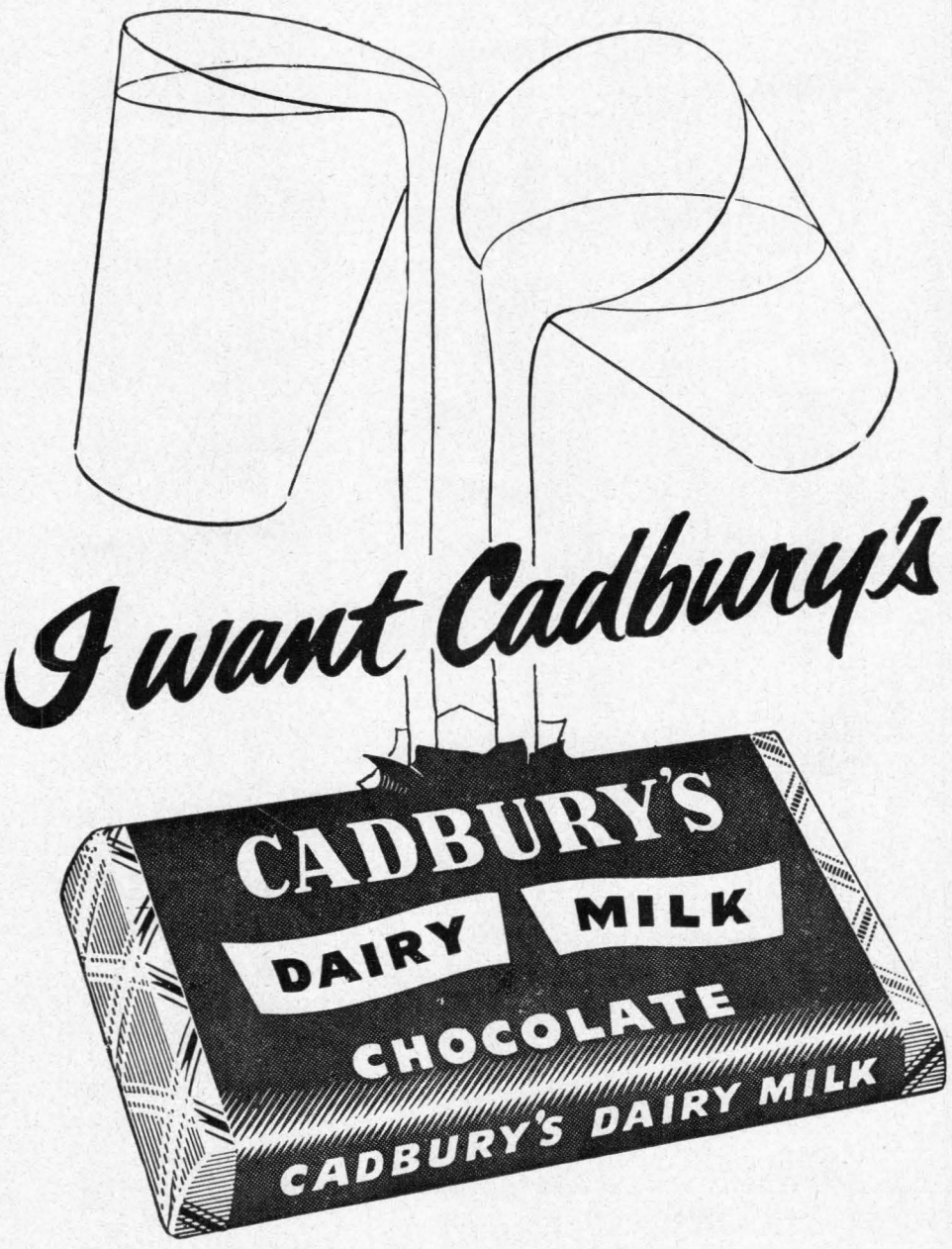

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The South Pacific Commission

The South Pacific Commission is an advisory and consultative body set up in 1947 by the six Governments then responsible for the administration of island territories in the South Pacific region (Australia, France, the Netherlands, New Zealand, the United Kingdom and the United States of America). Participation by the Netherlands Government ceased at the end of 1962.

The Commission's purpose is to advise the participating Governments on ways of improving the well-being of the people of the Pacific island territories. It is concerned with health, economic and social matters. Its headquarters are at Noumea, New Caledonia.

The Commission consists of not more than ten Commissioners, two from each Government. It normally holds one session each year. There are two auxiliary bodies, the Research Council and the South Pacific Conference.

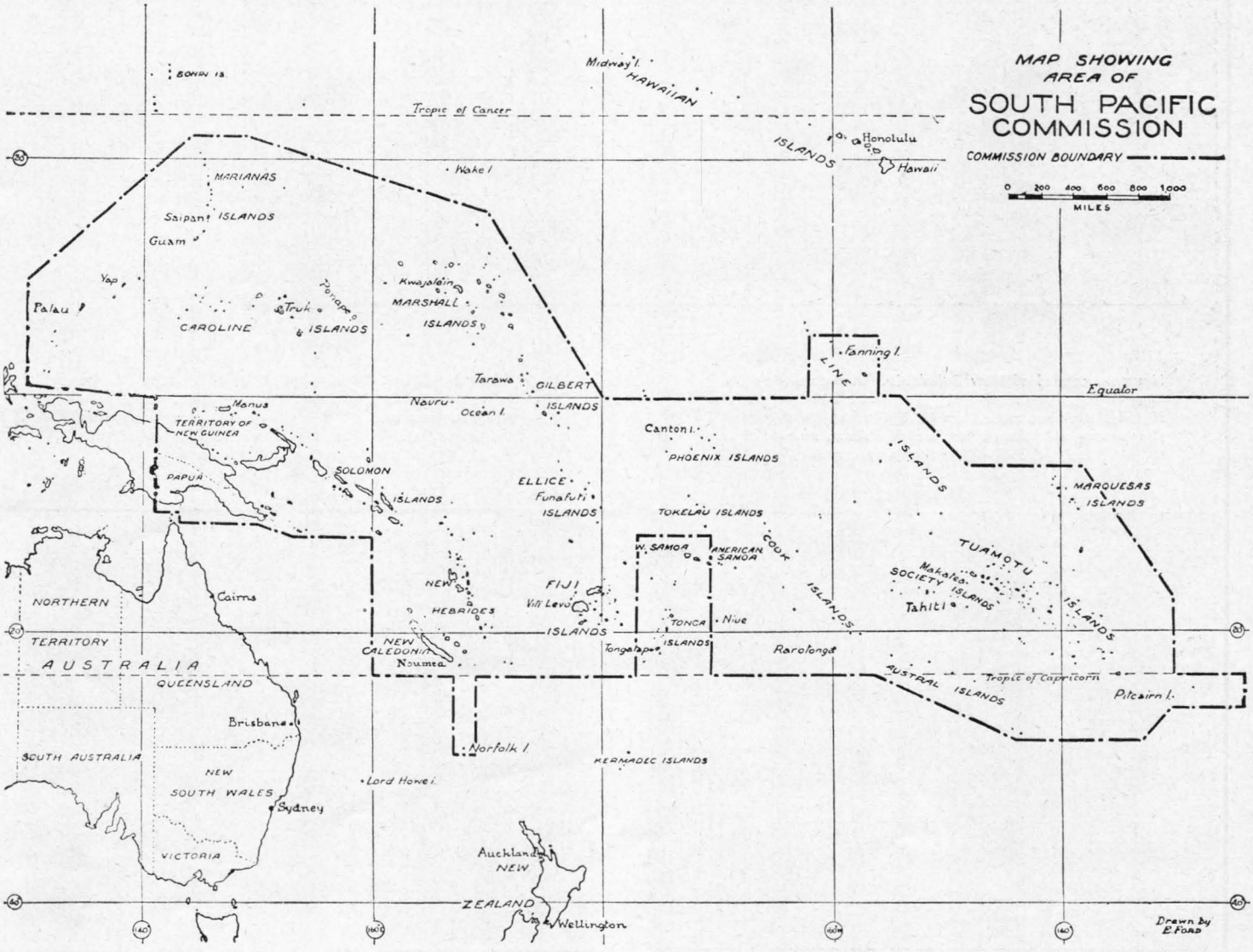
There is a Research Council meeting normally once a year. This may be either a meeting of the full Council, or of one or other of its three main sections, specialising in the fields of health, economic development and social development. Members of the Research Council are appointed by the Commission. They are selected for their special knowledge of the questions with which the Commission is concerned, and the problems of the territories in these fields. The chief function of the Research Council is to advise the Commission on what investigations are necessary and on the work programme. Arrangements to carry out those that are approved are the responsibility of the Secretary-General and other principal officers.

The South Pacific Conference, which meets at intervals not exceeding three years, consists of delegates from the local inhabitants of the territories, who may be accompanied by advisers. The first Conference was held in Fiji in April, 1950. The second Conference was held at Commission headquarters in April, 1953, the third in Fiji in April-May, 1956, the fourth in New Britain in April-May, 1959, and the fifth in Pago Pago, American Samoa, in July, 1962.

The principal officers of the Commission are: Secretary-General, Mr. W. D. Forsyth; Executive Officer for Social Development, Dr. Richard Seddon; Executive Officer for Economic Development, Dr. Jacques Barrau; Executive Officer for Health, Dr. Guy Loison. The powers and functions of the Deputy Chairman, Research Council, are exercised by the Secretary-General.

COVER PICTURE

Compulsory vaccinations for schoolchildren are a feature of New Caledonia's school health services. Here District Medical Officer Dr. Vacher gives vaccinations at Unia on Grande Terre.



Urbanization in the South Pacific[1] . . .

A rapid process of urbanization is changing the much-romanticised face of the Pacific Islands world. 43% of Tahiti's population lives in the capital, Papeete, which is the oldest of all South Pacific towns. The photograph shows a general view of Papeete, with the port, the aerodrome, and the island of Moorea in the background.

Noumea, capital of New Caledonia. In prewar days a "quiet little town of only some 11,000 people", Noumea now has more than 36,000 urban inhabitants. The photograph shows the Rue de l'Alma, one of the main streets of the shopping centre.

Cumming Street, Suva, capital of Fiji. Suva is the largest town in the South Pacific islands area. The lively appearance of this shopping-centre exemplifies the efforts of all Pacific peoples towards fuller participation in the modern world.

By J. V. de Bruijn*

Much has been written about the villages and the traditional way of life of Pacific Islanders by anthropologists, geographers and others. And yet the purely rural, agricultural character of the region is changing, and the towns — although of relatively recent origin —are fast becoming focal points of development. What does the process of urbanization involve, and what problems does it entail? It was to further research into these questions that the SPC set up, in 1962, an Urbanization Research Information Centre. This article by its Officer-in-Charge discusses the whole issue in a challenging way.

Suva peninsula.

THERE is no escaping urbanization, it has been said, not even in outer space.[2] Certainly this applies to a more earthly place like the South Pacific, which is being drawn with ever-increasing tempo into the process of world urbanization. The rapid increase of island populations—with annual growth rates of up to 4½%—has speeded up and will further accelerate the process of urbanization, thereby radically changing the image of the South Pacific island world.

An increasing percentage of the Pacific islands' population will have to find employment outside agriculture and, inevitably, numbers of people will drift to towns to find new ways of making a living and thus a new way of life. The Pacific islands world of Jack London and Robert Louis Stevenson—the isolated island, the detached village—is rapidly becoming a thing of the past and making room for interconnected and interrelated towns, townships, communes and conglomerations of a non-agricultural character.

Urbanization Highest In Oceania

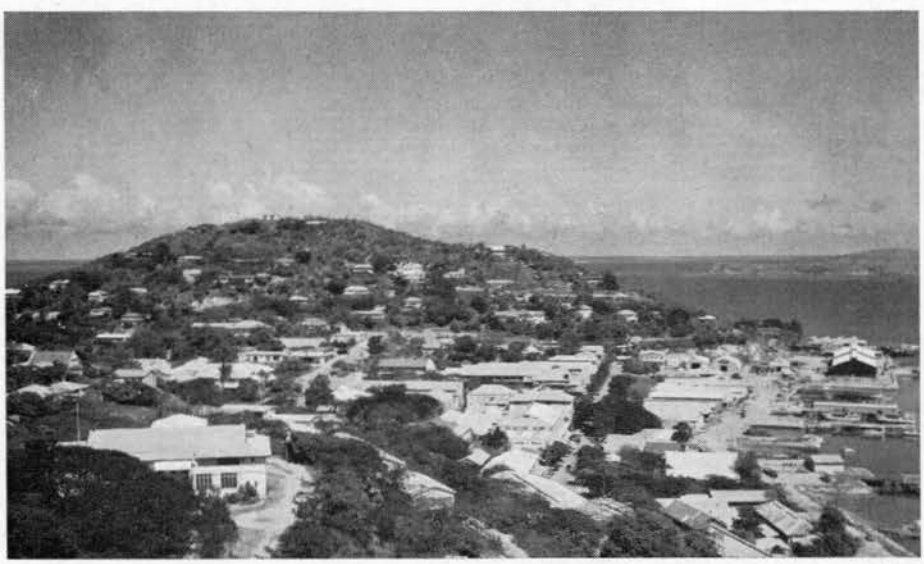
It is not generally known that Oceania, which includes Australia and New Zealand, has the highest degree of urbanization in the world, higher even than North America (U.S.A. and Canada) and Europe.[3] Forty-seven per cent of Oceania's population reside in cities of 20,000 or more inhabitants as compared with forty-two per cent in North America, thirty-five per cent in Europe (excluding the U.S.S.R.), thirty-one per cent in the U.S.S.R. and only thirteen and nine per cent in Asia and Africa, respectively. Of course Oceania's high degree of urbanization is due to the fact that in 1961 practically seventeen out of twenty Australians lived in towns of 1,000 or more inhabitants, while seventy-five per cent of New Zealanders were town dwellers. In Australia sixty per cent of the people are concentrated in cities of more than 100,000 inhabitants; in New Zealand this falls to forty-two per cent.[4]

The degree of urbanization in the South Pacific region is of course much lower, but the percentage is rapidly growing. A census held in French Polynesia on 9th November 1962 showed that 43% of Tahiti's population concentrated in the commune of Papeete. Nearly 84% of Tahiti's population of 45,430 was concentrated in the nine areas of more than 1,000 inhabitants on the island. In New Caledonia more than 43% of the population of the territory (which includes the Loyalty Islands) live in Nouméa itself. Fiji, although it has the largest town in the South Pacific region, is less urbanized. A 1956 census showed that 20½% of the population of the Colony lived in the two towns (Suva and Lautoka) and the eight townships.

Postwar Growth

In Western Samoa one-sixth of the total population is concentrated in the capital, Apia; in American Samoa 17% live in the urban area of Pago Pago. In other territories, except for Guam, the percentages are lower. However, the enormous growth of urban population since World War II is common to the whole region. Nouméa is nowadays an important, lively urban centre of some 36,000 inhabitants as compared with the 22,235 inhabitants of 1956. This

The older section of Port Moresby, Territory of Papua and New Guinea.



* Urbanization Research Information Officer, South Pacific Commission.

Boroko: a new suburb of Port Moresby, Territory of Papua and New Guinea.

represents an increase over a period of seven years of nearly 60%. In prewar days (1936 census) it was a quiet little town of only some 11,000 people.

Just before the war Port Moresby was "a distant suburb of the great cities of Australia",[5] with about 6,000 inhabitants. At present this capital of Papua and New Guinea is an important, rapidly growing administrative centre and port of about 28,000 inhabitants, 22,000 of whom are indigenous. Suva City (i.e. the Constituted City Area) with 25,386 inhabitants in 1946 and 37,371 in 1956, now estimates its numbers at 47,850 which constitutes an increase of 47% in ten years and 28% in seven years.

Over a period of five years, Apia increased by 19.5% from 18,153 persons in 1956 to 21,699 persons in 1961. Nuku'alofa grew from a small town of 9,202 people in 1956 to an urban centre of an estimated 15,000 people in 1963; nearly 39% increase in seven years. Everything grows quickly under the South Seas sun, even towns and townships.

Towns are becoming more and more the focal points of growth in the region. The growing emancipation of needs brings on a drift from rural areas to towns, from small towns to big towns. At the same time, towns are expanding because of intensive efforts by governments and administrations to develop territories' economies and to create adequate infrastructures for more efficient administration. There is increasing ambition among indigenous populations for fuller participation in the modern world, which in their minds is represented most forcibly by cities and towns. Another factor is the Pacific Islander's attempt, by moving to the towns, to escape the economic unattractiveness and social dullness of many rural areas.

Problems Of Urbanization

Associated with and inherent in the spontaneous, unplanned and rapid town growth that has occurred are many potential problems of urbanization, including those of a spatial, social and economic nature. The difficulties connected with maintenance of social order and securing common agreement on social values, of safeguarding public health and providing public services are all magnified in the city.

What does "urbanization" involve? Although urbanization is one of the most common of present-day phenomena, to many people it is rather a vague concept. That concept tends to be confined to one aspect, namely, the physical one, whereas in fact urbanization involves the whole complex of the social, economic, spatial, health, administrative and political aspects of a human community concentrated in that comparatively limited living space called city or town. Town development is not solely a matter of building houses, it is the building of a real community in which the individual, family and social life of the people can expand to the full.

Urbanization therefore covers a vast field containing numerous interrelated aspects which should be developed in close relationship to achieve balanced development.

Negative Attitudes

It has been said, with regard to the United States and Europe, that no social phenomenon is being shunned so much as urbanization. A romantic and irrational conservatism tries to evade the spatial consequences of population growth and of all the economic and technological forces accelerating the urbanization process. It shuns the question of the ultimate appearance of the urbanized society.[6]

This negative attitude towards urbanization is not confined to the American or European theatre. In many South Pacific territories there is no declared policy on urbanization such as there is, for instance, on economic or political development. It is often very difficult to find out what exactly is the actual attitude towards urbanization. Not seldom one finds among administration officials the opinion that the towns should be, primarily, centres for the non-indigenous people while the indigenous population should remain in the rural areas and find a living in agricultural activities. Are deliberate efforts made to stabilize the indigenous population in towns, or are they considered only as a semi-permanent or transient proportion of the urban residents who ultimately will have to find their living in agricultural activities? It seems that administrations are not always prepared to encourage the formation of classes of workers exclusively dependent on wages.

At the territorial level there is, in most cases, no organizational structure specifically concerned with "urbanization". There seems to be a certain aversion to facing the consequences of urban growth because of the financial implications of long-term planning. Financial problems always loom large in town development. It is therefore often piecemeal, and measures taken are frequently of a remedial nature rather than action based on long-term planning. Beautiful, healthy, socially- and economically-balanced urban centres do not grow by accident but are the result of deliberate planning. Leaving things to themselves without thought for the future involves many dangers. Society then has to pay the high costs, both private and public, for unplanned development, and disordered, haphazard growth.

These costs cannot always be expressed in figures and diagrams. The Redevelopment Commission of Greenboro, N.C., in the United States of America, in co-operation with the City Planning Department, conducted a comprehensive study of the effects of bad housing on the citizens of the city. Eleven areas of the city, containing 4,120 dwelling units, were badly blighted. Taking the latest data available and

using the incidence per 1,000 dwellings in the city, some startling results emerged. In 13.5% of the total housing supply there occurred 62.5% of murders, 52.2% of major robberies, 31.5% of rapes, 27.4% of infant mortality, 40.4% of tuberculosis cases, 61.4% of venereal diseases, 25% of fires.[7]

South Pacific Situation

Research workers have always been attracted by the South Pacific world. Until recently, however, anthropologists and geographers have been more interested in the traditional communities and the rural areas than in studying urban societies. As the most important economic, social and political growing-point the town requires and merits special attention.[8]

It is in urban areas that modern elites and political leaders develop, that the growth of a middle-class, comprising entrepreneurs, traders, artisans, civil servants and professional men, proceeds most rapidly. There is added reason for research because by far the greater number of urban dwellers are indigenous people who, for various reasons, have come from rural areas to town. Town life means a widening of choices.

Especially for the indigenous population, the transition from rural village life to urban town life, from an agricultural subsistence economy to a non-agricultural, money economy, from an unreflective attitude and a communal approach to an individualistic, utilitarian outlook on life is a very big step: a much more difficult and abrupt change-over than for the European populations living in the South Pacific towns.

Knowledge of the structure and function of the urban centres in the South Pacific is not extensive. UNESCO efforts resulted in important urbanization research in Asia, Africa, Latin America and the Mediterranean. It is hoped that UNESCO will show the same interest in similar research studies in the South Pacific. Research is a *conditio sine qua non* for realistic planning. Research and fact-finding surveys are necessary before long-term action can be fully developed. It provides the administrations responsible for urban development with the necessary data to plan ahead, with information to forestall or to solve problems. To the student, such research could provide empirical data for the formulation of a theory appropriate to the locality.

SPC Role

One of the main functions of the Urbanization Research Information Centre established by the South Pacific Commission in 1962 is the promotion of urbanization research in the South Pacific region. The Centre itself does not carry out field research but close contact is maintained with Australian, New Zealand and other universities as well as with the United Nations Bureau of Social Affairs and UNESCO.[9] The Eighth and Ninth Meetings of the South Pacific Commission Research Council devoted attention to urbanization problems in the region.[10] It emphasized the importance of scientific study of urbanization problems, studies which could be of direct value to the territorial administrations in the region, and recommended the formation of an Urbanization Advisory Committee to advise the Commission concerning urbanization research in the South Pacific.

An Urbanization Advisory Committee meeting in Honolulu, Hawaii, in 1961 focussed attention on the nature of some of the more urgent problems of urbanization in the South Pacific with a view to stimulating research studies and other enquiries.[11] To attempt to set out these problems in an article of a general nature would be to oversimplify a complex subject.

It is hardly possible to give a typical example of a South Pacific town, as each has been influenced by its historical background and the different colonial administration under which it grew. In contrast with Asia and Africa, all South Pacific towns were founded by European colonists. There are no aboriginal towns as there are in Asia and Africa where towns existed long before the white man's arrival. The South Pacific urban centres are therefore comparatively young towns, with no "Great Tradition". Of the major urban centres in the region Papeete is the oldest, dating from 1843 when the *Etablissements Français de l'Océanie* were founded. "Baselines" for other towns are—Nouméa, 1854; Suva, 1877; Port Moresby, 1884; Vila, 1886. Honiara as an administration centre was established as late as the last year of World War II.

The industrial zone of Papeete, Tahiti.

Immense Diversity

A general characteristic of all the towns is the heterogeneity of the population and the diversity of values and attitudes; Pacific Islanders, Europeans, Indians, Chinese, Vietnamese. Within the indigenous urban population, and this is especially so in the Melanesian region, there is often an enormous diversity of ethnic groups, frequently each with its own language. The racial or ethnic structure of the towns is, however, far from uniform. Port Moresby and Papeete, for instance, have a majority of indigenous people, constituting respectively 80% and 70% of the total urban population. Nouméa, on the other hand, has a European character; 57% of its 35,300 urban dwellers are European and only 14% Melanesian.[12] Santo (Luganville) in the New Hebrides, similarly, has only 250 New Hebrideans among its 2,700 inhabitants.

An estimated 25-35% of Vila's population is New Hebridean; during week-

General view of Noumea, New Caledonia.

ends, however, there is an exodus of New Hebrideans to their villages and Vila has the appearance of a town of Europeans with some Chinese shops in the business centre, surrounded by a Melanesian population outside the town boundaries. Suva has, for the greater part, an Indian urban population; 52% of its urban residents are Indian compared with 26% Fijian and 14% European and part-European. Asian people also play an important rôle in other South Pacific towns. Vietnamese and Indonesians constitute 12% of Nouméa's population. In Santo, prior to their repatriation, Vietnamese formed the largest ethnic group.

The lack of reliable, up-to-date demographic statistics for the urban centres of the South Pacific is one of the biggest handicaps to research and planning. Estimates of indigenous people vary widely according to the respective informants. To plan for urban development it is necessary to know what part of the indigenous population is permanent, semi-permanent or merely transient. Knowledge of internal migrations is very sketchy, and there is a great need for migration studies of the type made in Africa.

More Information Needed

Not very much is known about the basic- non-basic services of the South Pacific towns—i.e. the exchange of services between town and hinterland which may comprise a wide variety of activities — commerce, government, transportation, education, religion, to mention only a few. What are the functions of the different South Pacific towns? What is their economic structure? Many of the towns seem to be over-urbanized in the sense that they do not have sufficient economic opportunities to provide their residents with permanent employment.

There are many opportunities for "practical" research in the field of urbanization. Urban administration is one; there is little information on the various systems of administration of the different South Pacific urban centres. In 1964, it is hoped to convene a technical meeting on urban local government on the theme "Areas of Responsibility in Central and Local Government in Pacific Urban Areas".

There are many other practical urbanization problems warranting research, such as the emergence of new indigenous leadership in towns, of new indigenous associations, the psychological adjustment of indigenous people to urban life, regional planning, underemployment, land and land tenure in urban areas, housing for the lowest income worker, nutrition and indigenous entrepreneurship. Further, there is a real need for civic education of indigenous people transplanted into an urban area of which they have little or no experience, and for research on this question.

In most cases of urban development in the region the emphasis was placed on housing and physical planning. Housing, however, is not shelter alone, and good housing has a positive social and economic end in view. To produce an adequate physical environment, housing should be developed hand in hand with attendant essential social and communal services, facilities and amenities. It seems that housing has often been treated as an isolated element.

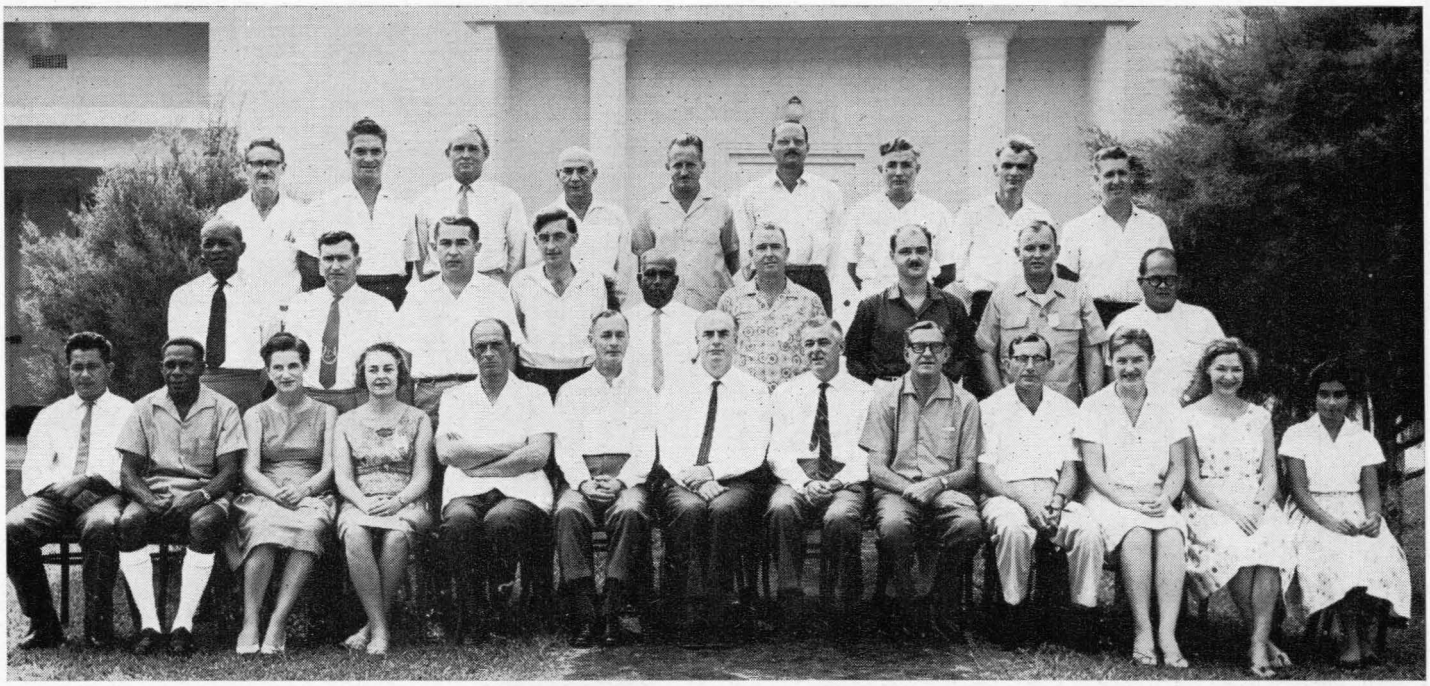
The importance of town and zoning plans as one of the most valuable means of development of the town has been recognized by most territorial administrations. In the French territories, famous metropolitan "architectes urbanistes" like Claude Bach and Robert Auzelle have prepared town plans for some of the French towns in the South Pacific. On the other hand, some territories have no town planning offices, town plans or town planning legislation. There is not always sufficient awareness of existing urbanization problems and the necessity of taking appropriate measures well in advance.

Practical Interest Increasing

It is gratifying to see increasing interest by universities and other research institutions in urbanization research in the South Pacific over recent years. In March 1963 a detailed socio-geographic study of Nouméa was submitted as the thesis for a Ph.D. degree at the Australian National University. At present an anthropologist from the University of Hawaii is making a socio-economic study of the Indonesian community in Nouméa, while a similar study focussed on the indigenous population of New Caledonia is being jointly sponsored by the *Centre National de la Recherche Scientifique* and the *Organisation de Recherche Scientifique et Technique Outre-Mer* in Paris. A student of the University of Auckland is studying the contemporary situation of European settlement in New Caledonia.

An Australian National University team of three is carrying out a comprehensive research programme in Port Moresby on the movement of migrants to the town and the problems of adjustment arising from it, and on land tenure, urban administration, and the adaptation and association of women in a government housing estate. In addition, a member of the team who had made a previous study of Elema people in their rural villages is making a study of those who have moved to the town. A nutritionist of the Commonwealth Department of Health carried out a nutritional survey this year at Port Moresby, and another Australian National University scholar is making a historical and sociological study of Rabaul, focussed on

(Continued on page 66)



Participants, observers and Commission staff who attended, taken outside the Masonic Hall, Suva, where the conference was held.

Low-cost Housing in the South Pacific

By Richard Seddon*

From 6th-15th June the Commission convened at Suva, on the invitation of the Government of Fiji, a Regional Conference on Low-Cost Housing in the South Pacific. Twelve South Pacific territories were directly represented and official observers attended on behalf of the Governments of the Commonwealth of Australia, the United Kingdom and Fiji.

THE Conference considered the following agenda:

(a) Land for Houses, and Planning of Services;
(b) Design, Materials and Standards;
(c) Finance, including Self-Help Aspects;
(d) Interior Planning; and
(e) Tenant Education.

Land Use

In respect of the provision of land for houses it was pointed out that housing was only one of the many demands which a community made on its land resources and that it should therefore always be seen in its right perspective in relation to other demands. In like manner, the disparity in requirements between urban and rural areas must be recognized. Within such limits, however, a community needed to make planned use of its land resources and to decide what land should be set aside for housing and, in particular, for the housing of low-income groups.

In the case of both urban and rural areas it was necessary to ensure that the land so set aside was conveniently located to meet the needs of the people to be accommodated, and reasonably placed for the public services available in the locality. While recognizing the many problems involved in the acquisition of land to be made available for housing, the Conference expressed the view that, so far as low-cost housing was concerned, governments' difficulties and dangers were likely to increase rather than diminish with the passage of time, and if they wished to meet their responsibilities they should obtain now the power to acquire the necessary land, if necessary by expropriation.

Believing that governments had a moral responsibility to concern themselves with the basic housing needs of the economically weak, the Conference was of the opinion that central and local authorities should adopt such flexible standards for land subdivisions, houses and services, that even the lowest wage-earner could live comfortably within his community.

The provision of suitable sites was seen as a prime necessity if the problem of low-cost housing was to be solved; it was stressed that despite difficulties created by customary land tenure systems steps should be taken to acquire the necessary land so that building sites could be made available in sufficient numbers, while in the case of unused urban land the imposition of a penal tax might well be considered as a complementary means.

Design, Materials, Standards

Questions relating to design, materials and standards were thoroughly considered by the Conference and the following recommendations illustrate the main lines of discussion:

(a) that the building regulations in any area of a territory selected for low-cost housing should allow such standards of building as the lowest income groups in the area, either from their own resources, or with available governmental material or financial aid, were able to afford;
(b) that urban standards be wholly based on the functional requirements of public health and safety;
(c) that, elsewhere, fair and reasonable building regulations must, essentially, take into account the means of the prospective

* Executive Officer for Social Development, South Pacific Commission.

H.E. the Governor of Fiji, Sir Kenneth Maddocks, addressing the Conference at the formal opening.

occupants and the minimum demands for safety and hygiene, even though thereby there was a relaxation from the ideal;

(d) that, in order to enable authorities responsible for low-cost housing to provide housing for those most in need of it, the cost of providing essential public services for such housing areas be considered not as a charge against a scheme but be contributed as a form of subsidy to help reduce costs to prospective tenants;

(e) that careful consideration be given to the maximum use to be made of local materials for low-cost housing and that, where of necessity imported materials had to be used for low-cost housing, governments be urged to waive customs duties on such materials;

(f) that plans be permitted for low-cost housing which allow for eventual expansion and improvement, and that thereby approval be given to the principle of building and occupying an approved basic structure capable of later extension;

(g) that, where economies were effected in housing estates by the provision of merely footpath access instead of roads, by the installation of only partial water reticulation and by the non-provision of piped sewerage, the subdivision of land nevertheless be planned with the ultimate provision of full amenities in view.

Finance Important

The various ways in which the finance needed for low-cost housing was provided were reviewed by delegates. In some territories interest-free loans were made available by the metropolitan governments for the purpose of specific re-housing or low-cost housing schemes. In others the moneys were advanced by the metropolitan government at very low interest rates to semi-governmental building and credit societies which were then required to carry out the social aims of low-cost housing on business principles but independently of direct governmental control. In other territories funds had to be raised on the money market at current rates of interest.

The view was expressed that low-cost housing to meet the needs of those in greatest distress could not be provided unless loan money were available to authorities responsible for low-cost housing interest-free or at very low interest rates. Money thus advanced should not be regarded as a subsidy but as an investment. It was reported that in one territory where almost the entire population had been re-housed by an aided self-help scheme on the basis of interest-free loans and technical assistance, the immediate result had been that the people, given the possibility of living in greatly improved housing, had thereby been given an incentive to advance. The people had taken a pride in finishing their houses and furnishing them and in order to do this they had developed their agriculture by adopting recommended new methods. Improvement in health and social well-being had been a further direct result of improved housing.

Importance was attached to the provision of individual loans to persons wishing to build for themselves and to tax-relief for companies prepared to finance adequate homes for employees. Experience indicated that of all the various types of subsidies for low-cost housing, the direct subsidy to the house-builder provided the strongest incentive and was the most readily understood, whether it assisted a firm building low-cost houses for its employees or an individual building a house for himself and his family. Another useful form of subsidy, however, was money spent on experimental housing designed to find ways of construction best adapted to local skills, and ways and means of using local materials more effectively.

Self-Help Approach

Two territories in which aided self-help was the basic governmental policy in the matter of low-cost housing reported that although difficulties had been experienced, the schemes had been without exception successful and were being continued or extended. "Aided Self-Help" might be defined as a system whereby groups of persons united to help each other to build houses and were aided in this by governmental or semi-governmental assistance in the form of technical supervision and advice and/or loans.

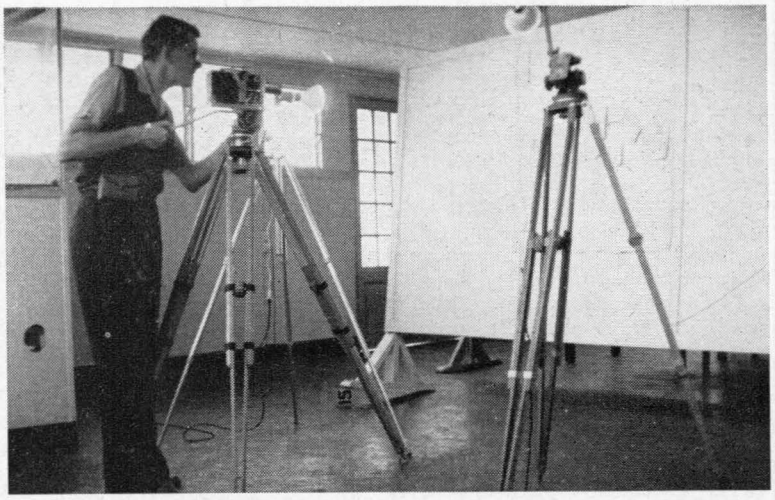
Experience had shown, however, that before launching a scheme of aided self-help, there must be long and detailed preparation of the administrative and technical procedure to be followed, and repeated discussions, not only with the families directly concerned but also with the whole village or community, so that everyone was fully aware of the rights and responsibilities involved. Equally important was the assurance of technical and administrative leadership of adequate competence and interest right from the outset.

The Conference considered that in order to assist self-help and aided self-help schemes of building low-cost housing, itinerant technicians should be employed by governments to give advice and technical help to those desirous of building for themselves; and that accelerated trades courses could well be made available for adults to facilitate self-help building.

Interior Planning

Discussion of the basic requirements of interior planning proved to be most interesting and several ways in which

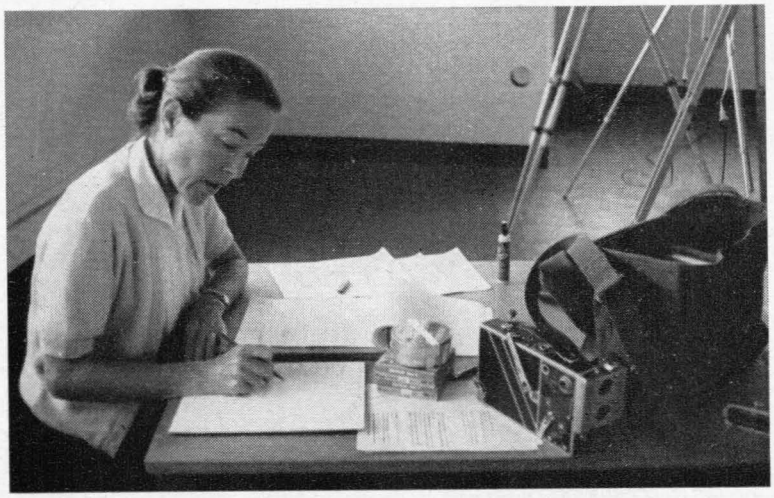
(Continued on page 28)



Charts and teaching aids were filmed under controlled conditions in a temporary studio at Commission Headquarters at Noumea. Mr. Hollingsworth operates the Kodak Cine Special camera.

Educational Film Produced in New Caledonia . . . .

By M. T. Hollingsworth



In an educational context, it is often maintained that "one picture is worth a thousand words". It was this view which led the South Pacific Commission to sponsor the experimental filming of a health education subject in a Pacific background and with indigenous "actors". This article describes how such a film was made recently in New Caledonia.

Mrs. Hollingsworth carefully checked the script as each sequence was filmed. Here she is working in the studio at Commission Headquarters in Noumea.

A REMOTE village on the south-east coast of Grande Terre in New Caledonia is the locale of a health education film on *Community Control Of Intestinal Parasites* produced by the South Pacific Commission with the co-operation of the Administration and Health Sections of the Government of New Caledonia. The medical officer for the District, Dr. André Vacher, and the people of Unia form the cast. Unia is a tribal village in the district of Yaté, 105 kilometres from Nouméa. It is reached by a rough, winding mountain road which crosses the central range in a series of steep climbs and hairpin curves. The Yaté River is crossed by a hand-powered ferry, and several creeks are forded before reaching the coastal village.

In the story, a village school teacher is especially concerned about the health of one of her pupils. She points him out to the doctor who finds that he and many of the children of the village have intestinal parasites. The doctor enlists the aid of a select group of villagers, explains the malady to them, and asks for their suggestions. After agreeing on what measures should be taken, these people carry the information to the rest of the village. The villagers begin to follow the community and personal health rules given by the doctor, and the health of the village improves.

How It Began

The film had its beginning two years ago when the writer, then Superintendent of Elementary Education for the Government of American Samoa, wrote a preliminary script and submitted it to Miss Leonie Martin, at that time Health Education Officer for the Commission. Miss Martin obtained approval for the film from Dr. Guy Loison, Executive Officer for Health. It was expected that the film would be made in Samoa. Due to unforeseen circumstances this was not possible, and in June 1963 the Commission asked me and my wife, Carol, to produce the film in New Caledonia. We agreed and arrived in Nouméa by air on July 15th. Three cases of heavy motion picture equipment had gone ahead by ocean freight and were waiting at Commission Headquarters.

By this time, Miss Martin had accepted a position with WHO and was stationed in the Congo. In her place, Miss Lilianne Geisseler, together with Dr. Loison, helped with the necessary planning and contacts with local Government officials.

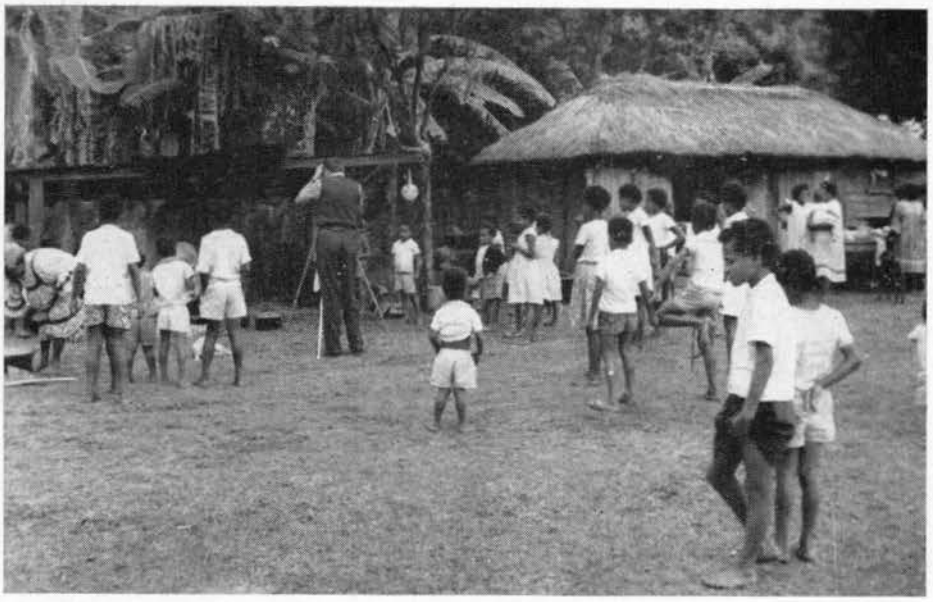
The original script, written for use in Samoa, was discarded and after approval of a new story outline, work began on the writing of a new script. A preliminary visit to Unia was made in company with Miss Geisseler and the Commission's new Health Educator, Mrs. Hortensia de Hollanda. Dr. Vacher visited Commission Headquarters to discuss his rôle in the film and to set a definite date when he could be available to work with the producers at Unia.

Dr. Vacher was indispensable. Not only was he a patient and talented actor of his part in the film, but he was a cheerful companion and excellent interpreter of the director-cameraman's instructions to the villagers who participated. His many years of experience in the South Pacific and other parts of the world gave him an understanding of public health problems existing in such an isolated village as Unia and a sympathetic appreciation for the health lesson the film was attempting to present. As a result, Dr. Vacher entered wholeheartedly into the variety of situations which it was necessary to create for the film and in many cases offered more realistic direction to the village actors than we could have.

Film Is Multi-Purpose

The film has a dual purpose. It is planned to be, first of all, a direct teaching aid for the use of health educators and public health officers in various South Pacific island territories. It is also hoped that it will serve as a guide for those whose responsibility it is to instruct others in how to teach people of their own areas about the community control of intestinal parasites. With this in mind it was arranged for Dr. Vacher to use instructional materials which would be readily available in isolated areas and which would not require the services of an artist or the purchase of expensive equipment. Carol was for the past five-and-a-half years Superintendent of Teacher Education in American Samoa, and during this period had learned to improvise and use simple methods and easily acquired materials. Mrs. de Hollanda had supervised health education for many years in Brazil and so the structure and design of the actual teaching sequence in the film devolved on her.

Educational film makers are concerned about the types of audiences which will view their film and the various instructional situations where the film will have specific teaching value. It is expected that this film will reach a variety of audiences, such as nurses, student-nurses, teachers, teacher-trainees, school children, members of women's health committees, public health officers, health educators, doctors, medical practitioners, and the general public in South Pacific island territories.



The cinematographer with his tripods and cameras fascinated the children. Here, he is filming the preparation of food in the village of Unia on the east coast of Grande Terre (New Caledonia).

Theme Has Wide Application

For various reasons, the Commission chose New Caledonia as the locale for the film. Production facilities, internal transportation, availability of professional and medical advice, and relative accessibility of film processing services in Sydney, plus the interest and cooperation of the Government of New Caledonia, indicated it as the best choice. But the film has been so planned that it will be useful in all areas of the South Pacific. Thus, while it was filmed in a Melanesian village, the health problems it shows are common to most other territories and ethnic groups. This wider application of the film is established in its introductory statements and scenes.

This initial film, produced on a modest budget, is an experiment based on the premise that locally produced and environmentally oriented educational motion pictures can meet a vital need as a teaching aid. Admittedly, such a film may lack some of the polish and finesse which is to be found in the professionally produced studio film, but a straightforward, convincing message can be conveyed by this means. It is also believed that whatever message the film medium seeks to convey will be more effectively taught if it is based on known and familiar circumstances. One picture is worth a thousand words and any teaching situation with which the viewer can personally identify himself is particularly apt to result in the desired change of behaviour. It is sincerely hoped that this film will make a significant contribution to the campaign to eliminate hookworm and roundworm.

LOW-COST HOUSING IN THE SOUTH PACIFIC

(Continued from page 26)

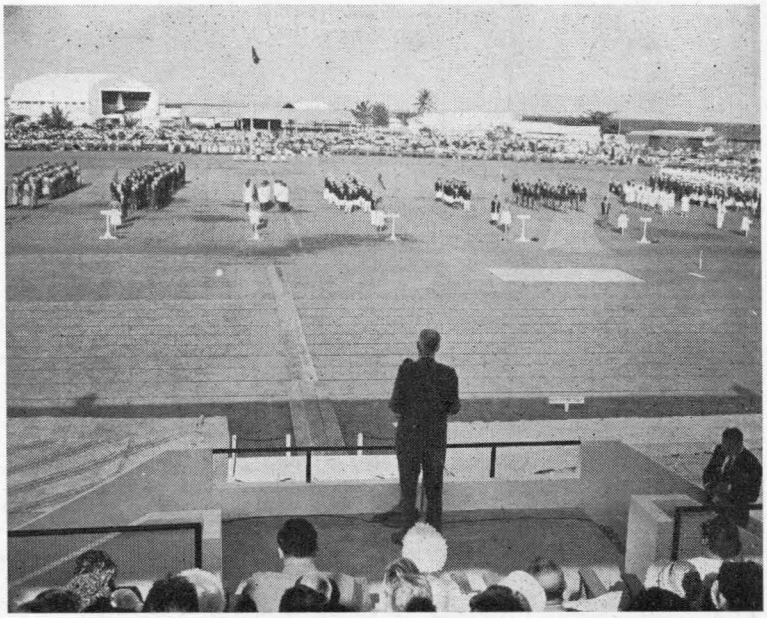
more effective use might be made of the space available were developed in detail. Among these were suggestions that authorities should make available a house design in which the principle of flexibility through the use of movable interior partitions is incorporated; that steps should be taken to bring to the notice of prospective occupiers the most suitable and attractive forms of furniture available, arranging for this purpose, if possible, a furnished demonstration unit; that small, short-term loans could well be made available to occupiers of low-cost housing units for the purchase of suitable furnishings and fittings; and that courses in furniture-making in suitable modern compact styles should be considered for inclusion in all self-help schemes.

As far as low-cost housing was concerned, the question of assisting the occupants to make the best possible use of the relatively restricted space and amenities at their disposal called for positive educational effort. In this regard three basic principles should be followed: tenant education should be begun before families move into their new homes, it should be continuous, and extend to the whole family.

Such education had to be carried out by well-trained officers able to give advice on a wide variety of problems as well as instruction in many fundamental skills. Various means by which tenant education could be carried out were described as including home visiting and individual teaching; education in the schools in the proper use of amenities and facilities; group teaching in village clubs; discussion of problems at village or other community meetings; exhibitions of furniture, interior decoration or gardens; competitions for better gardens, better kitchens, etc.; the encouragement of tenant organization; and perhaps most important of all, the availability of expert staff from whom advice could be obtained.

It was explained that assistance in this respect could well be expected from the Home Economics Training Centre which the South Pacific Commission, with the collaboration of the Government of Fiji, was setting up in Suva for the benefit of the South Pacific region in general.

Fiji defeated Papua/New Guinea in soccer at the first event at Buckhurst Park, following the opening ceremonies. Fiji forward kicks at goal, but Paul Sowani, the Papua/New Guinea goalie, was very safe. The ground was soft from previous rain.



The first South Pacific Games was opened in Suva by the Governor of Fiji, Sir Kenneth Maddocks. Picture shows the colourful scene when groups of athletes and officials representing thirteen different territories in the Pacific assembled at Buckhurst Park.

Future Assured For South Pacific Games

The success of the First South Pacific Games has ensured enthusiastic support for their continuation as a regular event. The next Games are to be held in 1966 with New Caledonia as host territory. This article briefly reviews recent decisions of the South Pacific Games Council.

IMPORTANT decisions affecting the future of the South Pacific Games were made at the meeting of the Games Council held in Suva on 1 September, a few days after the first Games began. All thirteen territories participating in the Suva Games were represented.

The continuity of the Games was assured by New Caledonia's officially lodged request that the next South Pacific Games should be held in Nouméa and by a statement from the delegate from Papua and New Guinea that the Territory anticipated lodging an invitation in due course for the following Games. New Caledonia's invitation was accepted with acclamation and members of the Council noted with equal pleasure Papua and New Guinea's keen interest.

Three-Yearly Intervals Confirmed

One of the main tasks of the Council was to review and modify the Games Charter, in the light of experience gained in preparing for and running the First South Pacific Games. Certain amendments proposed were the subject of long and earnest debate, both in Games circles before the meeting, and during the deliberations of the Council itself; but in almost all cases the decisions finally made received the full support of all territories.

A proposal to hold the Games at four-yearly intervals was put forward by two delegations which argued that it would be difficult to finance teams at more frequent intervals than this. Moreover, on a three-year rotation, the South Pacific Games could clash periodically with such international events as the Olympic Games and the British Commonwealth Games which were spaced at even-number intervals of years. This proposed amendment met with strong counter-arguments which emphasised that interest and continuity of training and organization would be lost if the Games were held less frequently than every three years. Moreover, there was little likelihood of South Pacific Games participants being involved to any significant extent in these larger world competitions. The proposed amendment was lost with, however, four territories registering support for the amendment.

Residential Qualifications

Most careful and detailed consideration was given to the re-wording of Clause 19 of the original charter. This clause governed the conditions for representing a territory and, in particular, set out residential qualifications for "expatriate", as opposed to "indigenous" residents. The matter came up through a proposal to reduce the residential period for "expatriates" to six months instead of two years, as in the original charter.

In the resultant lengthy discussion, the point was made by delegates that the terms "indigenous" and "expatriate" had not been defined in the original charter but that in any case the whole purpose of the South Pacific Games was to encourage and develop sporting and athletic activities among those whose real and lasting homes were in the islands of the Pacific.

Eventually the situation was clarified with logic and simplicity; an "indigenous" person was one born in the territory which he wished to represent at the Games; any other person was an "expatriate". Thus each competitor established himself on his own rights, either by birth or by residence, independent entirely of race or place of birth of his parents. All expatriate competitors must have had, immediately prior to the Games, two years' continuous residence in the territory they wished to represent. Absences for certain reasons, including business, health and education, might be

(Continued on page 58)

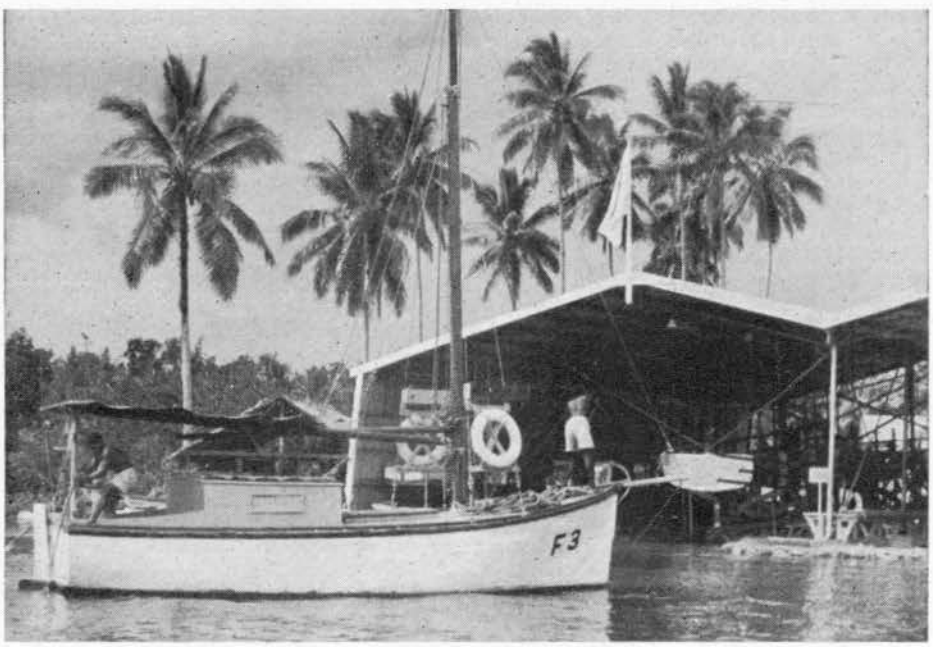
The South Pacific Commission
What It Is – What It Does

Although the SPC has been functioning for more than fifteen years, its very nature is such that not a great deal is known about its origins, constitution, purposes, work and potential. This article attempts to describe in a brief, yet comprehensive way, just what the Commission is, something of what it has already done and what is now being undertaken or in sight.

By P. L. Ryan

These coffee plants, C. arabica, which are resistant to leaf rust, are among the many plants introduced into South Pacific territories by the Commission's Plant Introduction Service. Here, the Commission's Executive Officer for Economic Development examines plants recently introduced into a nursery.

At the first UN/SPC Boatbuilding School at Auki, in the British Solomon Islands Protectorate, the initial order executed by trainees was for three 26′ cutters. One of these, the "F3", is here shown ready for service. Eventually the Course constructed seven vessels altogether to meet various orders.



Origin

THE South Pacific Commission is a regional body established under an Agreement, signed at Canberra, Australia, on 6th February 1947, by representatives of the Governments then administering territories in the area, namely Australia, France, the Netherlands, New Zealand, the United Kingdom and the United States of America, "to encourage and strengthen international co-operation in promoting the economic and social welfare and advancement of the non-self-governing territories in the South Pacific region administered by them". The Netherlands' membership terminated on 31st December 1962.

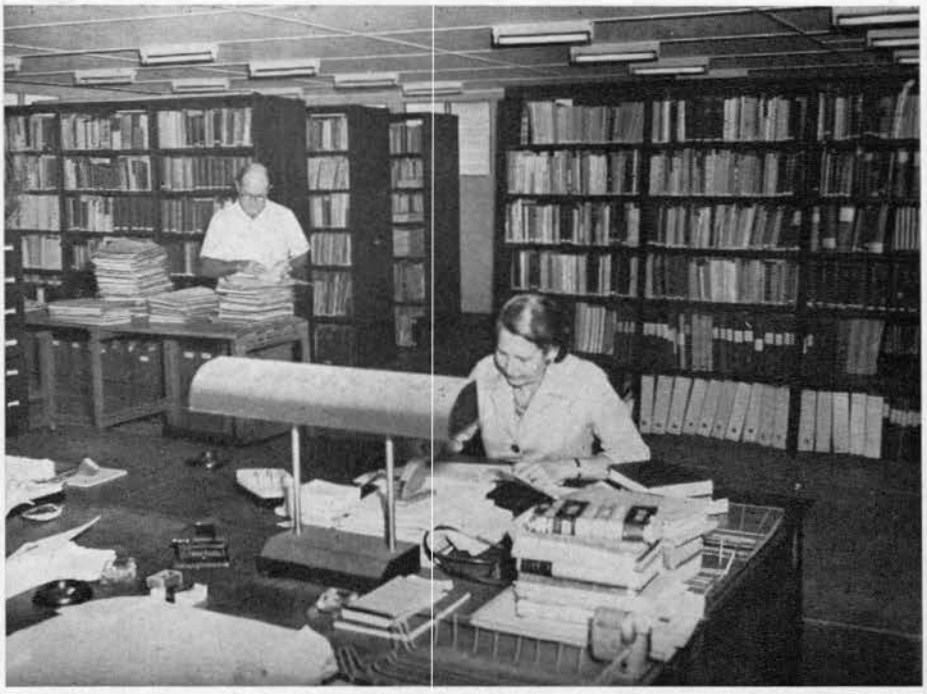
The first two Sessions of the Commission were held in Sydney, Australia, in May and November 1948. At the latter, it was decided that the permanent headquarters should be at Nouméa, New Caledonia, and since then regular Sessions of the Commission have been held there each year.

Composition

The Commission consists of not more than ten Commissioners, each of the five participating Governments being entitled to appoint two, one of whom is designated Senior Commissioner. Each Government may also appoint such alternates and advisers to its Commissioners as it considers desirable. Senior Commissioners preside over Sessions of the Commission in rotation according to the English alphabetical order of the participating Governments.

The Commission is advised by two auxiliary bodies, the Research Council and the South Pacific Conference. The Commission appoints the members of the Research Council who are selected for their special knowledge of the questions with which the Commission is concerned and the problems of the territories in those fields. The principal functions of the Research Council, which normally meets once a year, are to maintain a continuous survey of research needs in the territories within the scope of the Commission, to make recommendations to the Commission on research to be undertaken, to arrange, with the assistance of the Secretary-General, for the carrying out of research studies approved by the Commission and to co-ordinate the research activities of other bodies working within the field of the Commission's activities.

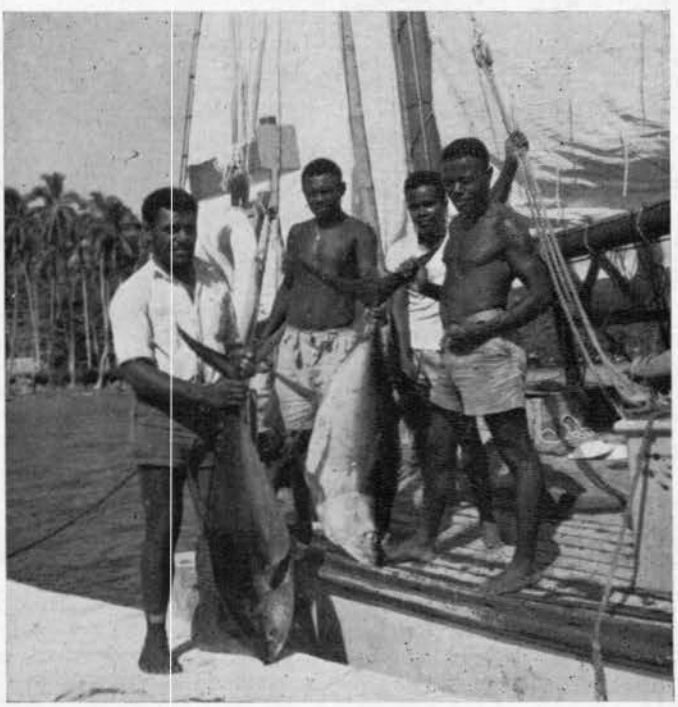
The South Pacific Conference is convened by the Commission, in terms of the 1947 Agreement, at intervals of not more than three years. The Conference is attended by representative inhabitants of all territories within the Commission's area and, by invitation, of the independent Kingdom of Tonga. Since Western Samoa attained independence on 1st January 1962, it also has been invited to continue to send delegates to the Conference. The purpose of the South Pacific Conference is to bring island representatives into close touch with the work of the Commission and to provide a regular opportunity for meeting together and for discussion of matters of common interest falling within the Commission's competence. The Conference is entitled to make recommendations to the Commission on any such matters. The South Pacific Conference has met five times—1950 (Suva), 1953 (Nouméa), 1956 (Suva), 1959 (Rabaul), 1962 (Pago Pago).

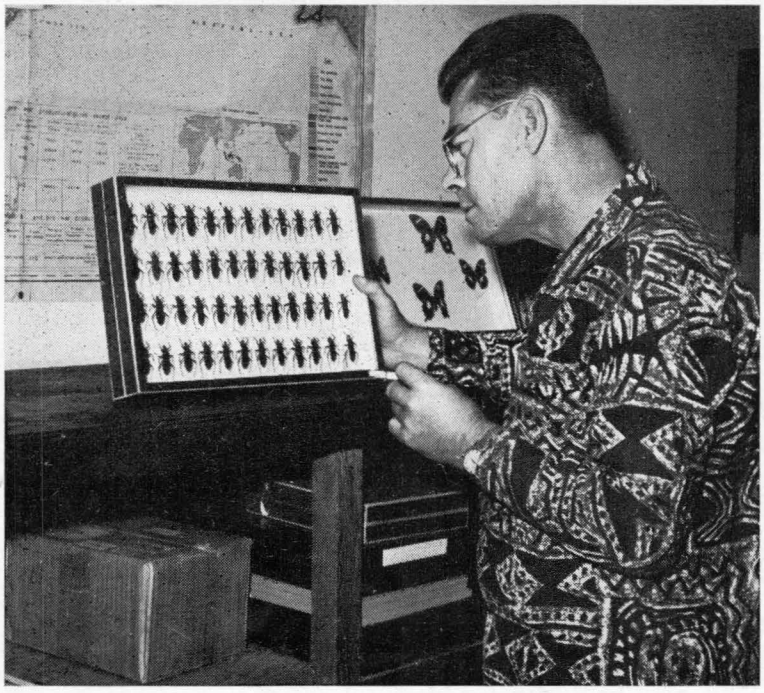


At South Pacific Commission Headquarters at Noumea, New Caledonia, a specialist, working library has been developed to facilitate the Commission's work.

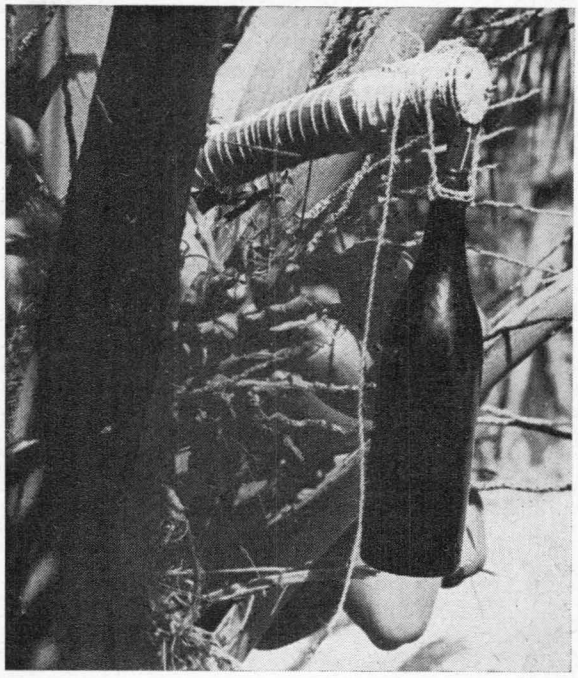
In 1960, at the request of the Forestry Department of New Caledonia, the Commission introduced the American freshwater game fish, "black bass", into Yate lake. The fingerlings were sent by air from Honolulu in plastic bags. Here, the Commission's Fisheries Officer, Mr. L. C. Devambez (nearest camera), releases them after briefly immersing the plastic bags in the lake water to equalize the temperature.

In 1961 a sub-regional Fisheries Training Centre for Pacific Islanders from Melanesian territories was held in the British Solomon Islands Protectorate under SPC/FAO auspices. Here trainees display two yellow-fin tuna taken by Japanese longline.





The SPC has been carrying out research for some time to exterminate the rhinoceros beetle, which attacks coconut palms. Here are shown specimens of Platymerus rhadamanthus, a predator of the beetle collected by the Commission's entomologist in Zanzibar and introduced into the area.



In the course of its work on nutrition in the Pacific Islands, the SPC has made an inventory of food plants found in each region, together with their various uses which are often little known. An example is this use of the coconut in Micronesia: sap is drained off from the palm into the bottle shown in the picture, and is used to make syrup or a kind of treacle. It is also fermented to make a drink.

The Secretariat

The chief officer of the Commission is the Secretary-General who is appointed by the Commission and is responsible for the administration of its programme. The other principal officers appointed by the Commission are the Executive Officers in the fields of Health, Social Development and Economic Development. The present Secretary-General is Mr. W. D. Forsyth, O.B.E., M.A., B.Litt., Dip.Ed.; Executive Officer for Health, Dr. Guy Loison, M.D., D.P.H.; Executive Officer for Economic Development, Dr. Jacques Barrau, M.Agr.Sc., D.Sc.; and Executive Officer for Social Development, Dr. Richard Seddon, Ph.D., M.A., B.Com., Dip.Ed. The Secretary-General and these three officers are members of the Research Council. The total full-time staff of the Commission, embracing professional, administrative and general service personnel, is approximately sixty, of whom all but a few are based at Nouméa. A small staff is located in Sydney and is concerned mainly with the printing and distribution of Commission publications.

Annual Budget

The Commission's annual budget is financed by grants made by each of the member Governments in agreed proportions. Grants for specific purposes are also received on occasion from foundations, from United Nations Specialized Agencies and from territorial administrations.

Commission Area

The participating Governments are, between them, responsible for the administration of nearly all the Pacific Islands from Papua and New Guinea eastward to French Polynesia and from the Trust Territory of the Pacific Islands southward to Norfolk Island. The area thus within the Commission's competence extends over about twelve million square miles, only three per cent of which is land. Some three million people live in the area and the individual territories included in it are American Samoa, British Solomon Islands Protectorate, Cook Islands, Fiji, French Polynesia, Gilbert and Ellice Islands, Guam, Nauru, New Caledonia, New Hebrides, Niue, Norfolk Island, Papua and New Guinea, Trust Territory of the Pacific Islands and Wallis and Futuna Islands. Independent Western Samoa and the Kingdom of Tonga are within the area with which the Commission is concerned but are not, of course, counted among the "non-self-governing territories" dependent on its member Governments.

Work Programme

The Commission's programme is in the fields of health, economic development and social development and the 1947 Agreement included recommendations for research into specific subjects within them. In the years since then the Commission has performed, promoted or assisted a very wide range of activities in each of its special fields. The programme is organized in a way that recognizes that the proper function of the Commission is to help territorial administrations to carry out their responsibilities. It does that by organizing research into unsolved problems, through training schemes, by providing experts to investigate, advise or assist, by financing study tours, and by collecting, preparing and distributing information of a general or particular kind. The nature of the Commission's programme of assistance is determined by what is believed to be the most effective use of its resources, at any time, as an aid to territorial plans. Some examples, by no means exhaustive, of the Commission's recent and current work are given in the following summaries.

Health

The programme under this heading is concerned with general public health but includes such special fields as maternal and child health, nutrition, epidemiology of cardio-vascular diseases and of area diseases which create health problems, e.g. eosinophilic meningitis, fish poisoning, etc., training of personnel and health education.

The Commission has for several years assisted territories with their health education programmes. In 1957 a training course was held in this subject in Nouméa. In 1959 a Health Education Officer was appointed to the staff of the

Commission and a second one in 1961. These officers make frequent visits to the territories to help local health authorities in the planning and conduct of health education programmes and training schemes. Assistance is also given in the form of written advice, printed matter (including a regular health education letter for field workers) and health education materials. The Commission convened a Conference of Directors of Territorial Health Services in May 1961 which considered health education needs of the region and recommended future lines of action. The Commission has also undertaken to assist in organizing the health education aspects of a WHO/BSIP malaria eradication programme in the British Solomon Islands Protectorate.

Mosquito-borne diseases, especially filariasis, occupied a prominent position in the Commission's health programme for many years and a full-time specialist was employed at one stage. The results of his studies and the collation of published material on this subject will be of continuing value. The work was discontinued in 1960 when it was considered that most of what could be accomplished in this field was completed. A comprehensive bibliography on the subject continues to be available.

The Commission over the years has conducted a long series of field and laboratory studies of the food and dietary conditions over much of the area. Following a review of this work, the Commission's collected material on nutrition will be published in a form suited to community needs and as a help in teaching nutrition. A socio-economic survey to determine to what extent urban living is resulting in nutritional deterioration is being organized. The Commission also appointed a Home Economics Officer within its social development section to devote special attention to nutritional problems and work in association with its Women's Interests and Health Education Officers.

As fish forms an important item in the diet of many Pacific peoples, the Commission has given special attention to recurrent outbreaks of fish poisoning. This is done through its own resources and in collaboration with the University of Hawaii and the *Institut Français d'Océanie*, which are engaged in research into this problem.

The Commission also secured WHO assistance for a survey during 1962/1963 of maternal and child health services in various parts of the region. In April 1963, a conference on rural health problems with special emphasis on maternal and child health met at Tahiti. Subsequently, the Research Council considered the conference findings and reviewed the whole health programme.

Other health activities are carried on in relation to such matters as epidemiological surveys and information, the publication of a wide range of information on health subjects and the provision of financial assistance to enable Territorial health staffs to study health work in other countries.

At a SPC Women's Interests Seminar held in Western Samoa in 1962, a group of women learn to make puppets.

Economic Development

A three-year programme laid down at the end of 1959 developed broadly on three main themes—fisheries, plant collection and introduction, and pests and diseases of plants and animals. At the same time there was a study of capital formation as one essential element in economic development. Information related to the promotion of trade and industry in the area was also gathered. At the end of this three-year programme, the need was felt to consolidate and expand the activities of the section and it was then decided that plant production improvement, animal production improvement, plant and animal protection, and economic affairs should be the section's main fields of activity.

The Commission's special fisheries project has had as its objectives improvement in the supplies of food fishes available to the peoples of the area and the best economic use of other marine resources. The work thus has included introduction of new food fishes, the training of islanders in modern and improved fishing methods (including fish preservation, care of nets, the use and maintenance of small, powered vessels, etc.) and advice to territorial administrations for the development of fisheries based on surveys of local resources and technical knowledge. A special Fisheries Training Centre established by the Commission in association with FAO, ran for several months at Tulagi in the British Solomon Islands during 1961. Three regional boatbuilding training courses, each of two years' duration, have been initiated by the Commission at Auki in the British Solomon Islands and at Nouméa. They operate with finance and other resources made available jointly by the Commission, the United Nations and the governments of the two territories where the courses are located.

The Commission also sponsored special research into the biology of the blacklip mother-of-pearl oyster in the Cook Islands and has since made a special grant to the Commonwealth Scientific and Industrial Research Organization (Australia) to further, through statistical analysis, this valuable research. Other fisheries work includes examination of trochus-gathering prospects in various territories and the publication or supply of literature on a variety of aspects.

Plant collection and introduction was one of the Commission's earliest projects and it has also been concerned with the improvement of existing crops in the area. Since 1961, 757 species or varieties of useful plants were introduced through its Plant Collection and Introduction Service. In the course of the search for improved cropping capacity in the breadfruit tree, cuttings of 150 "varieties" were collected in Polynesia and Micro-

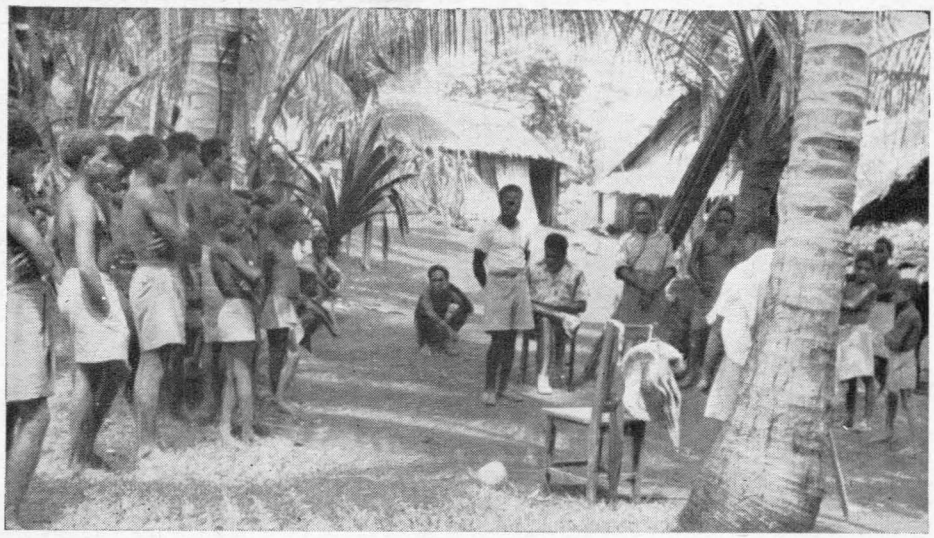
nesia and used in inter-island exchanges for comparative trials. Cuttings of 80 "varieties" were sent to Western Samoa where a central collection has been established. This work is to be intensified. Special attention was also given in the same period to the coconut palm, of which eight varieties that seemed to have interesting potentialities were sent to seven different territories for trials. Throughout its whole programme in regard to the collection, introduction and exchange of economic plants in the Pacific Islands area, special attention has been given—in addition to coconuts and breadfruit—to coffee, cacao, pepper, vegetables, bamboo, forage and pasture plants and other possible cash crops.

A primary objective of the Commission is to assist territories in their attempts to control the rhinoceros beetle which is an extremely serious threat to the coconut industry of the Pacific Islands. The Commission employs an entomologist who devotes special attention to this particular pest and who carried out investigations in East Africa during 1961-62 into insects likely to be useful in its control. The Commission has also offered grants to other institutions working on this problem and in turn has received assistance from governments in its area. A five-year programme involving approximately 1,000,000 dollars to find means of eradicating this beetle and related pests is to start early in 1964 with assistance from the UN Special Fund. A survey of plant quarantine measures and facilities has been made in the area under Commission auspices with a view to enabling territories to learn from each other and improve their services. Information is also disseminated concerning plant and animal pests and diseases occurring in the area.

The Commission convened a regional technical meeting at Rabaul (Territory of Papua and New Guinea) in November 1961. This meeting examined particularly, and recommended upon, the training of agricultural extension personnel, the promotion of rural lay-leaders and extension methods adapted to the socio-economic conditions of the South Pacific area.

In the field of agriculture, as in others, the Commission publishes and otherwise provides much useful technical information. It financially assists study tours by agriculturists and others within its area and makes grants to experimental stations and other institutions carrying out research work of regional interest, particularly those giving attention to the coconut palm.

During the past two years, the Commission followed up a study made several years earlier, of credit arrangements and other forms of technical assistance available for islanders, by a wider survey of capital formation achievements. This led in 1962 to a special technical meeting on economic development and particularly capital formation, to compare territorial experience and to formulate basic requirements of development programmes in the region.



In October 1960, a SPC Health Education Specialist conducted a Health Education course for village dressers in the British Solomon Islands Protectorate. Here, an Assistant Medical Officer addresses the people of Dukwasi village after Course members had been permitted to inspect it, with a view to suggesting improvements to promote better health.

Social Development

The Commission has always covered a very wide range of activities in this field. For example, it began work on literature promotion, literacy, library development and audio-visual aids as far back as 1952 when it established its Literature Bureau. Continuing attention and, where appropriate, financial assistance, is given to all these subjects and, as well, a film appraisal service is available to territories. Through the Commission's initiative, a Literature Production Training Centre to operate for three years was established at Honiara in the British Solomon Islands in 1960. It has been supported jointly by the Commission, UNESCO and the Government of the British Solomon Islands Protectorate and, by helping to provide trained staff and by investigating practical problems, will assist territories towards self-sufficiency in the provision of printed matter designed specially for their own conditions.

Services related to education have been and continue to be undertaken. Requests for material, information and advice are met through the Social Development Clearing House. Provision is made for financial help towards inter-territorial study visits by education officers and for specialist and other assistance to territorial seminars, workshops and training

In 1961, the SPC held a Seminar on Co-operatives at Koror, Trust Territory of the Pacific Islands. The photograph shows the opening by the Deputy High Commissioner for the Territory. The SPC Co-operatives Specialist, Mr. R. H. Boyan, is seen on his right.

courses. In 1959, the Commission convened a Regional Education Seminar, the outcome of which provided a basis for increased and more direct Commission activity in this field and for its planning for the future. Another such Seminar is proposed to be convened within the next two years.

The Commission has had a continuing programme to assist the development of co-operatives throughout the region and since 1955 has employed a specialist co-operatives officer. Field surveys and general advisory services have given way in recent years to direct educational and training activities. An information and clearing-house service is maintained and a comprehensive library on co-operatives has been built up. A number of specialist meetings and training courses have been held since 1958, among them a Regional Co-operatives Training Centre conducted at Suva, Fiji, for several months in 1962 in association with FAO.

The Commission, supported by funds from United Church Women of the U.S.A., appointed a Women's Interests Officer to develop its work in this field in co-operation with territorial administrations. Since then, the officer has visited and worked in most of the territories. The Commission has also contributed towards the cost of travel of representatives of women's organizations in the area for various purposes. In late 1961 a Women's Interests Seminar was convened at Apia, Western Samoa, with the collaboration of FAO, UNESCO and the United Church Women of the U.S.A.

An integrated community education project is being developed in collaboration with FAO. As a first step, and with the co-operation of the Government of Fiji, it is planned to open a Home Economics Training Centre in Fiji and conduct the first residential course there in 1963. In addition, to expand the work already commenced in the women's interests field a Home Economics Officer has been appointed to the social development staff.

An Urbanization Advisory Committee appointed by the Commission met for the first time at Honolulu in September 1961. The Committee reported comprehensively on aspects of urbanization in the Pacific, and the Commission, acting on its recommendation, has established an Urbanization Information Research Centre.

Sub-regional study groups composed of representatives of island communities are sponsored by the Commission. The first was held in 1961 on "Problems of Youth in Urban Communities" and a second has now been held in March 1963 on the topic "The Development of Small-Scale Private Enterprise". A sub-regional conference met at Papeete, Tahiti, in 1962 to discuss social and labour problems. A regional conference on low-cost housing and related problems met in Fiji during June.

The Commission convened a meeting in 1961 which led to the establishment of an Organizing Committee to promote the first South Pacific Games held at Suva in August/September 1963.

During 1963 a comprehensive survey relating to handicrafts in South Pacific territories is being undertaken.

Co-operation With Other Bodies

There is liaison and co-operation between the Commission and other bodies and institutions in matters of mutual interest. Thus the United Nations, through the Technical Assistance Board and the Specialized Agencies (FAO, WHO, UNESCO), has collaborated in particular projects either by financial assistance or the provision of experts. Metropolitan governments of the member nations assist in a similar way, while there is a continuing association with institutions such as The Australian National University, the Institut Français d'Océanie, the University of Hawaii, etc. The Commission's work is also aided by Technical Advisory Committees (e.g. Fisheries, Plant Collection and Introduction) and consultants (e.g. Fiji Government Entomologist) made possible by the co-operation of governments within the area.

Publications

The Commission publishes an illustrated quarterly magazine, *South Pacific Bulletin,* which features articles on selected activities in the three main fields of operations, as well as articles contributed by specialists working in these and related fields in the territories within the Commission area. It is issued in two languages, English and French. A monthly news-sheet is issued for press and radio, under the title *South Pacific News*. Technical papers covering various aspects of its programme as well as reports of meetings of special groups sponsored by the Commission are also published.

The Commission maintains at its headquarters a valuable library which provides the reference material necessary for its work.

Further particulars of the Commission's activities may be obtained from the Secretary-General, South Pacific Commission, P.O. Box 9, Nouméa, New Caledonia.

NEW COCOA DRYER TRIALS AT KERAVAT

A SERIES of preliminary trials has recently been completed at the Lowlands Agricultural Experimental Station, Keravat, on a new type of cocoa dryer. The unit is expected to provide much basic information on fundamental principles of cocoa drying.

Essentially the dryer consists of a high efficiency axial flow fan directly coupled to a heavy-duty diesel engine fitted with electric starting. From this unit over 35,000 cubic feet of air per minute can be pushed out and blown through cocoa beans. All the air is warmed by the heat of the engine only and no other heating mechanism is used. The entire engine is covered by a fibreglass hood in such a way that all air passing through the fan must pass through the enclosed space around the engine and exhaust system.

Recent experiments overseas have shown that large volumes of warm air can be used to dry different types of grain crops just as effectively as small volumes of hot air and this principle has been used in the design of the new dryer. It will allow air volume to be varied from under 10,000 cubic feet per minute to over 35,000 cubic feet per minute, the temperature of the air increasing up to the range of 20-25°F. above the surrounding temperature as the volume decreases.

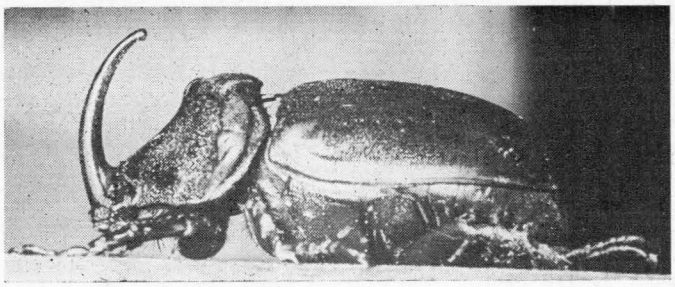
Trials have shown that the new drying machine can be used to dry cocoa beans in two ways. Firstly, it can be applied to a platform-type drying bed and used in the same way that most sun-hot air platform dryers are used for complete drying. Secondly, it can be used to pre-dry or surface-dry small batches of beans in 6-8 hours on a continuous output basis and "final dry" these batches in the deep bins to which they are transferred.

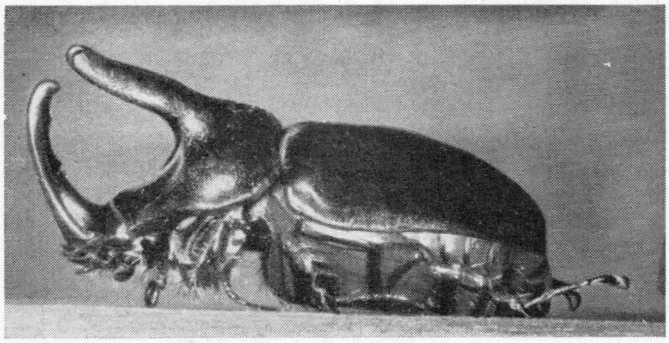
In the initial trials application of the first method was tested in detail. To do this a temporary drying platform was constructed with timber frame and plywood sides which had a floor 18′ long and 12′ wide, with sides around the platform 24″ high. Beneath the floor an air chamber 4′ high was constructed into which warmed air could be blown and forced up through the wire mesh floor and wet beans above.

Five trials were carried out using this system. From these a great deal of data was collected and analysed on air pressure limits, air flow, temperature rises, fuel and oil consumption, drying time, and depth of load. This evidence showed that with the new dryer wet fermented beans could be safely loaded to a depth of 15″ and dried continuously for four days to give about three tons of dry beans. In doing this, the machine used between 55 and 60 gallons of diesel fuel for every ton of cocoa dried.

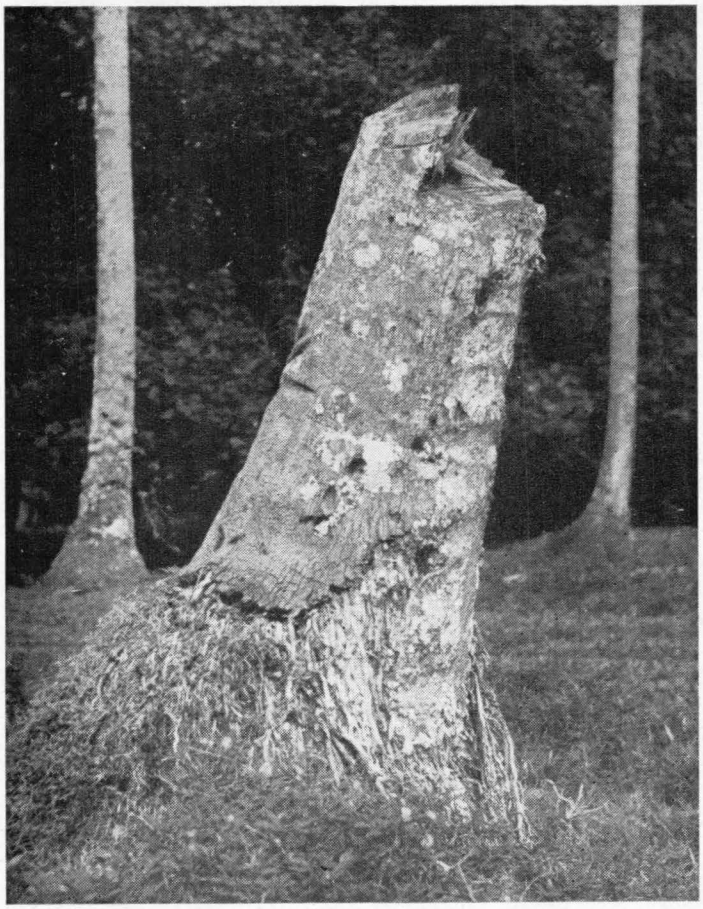
Results indicated that although high volumes of air at low temperature (6-8°F rise above ambient) effectively removed the bulk of the moisture from wet fermented cocoa beans, higher temperatures (20-25°F. rise above ambient) were necessary for final drying to 6% moisture.

The tests are continuing, and, when completed, details of the system and equipment will be made available to planters and others interested.





Shown above are two of the coconut pests which are the object of the UN/SPC campaign. Collected and examined in Papua and New Guinea by the Commission's entomologist, Dr. C. P. Hoyt, they are (above) Oryctes centaurus and (top) Scapanes australis.



Right: When a palm dies on a plantation, it is usually felled. The residual stump provides a typical breeding-place for rhinoceros beetles.

Accelerated Campaign against the Rhinoceros Beetle and Related Pests

By P. L. Ryan

The first reports of the Asiatic rhinoceros beetle in the Pacific area came from Western Samoa in 1909 and it has since spread to many other territories. The beetle lives in the crowns of palms and destroys the young fronds. It thus presents a serious threat to the copra industry, not only in territories where it is already established in large numbers, but also in others to which it may eventually spread. This article tells the story of the Commission's research into the biological control of the beetle, and describes the all-out five-year campaign to be begun in 1964 with assistance from the U.N. Special Fund against it and similar pests.

AS announced briefly in the July issue of *South Pacific Bulletin,* the Special Fund of the United Nations has approved the allocation of 558,000 dollars to a project aimed at eradicating the coconut pest, *Oryctes rhinoceros,* and related insects. Matching the Special Fund's contribution, the participating Governments of the South Pacific Commission will contribute 344,000 dollars in cash, while the Governments of New Zealand and Western Samoa will provide services and facilities equivalent to 175,000 dollars. The million-dollar project will be spread over five years from the beginning of 1964.

The total population within the South Pacific Commission area numbers some 3 million people. The coconut palm, as a crop, is both the major source of income and a staple food. In some places, it represents the sole source of income. In recent years the average annual value of the production of the coconut industry has been about 56 million dollars. Production would be greater but for the destruction wrought by the rhinoceros beetle and others of a like kind.

The Beetle Story In Brief

The rhinoceros beetle was first recorded on coconut palms in the Malaya area in 1889. It occurs throughout a wide part of mainland South-East Asia and neighbouring islands and as far west as India and Africa. The adult is a robust insect, dark chocolate in colour, 1.5 to 1.75 inches in length and about .75 inches wide. Its small head is armed with a stout horn which—though there is some variation in this—is short and triangular in the female and long and curved in the male.

As well as *O. rhinoceros,* Papua and New Guinea has three other related indigenous species of dynastids namely, *Oryctes centaurus* and *Scapanes* (*australis* and *grossepunctatus*). *O. centaurus* lives on the sago palms which it attacks in much the same way as *O. rhinoceros* and *Scapanes* do the coconut palms. In that territory, *Scapanes* is regarded as perhaps an even worse pest than *O. rhinoceros.*

Only the adult beetle attacks palms. It forces its way down between the bases of the younger fronds and gouges an entrance into the tissue of the midribs. It then bores downwards towards the growing point of the palm. If the growing point is killed, no more young fronds develop and the palm assumes a typical appearance of old fronds but no young ones. Repeated attacks can result in the death of the palm.

The rhinoceros beetle was apparently first introduced into Western Samoa about 1909. It was subsequently found in Niuatoputapu Island between Samoa and Tonga (1924), Wallis Island (1931), the Palau Islands and New Britain (1942), Tonga (1952), and finally in Fiji in 1953. Damage has probably been greatest in the Palau Islands where it is estimated that the beetle killed fifty per cent of the palms within 20 years of its introduction. In the same period much damage was done in New Britain and New Ireland in the Territory of Papua and New Guinea. In Western Samoa, continuing damage occurs although the mortality of the palms is not as high as in the Palau Islands. Plantations on Wallis and Futuna Islands suffered particularly, and by 1950 copra exports which had once been significant in the economy of those islands had practically ceased. American Samoa is in a similar condition to Western Samoa. Tonga has also suffered and so has Fiji where the pest is present not only on Viti Levu but on the nearby islands of Ovalau and Batiki.

While it remains uncontrolled and in large numbers in some territories, there is a constant threat to neighbouring uninfested areas. Thus, the presence of the beetle in New Britain and New Ireland represents a threat to Bougainville and the British Solomon Islands Protectorate. Shipping connections provide a possible means of transfer from Wallis Island to the New Hebrides. This also applies to transport connections between New Caledonia and Wallis Island, and between Fiji, the Samoas and French Polynesia.

Apart from the direct effects on the coconut industry, there is the indirect one that precautions invoked by some territories to prevent the spread of the beetle from others, are a handicap to economic development because of the restrictions that they impose on inter-territorial trade.

These palms have been attacked by rhinoceros beetles, which destroy the young fronds at their growing-point. Only the old fronds remain, giving the palms this characteristically ragged appearance.

Early Efforts By SPC

In April 1953, the Commission launched a programme of research into effective methods of control and measures aimed at preventing further spread of the pest. Activities since then have included research on the ecology of the beetle, both within the area and elsewhere; advice on quarantine measures to reduce the chances of the further spread of the beetle to uninfested areas; research on physical control and sanitation measures, on chemical control (through insecticides and attractants) and on biological control including parasites and diseases. Research has extended to India and adjacent countries, to Madagascar, to Central and South America, and West Africa. For some months this year, two entomologists on the staff of the Commission have been working on the subject, one in South-East Asia and another in West Africa on the search for predators and parasites and the third in South-East Asia on biological control possibilities.

Over the years, the Commission has had the co-operation and assistance of such bodies as the *Institut de Recherche Scientifique de Madagascar* (on parasites, predators and other factors affecting the lives of *Oryctes*), the *Institut für Biologische Schädlingsbekämpfung* of Darmstadt (pathogenic agents particularly biological control) and the Commonwealth Institute of Biological Control (natural enemies) and others within the actual area.

An estimate of the total value of operations against the rhinoceros beetle in the Commission's area in the ten years since 1953 is $2,240,000. This, of course, includes expenditure by administrations as well as by the Commission itself.

While the regional research programme has covered many fields and yielded valuable data, it became obvious some years ago that practical results leading to efficient and economic control of the pest could be hoped for only through increased effort. With this conviction the Commission, at its Twenty-second Session in October 1961, authorised an approach to the Special Fund of the United Nations for assistance.

The Expanded Project

The new project has been conceived as a concentrated attack on all aspects of the problem. Its aim is to achieve the earliest possible practical control of the beetle and related insects through intensification and expansion of the work already initiated by the Commission. Certain lines of investigation are essentially long-term, and for that reason Special Fund support and matching governmental contributions are to be made available for a period of five years.

The research to be undertaken will include:

(a) Study of the biology and ecology of the rhinoceros beetle and related insects.

(b) Attractants and pesticides which could be used in survey and control methods.

(c) Research on insect diseases to be used in biological control.

(d) Search for predators and parasites of the beetle and related insects in the African, South-East Asian and New Guinea regions.

The project will be based on Western Samoa which is the country in the South Pacific most heavily infested by the rhinoceros beetle. The Government of Western Samoa has undertaken to make available to the project the facilities of the Nafanua Agricultural Research Station and Avele College. Between them, the Governments of New Zealand and Western Samoa will provide laboratories, equipment, housing and essential maintenance of all facilities at the project headquarters in Western Samoa. The Special Fund, over the five years of the project, will contribute the services of entomologists, insect pathologists and ecologists, totalling twenty man-years. Fellowships totalling nine man-years will be awarded to provide training in certain fields such as biological control and insect pathology. The contribution by participating Governments of the South Pacific Commission will cover the cost of twelve man-years of expert services, local staff, research contracts and other expenses of the project. FAO has

(Continued on page 40)

Coconut Research at Rangiroa

In the South Pacific the coconut palm is both the main subsistence and cash crop. It is believed that on many atolls where soil conditions are unfavourable and only a poor crop of nuts is now produced copra output could be greatly improved and, hence, the standard of living of their populations, by correct and scientific management of coconut groves. With this idea in view, the I.R.H.O. has established a coconut experiment station on Rangiroa atoll in French Polynesia. This article describes some of the results yielded by research since the establishment of the station in 1959.*

Part of an experiment at Rangiroa Station. The trees have been injected with manganese, iron and copper salts.

SINCE November 1959, efforts at the Rangiroa Station, in French Polynesia, have been devoted to the development of methods likely to increase the production of coconut palms planted on coral soil.

The station is located on Rangiroa atoll, the largest in the Tuamotu group. Its ecological characteristics are similar to those of most low islands in the Pacific: very poor soil generally, composed of organic matter with an alkaline reaction due to the prevalence of calcium carbonate, very strong sun exposure (over 3000 hours a year), a regular temperature within 81 to 83°F. (27 to 28°C.), variable annual rainfall with an average of 57 inches in 150 days, this being corrected, however, by the presence everywhere of a water table at no great depth.

The research carried out is essentially practical, with the object of developing means of increasing yields which are simple, profitable, and lend themselves to extension work. To this end, priority has been given to experimentation on nutrition and cultivation methods giving comparatively quick results. Work on selection and genetic improvement, without being neglected, is considered as secondary, the economic results being more remote in time.

Experimentation

The experiments are spread over the scattered islets (*motu*) of the atoll and working conditions are always difficult. As a result standard techniques of detailed statistical interpretation are the exception, since the wide differences in the types of soil and coconut palms, the general disorder of the plantation and so on oblige the research worker to operate on small groups of palms, and with only very rough plans. In line, however, with all the experimentation carried out by I.R.H.O., the experiments are based upon observation of yields together with study of the evolution of element-contents through foliar analysis.

Cultivation Practices And Correct Soil Maintenance

Usually, soil maintenance on the atolls is nil or, at best, very elementary. Nevertheless, the practice of burning down the undergrowth periodically is fairly widespread because it facilitates harvesting.

It has now been proved that by cutting back the undergrowth in between the rows of palms every six months and heaping up the debris it is possible to obtain a very substantial increase in production, which is in direct relation to the initial cleanliness of the grove.

It is probable that all groves planted on atolls will not show uniformly high results (sometimes they have been 2 or 3 times the initial yield), but it is certain that proper, regular maintenance—itself a simple and effective practice—results in a very high increase both in production and in nitrogen content.

Planters should be sternly warned against the practice of burning, for the results are rapidly damaging. On the other hand, planting should not be done in bare soil. It is a mistake to clear a plot of land completely before planting, and planting should be done in rows which are, subsequently, cut back as the palms grow.

Nutrition

Severe deficiencies noted in nitrogen, manganese and iron as well as possible shortages in other trace-elements, such as zinc or copper, have been clearly indicated by foliar diagnoses. These deficiencies are, however, very difficult to remedy because of the extremely chalky nature of the soils.

Experiments show that mineral nitrogen applied to the soil in a normal way is absorbed with difficulty and with no immediately significant effect on the yield.

Up to the present, research has borne on sources of mineral nitrogen (comparative studies of fertilizers) and on methods of supply so as to achieve slow liberation of the nitrogen and thus minimize losses through leaching. It is concerned also with the determination of the optimum timing of application, taking into account the relation between the rainfall and the activity of the root sys-

* Institut de Recherches des Huiles et Oléagineux.

Palm leaves and coconut husks heaped up between rows of palms. This has proved a very effective method of fertilising the soil of coconut groves on atolls.

Device used for giving liquid injections of manganese and iron salts.

tem. It is possible, moreover, that the raising of the nitrogen content may be facilitated by the simultaneous correction of deficiencies in manganese and iron. The study of nitrogen nutrition under atoll conditions is fundamental, since this element is the first agent limiting production. It is, therefore, essential to raise the content to ensure high yields on a regular basis.

Trace-Elements

Experiments have proved that the application of manganese or iron salts to the soil in the standard way is of little use: the absorption is small or nil. On the other hand, in respect of manganese particularly, the injection in solid form of 10 to 15 gr. of manganese sulphate per tree per year, has produced a substantial increase in the content in the fronds.

From a practical point of view, the method can now be used for extension work, since it is cheap and comparatively simple, although not the ideal solution.

To remedy the iron deficiency is a more delicate operation since, if the injection is to be effective, the palm must be in a period of vegetative activity, which is directly linked with the rainfall. Moreover, if the dose injected is comparatively strong—over 10 gr.—the fronds suffer burns whose severity is in proportion to the dosage, whereas if the dose does not exceed 10 gr., the increase in content in the fronds is short-lived.

An appreciable increase in yield is gained by correcting the iron and manganese deficiencies simultaneously. It is difficult, however, to determine at present, whether this is due to the manganese or to the iron, or to the interaction of the two.

Nitrogen, injected in the form of diluted urea, has had very little effect as far as can be judged from experiments on the station.

In another experiment, iron and manganese injections given to very chlorotic, practically fruitless palms, resulted in a marked improvement in the colouring, while the production went from an average of under one nut per palm in 1961, to sixteen nuts in 1962.

Spectacular and repeated results were also noted on young palm trees. Young palm trees recently planted in coral soils are almost always very chlorotic, and this condition lasts for many months until the extension of the root system is adequate. Repeated applications of manganese and iron salts to the husk prevented or corrected chlorosis in the young palm trees.

The importance of supplementary trace-elements, such as zinc and copper, for the nutrition of the coconut palms on coral atolls remains under study, and for the time being, nothing sufficiently definite has been observed. In the case of young coconut palms, only zinc has given some positive results, but these are still to be confirmed.

Solid injections of iron and manganese sulphate into the stem is a formula of unquestionable efficiency. Such a method, however, is unfortunately of limited use since it calls for drilling a new hole every time the treatment is repeated. Furthermore, the manual operation which involves the use of a brace and bit is time-consuming. Therefore investigations are continuing to develop an easier method for extension purposes.

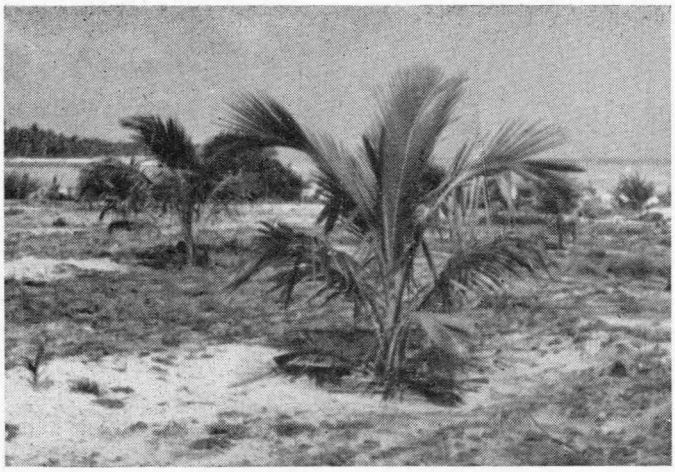
Replanting Of Groves

The general opinion is that 85% of the groves on the low islands should be replanted within the next 15 years. Apart from the problems of selection which this implies, precise detailed knowledge must be gained through experimentation in order to determine the rules to be advocated.

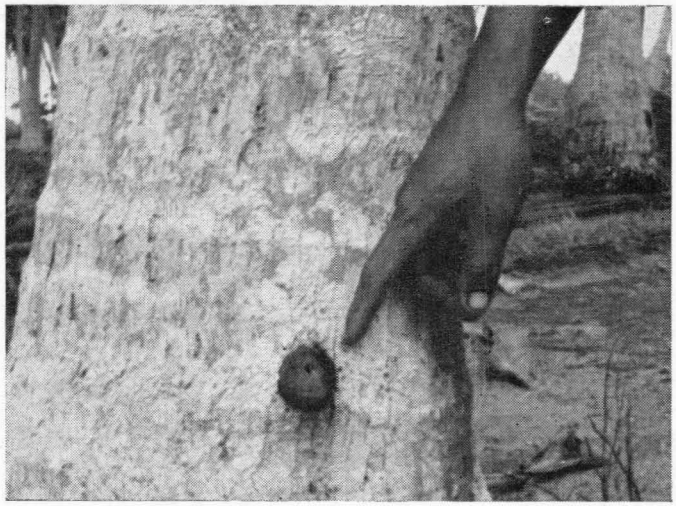
It is common, on atolls, to find overcrowded groves with 250 to 350 palm trees per "hectare" (2 acres), this excessively high density being one of the causes of poor yields. Experiments began in November 1961 with 3 different spacings: 128, 160 and 205 palm trees per hectare.

In a separate experiment, two different spacings—205 palm trees per hectare and 160 palm trees per hectare—are being compared with a control grove which has not been thinned out. The results should be of great practical value.

The Polynesian is often reluctant to fell his old palm trees in order to replant, even if their yield is practically nil. Therefore, investigations are being carried out to devise a formula for replanting after progressive and selective felling.



A young coconut grove recently planted on an islet of Rangiroa as part of the experiments undertaken by the I.R.H.O.



The trunk of this coconut palm has been injected with manganese and iron salts in solid form. The hole made to introduce the salts has been stopped with a wooden bung.

The results will make it possible to determine the right method to advocate as well as the rate to be adopted when doing away, gradually and selectively, with the old trees. The spacing adopted for the new growth is 160 palms per hectare.

Indeed, in the case of Polynesia, replanting is the immediate necessity and cannot await the results of long-term research.

Selection

No original research on the selection of coconut palms has been attempted on Rangiroa. In this field, the station is merely transposing the techniques and methods developed on other I.R.H.O. stations and adapting them to atoll conditions.

The practical method of selection advocated for the supply of seedlings is to look for high yielding genitors for atolls, with a vegetative aspect denoting a good adaptation to coral soils and bearing nuts containing at least 280 gr. of kernel each. This choice of genitors is followed by a second selection in seed-beds based on the standard criterion of the germination speed. Lastly, a third selection takes place at the nursery according to very strict criteria, to sort out and discard palms ill-adapted to environmental conditions.

Careful attention is paid to the way the young coconut palms develop in the nursery; and it is at this stage that adaptation to new combinations is tested to determine whether or not it will be useful to reproduce them later on in the seed gardens. An interesting proposal to be adopted at a later stage is the hybridization of dwarf and normal palms. This would be done by underplanting dwarf palms in a grove of normal ones. If the hybrids prove adaptable this system could be widely used in the future.

To date, findings indicate that selection must bear chiefly on local material well adapted to low islands, and that introductions as such are not of any great value.

Summary

In summary, the study of mineral nutrition in the very peculiar conditions on atolls is given priority in the research programme of the Rangiroa station.

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ACCELERATED CAMPAIGN AGAINST RHINOCEROS BEETLE

(Continued from page 37)

been designated as executing agent but the South Pacific Commission will have the responsibility for the practical conduct of the project including the engagement of staff.

Programme Of The Project

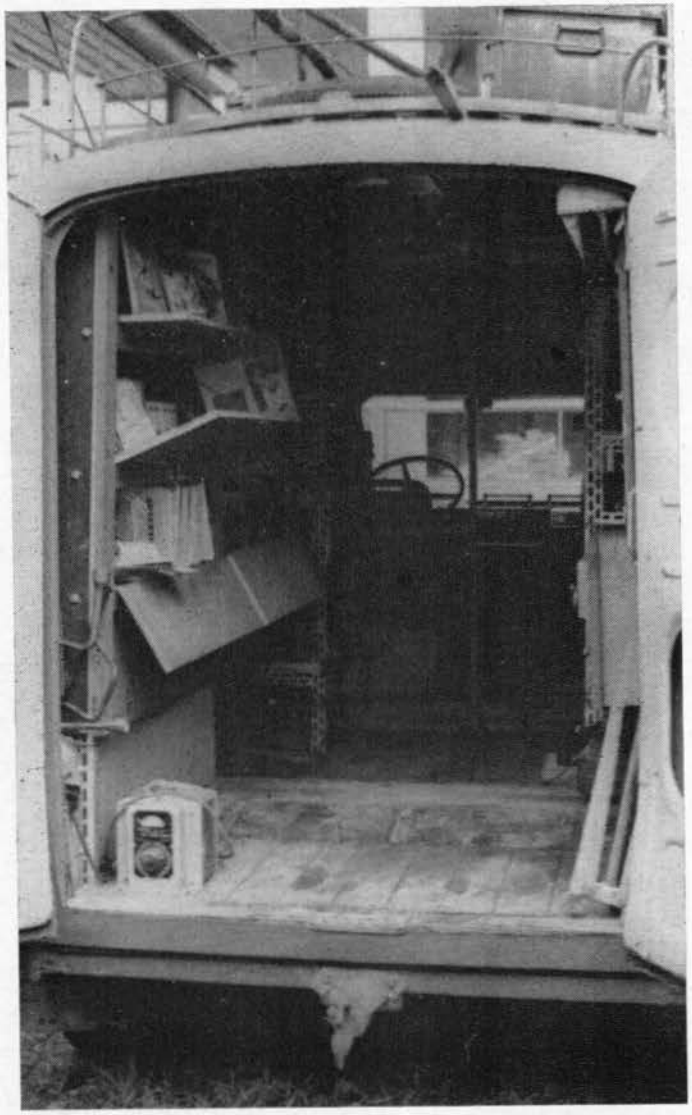
It is proposed to establish a Rhinoceros Beetle Operations Board composed of scientists and others with special knowledge of the problem. The Board will review, with the Project Manager, each year's programme and determine future activities year by year over the full period of the project. During the five years, a maximum of eight experts will be engaged at one time in actual field work. It is visualized, however, that a start will be made in 1964 with five experts comprising the Project Manager, two entomologists, an entomopathologist and an entomoecologist.

Although Western Samoa will be the main base, it is expected that investigations, next year, into the biology and ecology of *Oryctes rhinoceros* and related insects will extend to several other affected territories in the area. Another important part of the 1964 programme is likely to be devoted to the advancement of the work so far done on predators and parasites. This will entail evaluation of the effects of predators and parasites already present in the area, the search for additional predators and parasites and their introduction into the Pacific and the breeding, distribution and release of introduced predators and parasites. This will involve close collaboration between project staff and territorial administrations on the one hand and with scientific institutions on the other. Experiments in control with pesticides linked with replanting schemes as well as with vegetative barriers are also anticipated. Investigations in the field of pathology of *O. rhinoceros* and related insects will be undertaken in Western Samoa and possibly in Papua and New Guinea.

Finally, research contracts will be sought with outside institutions for specialized tasks and, as part of the training aspects of the whole project, fellowships will be awarded for accelerated training of local staff. The latter will be associated in the scheme with such activities as the breeding of predators and parasites, as laboratory assistants and in other capacities.

At this stage, the programme outlined above must be recognized as largely speculative pending the first meeting of the Control Board and the assumption of duty by the Project Manager. Between them, they will plan and organize the actual work.

There is no certainty as to the outcome of such an enterprise; but if this five-year project results in means of suppressing or limiting the depredations of a pest that has plagued the Pacific for more than half a century, a very important contribution will have been made to the economy of the South Pacific region.



The arrival of a "bibliobus" in a village gives rise to excitement.

The "Bibliobus" and Education in New Caledonia

By Michel Frouin*

As an adjunct to conventional methods, the Fundamental Education Department of New Caledonia uses a mobile unit called "bibliobus". This is a specially equipped vehicle that travels from village to village distributing books and screening films. Often, its personnel do actual supplementary teaching.

Inside a "bibliobus". On the left, bookshelves from which prospective buyers make their choice; on the right, cupboards containing film-projecting equipment.

THERE are various definitions of fundamental education. The purposes and objectives are everywhere practically identical, although the methods and the means used to achieve them may vary considerably. This is not surprising, since they must be closely adapted to the cultural, social and economic conditions of a given area.

New Caledonia and its Dependencies, the Loyalty Islands of Lifou, Maré and Uvea, have about 80,000 inhabitants. These are divided, approximately, into 24,000 Europeans, who reside in Nouméa and in rural centres, and 37,000 Melanesians, a small proportion of whom reside in towns, while the others live in tribes spread throughout the Territory. The number of people forming one community may vary from 70 to 400 persons.

Since schooling is practically universal and the French language widely spoken, the efforts of the Fundamental Education Department are not directed towards curing illiteracy. The main objectives are to spread ideas and knowledge which will create amongst the population incentive to improve the general standard of living, both materially and socially. At present, the Department concerns itself particularly with health and hygiene, both individual and collective, agricultural extension and the establishment of co-operatives.

Ending Rural Isolation

The first stage of the programme endeavours to bring the rural populations out of their state of isolation and to establish contacts in order to obtain their active participation. To achieve this, educators must have a thorough understanding of the people with whom they are working and of their environment, as well as keen devotion and a genuine interest in their problems and difficulties.

During the first three years of its existence, the Fundamental Education Department concentrated on:

1. The free distribution of magazines, brochures and various publications in order to develop a taste for reading amongst the population;
2. The sale of educational and recreational books;
3. The organization of free cinema shows; and
4. In more recent months, in reply to a wish expressed by many people, the setting up of lending libraries in various places in the Territory.

New Caledonia (250 miles long and 30 miles wide) and the three smaller Loyalty Islands all possess a reasonable network of roads, and this has made it possible to use specially equipped vehicles. At present, the Department runs three such vehicles, each called "bibliobus", equipped with the following:

—an electric generator (110 volts)
—a 16 cm. cinema projector with sound track, and a slide projector

* Director of the Fundamental Education Department of New Caledonia.

—a sound amplifier with record player and microphone
—two loudspeakers
—a screen
—a tape recorder
—an accumulator charger.

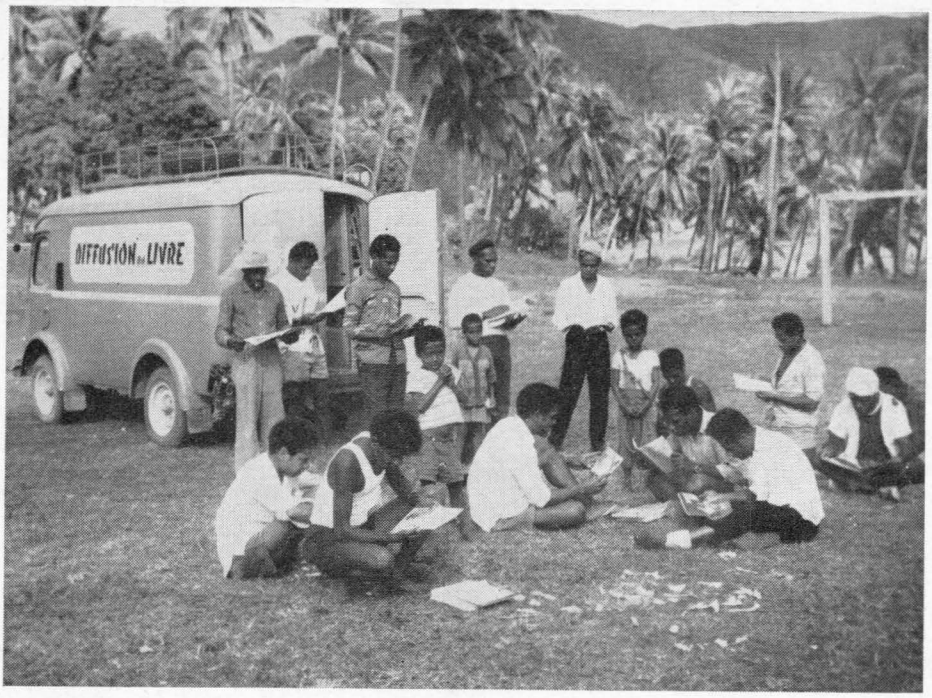
Shelves have been built in each vehicle to enable more than a hundred books to be carried. The books are purchased and resold at cost price, thanks to a special fund created with the help of the South Pacific Commission. All the vehicles have been equipped locally except a four-wheel-drive Land-Rover which was bought ready-equipped. A fourth vehicle is to be allocated to the islands of Lifou and Maré where, at present, facilities are more limited.

Apart from publications whose influence reaches only a limited section of the public, much use has been made of audio-visual aids which are vitally necessary in any educational programme, particularly when it is not possible to demonstrate with the original. Cinema shows provide an effective means of establishing contact with the population, their main purpose being to arouse general interest or to focus attention on some particular problem. The screenings are usually preceded by a commentary translated into the local vernacular. For actual teaching purposes, filmstrips or sets of slides are preferred. They enable the subject to be treated more slowly and in greater detail and give the speaker an opportunity to adapt his approach and his explanations to local circumstances and to the reactions of his audience. Finally, posters, diagrams and practical demonstrations help to illustrate talks given to small groups.

Finding Suitable Material

A real problem, which applies to publications as well as to films and filmstrips, is to find educational material adapted to local conditions and tastes. Fortunately, there are a few magazines and brochures published locally or for the South Pacific populations generally. For technical and financial reasons, it is difficult to make local films and these are in short supply. On the other hand, filmstrips and sets of slides are comparatively easy to produce. Naturally, care must be taken to adapt an existing script or to write a new one which will be acceptable to the New Caledonian population, and at the same time convey the desired message; then the appropriate photographs must be taken. The Fundamental Education Department is at present producing several sets of slides in the field of health education. The first set, on tuberculosis, was made with the assistance of a doctor and voluntary actors recruited in a community. With great talent and enthusiasm they enacted the story of a family whose members had tuberculosis, and showed the preventive measures to be taken.

The slides were then evaluated in different villages. Changes and improvements were made according to the comments and reactions of the audiences, who naturally were quite pleased to see on the screen scenes taken amongst their own people.



Book-lovers lose no time in dipping into their latest acquisitions.

Bibliobus Tours

The tour of a "bibliobus" usually lasts twelve to fifteen days, and is conducted by at least two members of the staff of the Fundamental Education Department. The staff of six includes two Melanesians who have spent some time in rural training centres in France. They were trained to become extension agents and have learned educational methods in the fields of agriculture and co-operatives. Apart from selling books, setting up libraries and conducting cinema shows, they are also able to give to the Melanesian population advice and encouragement in the improvement of their agricultural methods.

Sometimes, the tours last longer and the staff includes two experts, usually in the fields of health or agriculture. In this case the "bibliobus" stays at least two days with each community and the educational programme is more thorough.

For instance, during a recent visit to Lifou, the staff included medical social workers and a member of the Department of Agriculture. On the first evening, the women and young girls gathered together to hear a talk on the care and feeding of infants, followed by the projection of filmstrips and of a coloured film on the same subject. The next day the social worker visited the women in their homes to give them practical advice on the spot.

On the second evening the whole population gathered to listen to a talk on the improvement and maintenance of coconut groves, one of the main resources of the island, and on the operation and advantages of copra driers, several of which have been built in the area. The evening ended with a cinema show, the "Westerns" being greeted with the usual enthusiasm! The member of the Department of Agriculture stayed on for several days after the departure of the "bibliobus" in order to supplement his teaching through direct contact with the population.

Obviously, this is only one aspect of the task facing Fundamental Education. The main object must be to arouse increasing interest and to enlist the participation of various local leaders who will be able to carry on and develop the work initiated during the tours of the "bibliobus".

PRE-BANKING SYSTEM IN PAPUA AND NEW GUINEA

THE 1962-63 Annual Report of the Registrar of Savings and Loan Societies in Papua and New Guinea indicates the successful establishment there of a pre-banking system aimed at providing satisfactory introduction from the subsistence or part-subsistence level to a more orthodox banking system.

The Administrator of Papua and New Guinea, Sir Donald Cleland, commenting on the report, said the system would mobilise some of the savings of indigenous people to satisfy small-scale needs for capital. At the same time, participation

(Continued on page 45)

Social Welfare trainees learn to knit with wool donated by Country Women's Association clubs in Australia.

Partnership in Papua and New Guinea

By R. Thompson*

A conference of Welfare Officers in Port Moresby early this year reviewed progress in social development, health, welfare and sport brought about by voluntary work and co-operation in the Territory of Papua and New Guinea. This article gives an historical account of voluntary organizations in the Territory from the early missionary activities to the present day.

A MAJOR review of developments in the field of social welfare was made by Welfare Officers meeting in conference at Port Moresby early this year. The first of its kind, the Conference itself was a measure of governmental activity and interest in social development. Today there are 18 Welfare Officers at work in the Territory, assisted by 20 indigenous trainees. Even more notable is the remarkable growth in voluntary social work, brought about by the extension of metropolitan agencies to the Territory, and by a proliferation of locally sponsored organizations. Councils of Social Service are a striking indicator of this expansion of voluntary activity.

Mission Influence

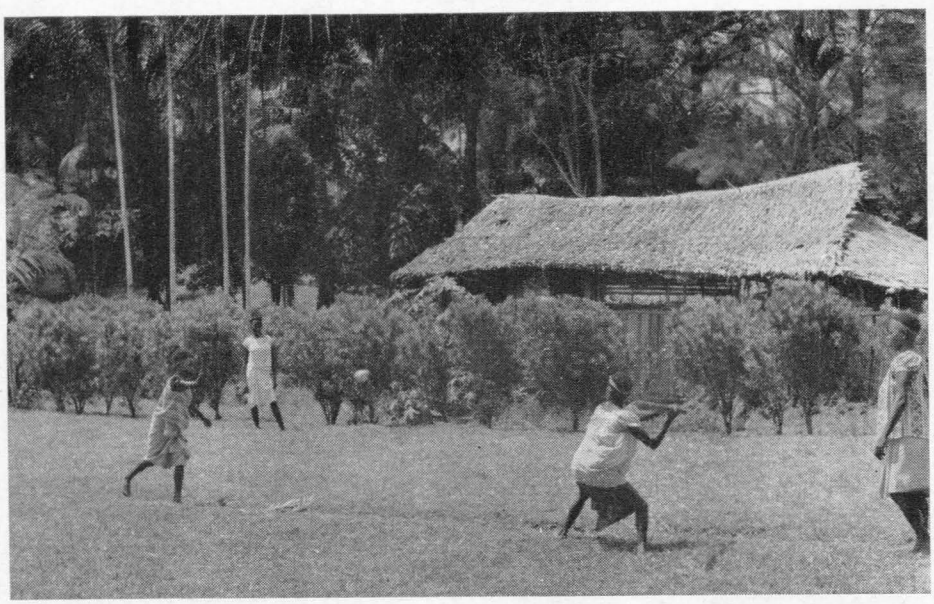
The springs of social welfare are deep-seated in the Christian Church in all its various guises. It is beyond the scope of any article to assess the work of the Christian Missions in this field, although, when one considers there are over 1,500 missionaries in the Territory, it is not surprising that their work permeates every aspect of development. They are partners with the Administration in health and education programmes and a biennial conference between their representatives and the Government provides an opportunity for periodic reviews of policy and plans.

Other Organizations

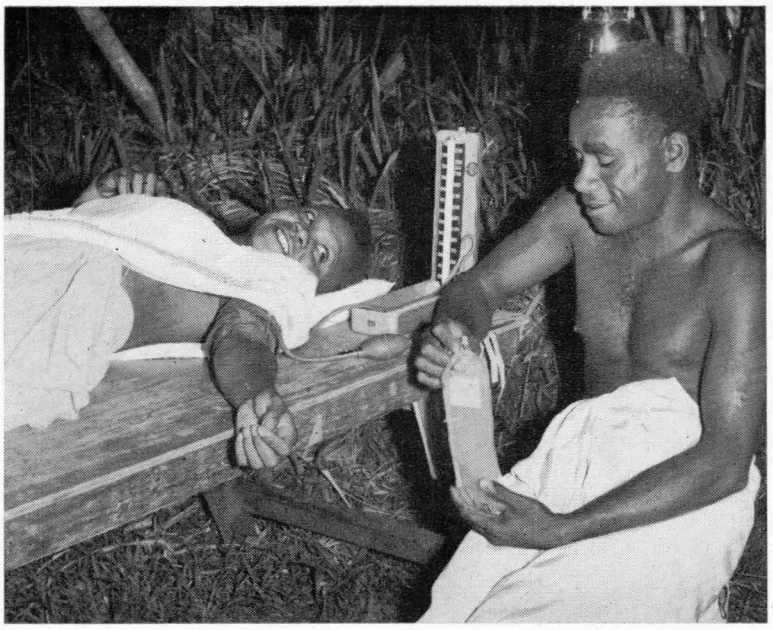
The first major voluntary agencies (apart from the missions) to be established in the Territory were the Red Cross Society, the Boy Scouts and Girl Guides, and the Country Women's Association. Today, the Y.W.C.A., Outward Bound, Apex, Rotary, Lions, Junior Chamber of Commerce, R.S.P.C.A. and others all make their contribution alongside a great number of organizations of local origin.

Perhaps the most outstanding achievement, among many, of Red Cross, is its blood-donor service. Now firmly established in several centres, with a full-time, qualified Director, the service owes a great deal of its success to the patient work of Red Cross nurses who overcame the natural reluctance of the indigenous people to lose their blood. Villages vie with each other to produce the greatest number of donors, and recently, in a small village near Port Moresby, over

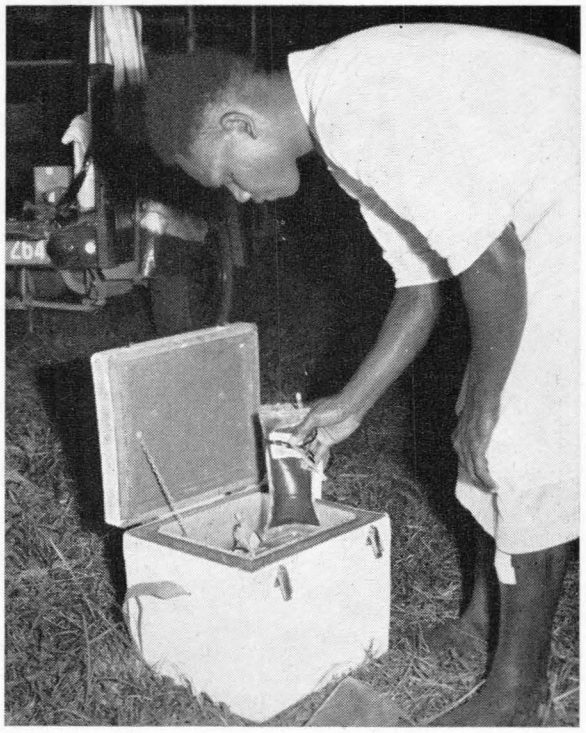
Introduced into the Territory by missionaries over a century ago, cricket has proved a popular sport.



* Executive Officer (Social Division), Division of Development and Welfare, Department of Native Affairs, Papua and New Guinea.



Woman blood donor and assistant at a village near Port Moresby.



Blood given in remote villages is packed for transport in the Red Cross van.

60 prospective donors queued up. The Red Cross Society has also organized 40 Junior Red Cross Circles, where 2,000 school-children are trained in Red Cross principles and carry out small service projects.

Another workmanlike organization, similar in aims to the Red Cross, is the St. John Ambulance Association, which started operations in 1958. Already, several thousand children and adults have been awarded First Aid Certificates and the organization looks forward to the day when it will be mature enough to take over all ambulance services in the Territory.

Service clubs, such as Apex, Rotary, Lions and Junior Chamber of Commerce, are of fairly recent origin. Apex Clubs have provided a blind girl with a house (built by the members themselves), a number of "humi-cribs" to help hospitals save premature babies, a projector and public address system for a Hansenide colony, playgrounds at three villages in the Port Moresby area and, each Christmas, thousands of toys to hospitals throughout the Territory.

Youth Work

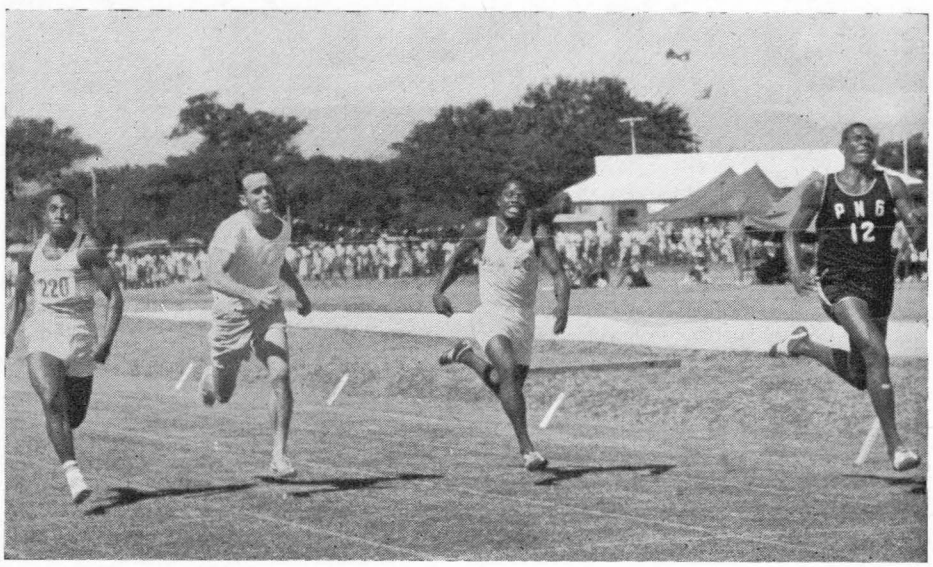
The most striking expansion has occurred in youth work and, today, there are four major youth organizations firmly established. The Boy Scouts and Girl Guides have a combined membership of 8,000, permanent staff and headquarters buildings, and are engaged in a forward-looking training programme. The Girl Guides impressed UNESCO sufficiently to attract a small grant towards their training programme. Indigenous commissioners and trainers are now operating in several Districts and plans have been prepared for a permanent Training Camp. The Administration assists with yearly grants-in-aid.

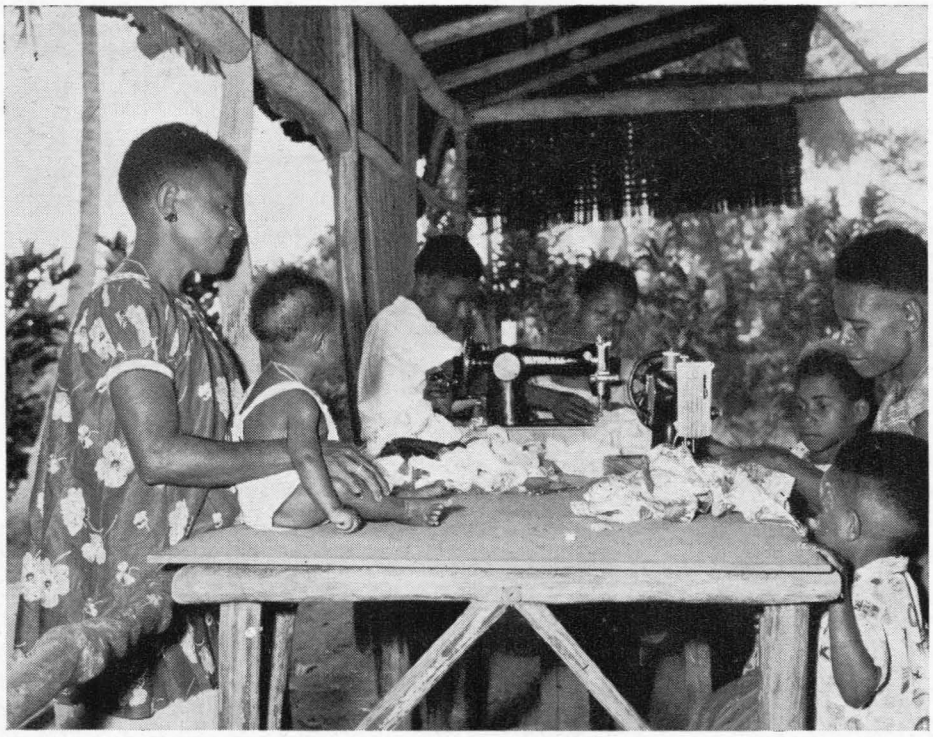
New in the Territory but wise in the ways of youth is the Young Women's Christian Association, which already boasts a headquarters building and a highly experienced organizing secretary. The Association is planning a 40-bed hostel for young women at Port Moresby and is engaged in a vigorous programme of adult education among girls and women. To help its budget it conducts a daily crèche in the town area.

Another newcomer is the Outward Bound Movement, which seeks to develop leadership in young men and women through rigorous physical tests. The movement has already sent a number of boys and girls to the Australian Outward Bound Camp near Sydney but is planning to establish its own camp in a rugged mountain area near Port Moresby.

The new emphasis on youth work is underlined by the appointment of youth workers to two major missions and the Administration.

Runners in the Territory Sports Championship.





Sewing machines provided by a Local Government Council in Sepik district.

Women's Interests

The Country Women's Association has a number of branches operating, some of which sponsor other women's groups. Australian branches of the C.W.A. have "adopted" women's clubs in the Territory and representatives from two clubs attended a C.W.A. Conference in Melbourne last year. Voluntary workers of all kinds have assisted indigenous women to establish 350 clubs with a membership of 15,000. Over 1,500 club leaders have attended training courses.

The enthusiasm for this type of social group was evidenced in the Gulf District recently when 750 women attended a two-day Club Rally. In the same district women's clubs are conducting a flourishing clothing business. There is general approval of a new badge scheme designed to cover all aspects of women's interests. Welfare Assistants patrol among the clubs, conduct leaders' courses, and guide office-bearers, but a great deal of the day-to-day work with clubs is done by missionaries, wives of expatriate residents, and trained indigenous leaders.

Guilds Revived

The growth of towns has led to the formation of a new type of voluntary organization, more closely akin to the "guilds" of the 18th century than to any modern form. Known as "Welfare Societies", they are designed to provide the new urban dweller with a buffer between him and some of the rigours of town life. The Societies visit sick members, provide small loans, conduct small-scale business ventures, and assist with employment. They give the new town-dweller the sense of belonging to which he is accustomed in rural areas. They follow no set pattern. The Western Welfare Association, for instance, has nearly one thousand members drawn from a number of tribal areas. Others are based on tribal affinity but, generally, the move is towards wider amalgamations. Some Societies are represented on the Council of Social Service, whilst, in Rabaul, a group of representatives meets with the Administration each month to discuss social problems.

Local Government Councils, although not strictly voluntary agencies, are playing a significant part in social welfare activities. Once they have completed their prime task of establishing basic health and educational facilities in their electorates they tend to devote sizeable appropriations to community welfare. Their aid takes many forms. Hundreds of radio sets have been distributed and an appreciable number of projectors and generators. They assist women's clubs with sewing machines, transport and buildings. They are currently assisting in the erection of five community education centres and give assistance to Boy Scouts, Girl Guides and other voluntary organizations. One Council employs a social welfare assistant and others plan to do so after the Territory Training Centre is opened.

Sport Is Vigorous

The early London Missionary Society pastors introduced cricket into the Territory in the latter part of the 19th century. Since that date, and particularly since the advent of Australian administration, sport in all its varieties has been enthusiastically taken up by the people of the Territory. Today, the main responsibility for sporting activities rests with a variety of voluntary organisations, although the Administration gives generous grants-in-aid and provides basic facilities in new areas. Sports Development Boards promote existing and new sporting groups in three main centres, whilst the major sports have Territory-wide controlling bodies. Attendance at the British Commonwealth Games in Perth last year has paved the way for strong Territory representation at the South Pacific Games this year.

Nature has been kind to the people of Papua and New Guinea and there is little of the grinding need and hunger known in other countries. There are few who lack kinsfolk to care for them in sickness or old age. At the same time, the Welfare Officers' Conference saw the need for the further development of what it called "social conscience". Whilst it is true that Pacific Islanders, with their closely-knit kinship systems and "built-in" social services, are perhaps more their brothers' keepers than their Western counterparts, few would claim the existence of a general awareness of social responsibilities at a wider or national level. The Conference felt that the present partnership of voluntary and statutory action gave good promise for the rapid development of this wider appreciation.

PRE-BANKING SYSTEM IN PAPUA AND NEW GUINEA

(Continued from page 42)

in the activities of these societies provided members with practical education in the handling of money, simple accounting and financial responsibility.

Sir Donald said that the existence of the small savings and loan societies followed two years of investigation by the Reserve Bank of Australia into the financial needs of the people of the territory. The Reserve Bank was in fact maintaining and staffing the Registry of the societies.

The specific purposes of the societies included:

To help foster the habit of thrift among the people;

To provide financial help for members;

To provide facilities for small loans for acceptable purposes when it was not practicable for other financial organizations to make such loans;

To play some small part at least in prospering capital formation in the territory; and

To provide society members with a useful means to further their own development.

Cook Islanders grade mandarins in the Government grading and packing shed on Rarotonga, where fruit is processed for export by modern methods.

The Cook Islands

Too much water and too little land are the causes of most of the problems facing 19,000 New Zealanders in the Cook Islands. Great expanses of ocean separate these fifteen islands from each other and from the outside world; their lack of acres limits natural resources and development prospects alike and creates a risk of overpopulation. This article describes the history and economy of the Cook Islands, and how they are gradually being developed to make the most of their natural resources.

By Peter Hodge

WITHIN the boundaries of the Cook Islands are 850,000 square miles of water but only 93 of land—9,140 square miles of ocean for each square mile of land. If the Territory's fifteen islands were lumped together and charted on a foolscap page to a common scale (1:63,000,000—one inch to 1,000 miles) they would cover not quite 1/100 of an inch; less than a pin-head.

The Cooks are in two distinct groups. The southern group, extending from 19 to 22 degrees south, and from 158 to 160 degrees west, comprises eight islands: Rarotonga, Aitutaki, Atiu, Mitiaro, Mauke, Mangaia, Manuae and Takutea. The northern group, 8 degrees to 18 degrees south, and 158 to 166 degrees west, has seven atolls: Penrhyn, Manihiki, Rakahanga, Pukapuka, Palmerston, Nassau and Suwarrow.

Except for Manuae, a coral atoll, the southern islands are volcanic in origin, with hilly or mountainous interiors surrounded by fertile lowlands. All are encircled by coral reefs and most have a raised coral reef, just inland from the coastline.

A young Cook Islands woman at work in one of the two clothing factories on Rarotonga.

The northern islands are all typical coral atolls.

The principal natural asset of the Cook Islands is the southern group's volcanic soil, in which tropical produce grows rapidly. Unfortunately, good soil is not plentiful. One-third of Rarotonga's 16,602 acres is suitable for annual crops of trees. Elsewhere the area varies from a half to six-sevenths of the island's extent. In the northern islands the surface material is mainly coral rubble and sand.

The climate of the southern group is mild and equable for most of the year. In 1961 Rarotonga's mean annual temperature was 75.1 degrees Fahrenheit (24 degrees Centigrade) and rainfall 68.43 inches. Rainfall in the southern islands is adequate.

The northern islands have a warm climate tempered by almost continuous winds from the sea. Rainfall is by no means dependable and, because the people depend on tanks fed by roof catchments for water, there is some risk of drought.

History

Rarotonga is believed to have been settled by Polynesians from Samoa and Tahiti about 27 generations (700 years) ago.

The first Europeans were two Spanish navigators: Mendana, who discovered Pukapuka in 1595, and Quiros who sighted Rakahanga in 1606. Captain

The Assistant Medical Officer on Penrhyn Island lives next door to his work. The farther of the two concrete buildings is the A.M.O.'s house, and the nearer is the island dispensary.

Students at Tereora College, Rarotonga, the principal secondary school of the Cook Islands, travel to and from school by Education Department bus.

Cook discovered Manuae in 1773, Palmerston in 1774, and Mangaia, Atiu and Takutea in 1777. Penrhyn was discovered by Severn in 1788, Aitutaki by Bligh in 1789, Rarotonga by the *Bounty* mutineers later that year, Suwarrow by Lazarevu in 1814, and Manihiki by Patrickson in 1822. Finally, the Reverend John Williams of the London Missionary Society called at Mauke and Mitiaro in 1823.

Missions were established on most islands in the southern group and until 1891 the Cook Islands were virtually governed by the London Missionary Society.

In 1888 the southern group became a British Protectorate, and a British Consul, replaced in 1890 by a Resident, was stationed in Rarotonga. The Resident established island councils in the southern islands, and a federal parliament and an executive council centred on Rarotonga.

Following a petition from the chiefs of Rarotonga, Atiu, Mauke and Mitiaro, the federal parliament was abolished. In 1901 both the northern and southern groups became part of New Zealand.

The People

The Cook Island Maoris are closely related to the New Zealand Maoris, the main body of whom are believed to have set out from Rarotonga for New Zealand. Maori is the vernacular language and official publications are printed in both English and Maori.

At the last census, in September 1961, the population was 18,378, comprising 17,993 Maoris and 385 Europeans. There were 9,454 males and 8,924 females. In recent years the annual rate of natural increase has been about 4 per cent. Age distribution is well balanced and seems to be little affected by emigration to New Zealand. Some outer islands appear to be losing young adults to Rarotonga, however.

The effectiveness of Cook Island health services is attested by the high proportion of children under 15, almost 50 per cent of the population. Contributing to this situation is a low infant mortality rate, which has dropped from over 100 deaths per 1,000 live births during the ten years 1949-1958, to 34.33 in 1960 and 48.67 in 1961.

Government

The Cook Islands are administered, under the control of the Minister of Island Territories in Wellington, by a Resident Commissioner appointed by the Governor-General of New Zealand. The principal administrative officer is the Secretary to the Government. In the outer islands, Resident Agents are responsible to the Resident Commissioner for all aspects of administration.

A Legislative Assembly makes laws and controls expenditure of revenue and of subsidies from the New Zealand Government. It comprises the Resident Commissioner as Chairman, 14 members elected by secret ballot under universal suffrage, seven members appointed by

There is no need to take children to the dentist on Rarotonga. The Health Department's mobile clinic, staffed by a Cook Islands dental nurse trained in New Zealand, is taken from place to place.

Children attending Nikao School, Rarotonga, receive doses of Sabin polio vaccine.

the island councils of Rarotonga, Aitutaki, Atiu and Mangaia, a member elected under universal suffrage by European voters, the Secretary to the Government, the Treasurer, and two other official members appointed by the Resident Commissioner. Separate European representation will be abolished this year and official members will eventually be withdrawn.

The Resident Commissioner is advised by an Executive Committee comprising himself, seven members of the Legislative Assembly elected by the other members, the Secretary to the Government and the Treasurer.

Cook Islands children have a reading lesson on the verandah of Omoka village primary school on Penrhyn in the Northern Group.

The Executive Committee is the most recent instalment of a scheme for full internal autonomy within New Zealand. At an early date it will be succeeded by a Cabinet, or policy-making body which, because of the smallness of the Territory, will have collective responsibility rather than individual responsibility through portfolios. The Legislative Assembly desires this system and also wants the Cook Islands to remain as part of New Zealand.

Councils of ex-officio and elected members in the main islands make by-laws for the imposition of tolls, rates, etc., to establish village councils, and to establish, carry out or acquire public works and services.

A Public Service of 948 permanent officers including teachers (849 islanders and 99 imported officers) in 14 departments is responsible for all administrative functions. Although most senior positions are held by overseas officers it is policy that Cook Island Maoris should take an increasing share in administering the Territory.

New Zealand Government departments provide specialized services and technical assistance when required. Valuable assistance is also received from the South Pacific Commission, the South Pacific Health Service, and the Central Medical School in Fiji, which makes training courses available to island students.

The judiciary comprises the High Court of the Cook Islands, which has both civil and criminal jurisdiction, and a native land court that deals with all matters appertaining to native lands. On the outer islands Resident Agents act as commissioners of the High Court. Appeals from their decisions are made to the High Court, and against a final judgment of the High Court to the Supreme Court of New Zealand. Appeals against decisions of the Native Land Court are made to the Native Appellate Court of the Cook Islands.

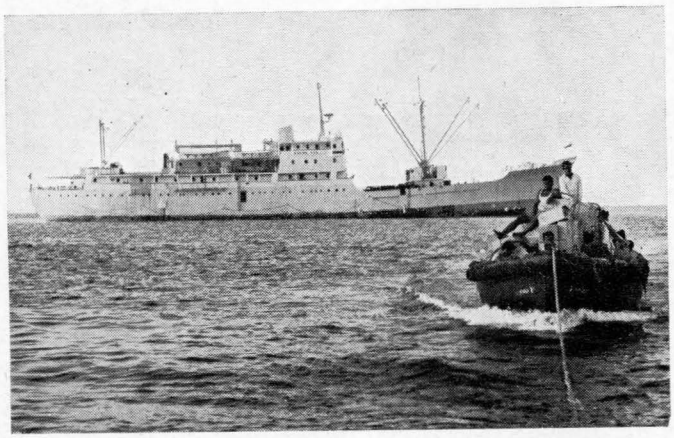
The Economy

A narrow range of export crops provides much of the Territory's cash income. In 1962 principal exports were:

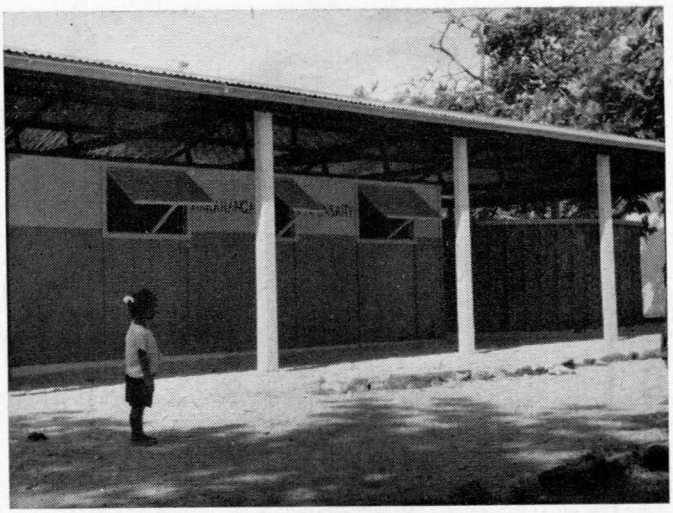
Citrus fruit	82,120 cases
Bananas	4,588 ,,
Pineapples	5,706 ,,
Fruit juice	306,809 gallons
Tomatoes	68,068 cases
Copra	1,027 tons
Mother-of-pearl shell	99 ,,

The total value of exports was £710,653, compared with £598,184 in 1961, an increase of £112,469 or almost 19 per cent.

Total citrus production, comprising fresh fruit for export as well as fruit processed for juice, almost equalled the Cook Islands' record of 22,857 bushel cases, made in 1924 when the production of wild oranges was at its peak. By 1951



The New Zealand Government's 2,750-ton motor ship, Moana Roa lies at anchor off Avarua, the port of Rarotonga, while cargo is taken ashore in lighters.



Villages in the Northern Group depend on tanks fed by roof catchments for their water supply. This large iron catchment on Rarotonga covers the island's dispensary as well as supplying a communal tank.

production had sunk to 20,000 bushels. It is expected that the record will be exceeded this year. This achievement is the result of a Government citrus replanting scheme.

The Government of the Cook Islands is following a policy of making full use of the resources of naturally productive islands with higher populations and satisfactory port facilities, and of finding suitable industries or crops to develop for the poorer islands.

Developmental Projects

Projects initiated by the Cook Islands Assembly, with help from special development funds provided by the New Zealand Government and from other sources, include:

Establishing a coffee crop on the island of Mangaia, which involves planting out 30,000 trees a year for seven years.

The pineapple industry on Mangaia is being revitalized by importing 30,000 shoots of high-quality smooth cayenne pineapples to replace existing plants, which do not produce the most suitable fruit for canning.

A land development scheme for 400 acres of previously disused fern land on the island of Mauke has been undertaken and a promising crop of peanuts commenced. A similar project is intended for Atiu. Seedlings of pepper, macadamia trees and pimento are to be planted on Mitiaro, which is incapable of producing any of the usual major export crops.

An expert has been appointed to raise the quality and quantity of copra exports from the outer islands.

A replanting scheme has led to greatly increased banana growing on Rarotonga, and exports should rise considerably.

Facilities for inter-island schooners at Avatiu, Rarotonga, are being improved.

Recent developments in the islands' economy also include building and equipping a Government citrus grading and packing shed and cool store on Rarotonga, where fruit is processed for export by modern methods. Adjacent to the citrus shed is a modern canning factory, established and operated by private enterprise, where second-grade citrus, pineapple and other fruit is processed for juice.

A modern nursery, having a large shade house and a polythene house with a mist-propagation unit and growing-on frames, has been established to supply seedlings and plants for new forestry and plant crops.

Secondary industry is becoming increasingly important on Rarotonga, where immigration from the outer islands is increasing the number of people without land. Two clothing factories on Rarotonga will eventually employ 365 islanders, and other firms make jewellery and wigs.

To make the most of marine resources, trials and experiments have been made by the Government's fisheries officer over the past few years.

Research on pearl shell, which is commercially worked in the northern islands of Penrhyn and Manihiki, has produced data which will enable it to be effectively conserved. It is hoped that pearl shell can be introduced to the lagoons of other northern islands.

Experiments are also being made to establish more methods of fishing suitable for local use. A small fishing canoe, economical to produce and well suited to local conditions, has been designed, built and tested.

Sixty-seven co-operative societies, dealing with a wide range of activities, have total funds of £41,299. A co-operative bank invests money in worthwhile enterprises.

Sea transport is essential to the economy. The Government is trying to ensure good local services by licensing and subsidising suitable vessels. A regular service between the islands and New Zealand is provided by the New Zealand Government's 2,750-ton, 13¼-knot motor ship *Moana Roa*. Specially built for the islands run, the *Moana Roa* has a cargo capacity of 85,000 cubic feet, including refrigerated space, and accommodation for 40 passengers.

Education

Free and secular primary education is provided by the Government and by churches in all permanently settled islands. It is compulsory for children between the ages of six and sixteen years. One school in Rarotonga, staffed by New Zealanders, caters for English-speaking children of all races and has a full New Zealand primary syllabus. All other Government primary schools have Cook Islands head teachers and staff and use English as the medium of instruction after the first two or three years, although the Cook Islands language and culture remain in the curriculum. Most teachers are trained in Rarotonga; a number of islanders have trained or are training as teachers in New Zealand on New Zealand Government scholarships.

Selected children receive free secondary education at Tereora College, a New Zealand-staffed Government school on Rarotonga, and at a junior high school on Aitutaki, established in 1963. This year 248 pupils are attending Tereora College, where twelve passed the New Zealand School Certificate examination last year, and 44 are at New Zealand secondary schools on New Zealand Gov-

(Continued on page 56)

The Work of the South Pacific Commission, July-September, 1963

The Commission advises Governments and Territorial Administrations and provides technical assistance in the fields of health, social develop-met and education, and agricultural and economic development in the South Pacific region. Its Work Programme for 1963 was laid down at the XXIVth Session, October 1962.

THE main events of the quarter were:

● The opening of the **Training Course in Home Economics** for community work at the SPC Home Economics Training Centre, Sambula, Fiji, on 23rd September. The Course will last until August, 1964, and is being attended by specially selected women trainees from American Samoa, the British Solomon Islands Protectorate, the Cook Islands, Fiji, Guam, the Gilbert and Ellice Islands, Nauru, New Hebrides, Niue, Papua and New Guinea, Tonga and the U.S. Trust Territory of the Pacific Islands. The Course has been made possible through the collaboration of the Food and Agriculture Organization of the United Nations as trustee of funds provided by the Australian Committee of the Freedom-From-Hunger campaign. The Government of Fiji made available the site for the Training Centre.

● Information was received from the Food and Agriculture Organization of the United Nations that SPC (as sub-contractor to FAO) will be in full charge of the execution of the joint SPC-UN Special Fund project for the **eradication of the Rhinoceros Beetle** and related insect pests of the coconut palm.

● An **Inter-Territorial Education Seminar** on teacher-training programmes was held at Apia, Western Samoa, from 2-11 September, attended by participants from Western Samoa, American Samoa, Fiji and Niue and by Mr. D. Owner, Chief of the Division of Teacher-Training, Department of Education, Papua and New Guinea, as consultant.

● An **expert on Fisheries,** Professor Doumenge of Montpellier University, began visits to American Samoa, Tonga and the New Hebrides to give technical advice.

● The Commission was represented at the Regional Committee of the World Health Organization at Port Moresby and at Conferences on **Tropical Medicine** and **Leprology** at Rio de Janeiro, Brazil.

● SPC Economist, R. White, began an **economic survey of Niue.**

● Draft programmes of work in the fields of Health, Economic Development and Social Development for 1964 were prepared for approval and financing by the Commission at its XXVth Session in October.

HEALTH

The programme includes activities relating to:

Public Health (urban and rural),
Health Education,
Maternal and Child Health,
Nutrition,
Training,
Epidemiology,
Research,
Health Information.

The joint WHO/SPC Survey Team (Dr. L. Verstuyft and Miss M. Farland) on **Maternal and Child Health** services spent some weeks at headquarters completing reports on the Polynesian territories visited and then proceeded to Guam and the Trust Territory of the Pacific Islands, which are the last territories to be covered.

Research on **fish toxicity** continued in co-operation with the University of Hawaii.

Research on **eosinophilic meningitis** continued in co-operation with the Institut Français d'Océanie, Nouméa, the University of Hawaii, and the National Institutes of Health, U.S.A.

Dissemination of **health information** generally and **health education** subjects was maintained regularly.

A programme of **Health Education** for New Caledonia was discussed at a meeting at SPC headquarters comprising representatives of the New Caledonia Health Services and the Health Section of SPC.

Detailed proposals in the field of Health for the Commission's **Work Programme for 1964** were circulated to Commissioners.

JULY

Dr. L. Rosen, Director of the Pacific Research Section, U.S. National Institutes of Health, accompanied by M. Jean Tapu of the Institut de Recherches Médicales, Tahiti, arrived at Commission headquarters to undertake field work on a survey on **virus diseases** in New Caledonia and the New Hebrides.

Mr. and Mrs. M. T. Hollingsworth, formerly of the Education Department of American Samoa, arrived at headquarters to produce a health education **film on intestinal parasites** for the Commission.

AUGUST

The Executive Officer for Health, Dr. Guy Loison, left for Brazil as SPC representative to the Seventh International Congresses on **Tropical Medicine** and **Malaria** and the Eighth International Congress on **Leprology.**

Health Education Officer, Miss L. Geisseler, proceeded to Tahiti to direct courses in **health education.**

Health Education Officer, Mrs. H. de Hollanda, carried out field work in New Caledonia.

Mr. and Mrs. Hollingsworth continued with location shots and other work on the health education film.

Dr. S. Haraldson of WHO visited headquarters for talks en route to Apia, where he has been appointed for two years as **Public Health Adviser** to the Government of Western Samoa.

M. le Pharmacien-Commandant Jardins called at headquarters en route to Tahiti to undertake a FAO-sponsored survey on **school gardens.**

SEPTEMBER

Executive Officer for Health, Dr. Guy Loison, returned at the end of the month from conferences in Brazil. En route he contacted institutions at Honolulu and elsewhere in the United

States concerned with health problems of the South Pacific.

Health Education Officer, Mrs. H. de Hollanda, visited the British Solomon Islands Protectorate to have discussions with the Territory's health educator.

Dr. R. A. Chappel, Medical Officer, attended the WHO **Western Pacific Regional Committee** Meeting at Port Moresby and the Third Inter-Territorial **Malaria Conference** at Honiara.

Dr. I. C. Fang, Regional Director, WHO Regional Office at Manila, visited headquarters for discussions.

M. Lainé-Milne, Sanitary Inspector, New Hebrides, proceeded to Fiji for a month's study tour on **fly control** methods.

Publications:

Publication of three Technical Papers (139-141), **The Incidence of Angiostrongylus cantonensis among Rats and Mollusks in New Caledonia and Nearby Islands and its Possible Relationship to Eosinophilic Meningitis, The Cuts of Copra Cutters, Fish Intoxication: Notes on Ciguatera, its Mode of Action and a Suggested Therapy,** was put in hand. A **Health Education Newsletter** and **Health Information Circulars** were distributed.

ECONOMIC DEVELOPMENT

The programme includes activities related to:

Plant Production Improvement,
Animal Production Improvement,
—Fisheries,
—Animal Husbandry,
Plant and Animal Protection,
Economic Affairs,
Training,
—Boat Building,
—Agricultural Extension,
—Business and Elementary Economics.

Considerable time and effort was devoted during the quarter to preparatory work associated with the accelerated **Rhinoceros Beetle** control project which, with U.N. assistance, will be inaugurated in January, 1964, over a 5-year period.

Detailed proposals in the field of Economic Development for the Commission's Work Programme for 1964 were circulated to Commissioners.

JULY

An outline of a draft programme of work for the first year of the **Rhinoceros Beetle** Project was circulated to members of the Committee of Consultants and inquiries for a suitable Project Manager were pursued.

Economist, Mr. R. C. White, of the Reserve Bank of Australia, took up duty with the Commission under a three-year contract.

Fisheries Officer, Mr. L. C. Devambez, returned after a mission to the Trust Territory of the Pacific Islands and working visits to Hawaii, Tahiti and Fiji.

Entomologist, Mr. A. Catley, on loan from the Administration of Papua and New Guinea, continued field work in Nigeria on **predators and parasites** of the Rhinoceros Beetle.

Entomologist, Dr. C. P. Hoyt, continued similar field work in South-East Asia.

Mr. Fa'Asuaga Fuimaono of the Department of Agriculture, Western Samoa, completed a SPC-assisted **study tour** of the British Solomon Islands Protectorate and the Territory of Papua and New Guinea where he studied **cocoa processing and production.** In Papua and New Guinea, besides covering cocoa production and copra work, Mr. Fuimaono was able to observe work on hybridisation of temperate and tropical types of cattle as well as work on rubber, rubber processing and coffee.

AUGUST

A third SPC entomologist, Dr. A. Huger of the *Institut für Biologische Schädlingsbekämpfung* of Darmstadt, commenced field work in Malaya in connection with the **Rhinoceros Beetle** control project, and SPC entomologists, C. P. Hoyt and A. Catley, continued field work in the Philippines and West Africa, respectively.

Dr. R. Robbins of the Australian National University and Dr. Chambers of Melbourne University arrived at headquarters in the course of **rain forest studies** relating to the Pacific area.

Dr. H. C. Brookfield, also of the Australian National University, spent several days at Commission headquarters in the course of a **geographical study.**

Entomologist, Dr. Spencer W. Brown, of Berkeley University, arrived for **insect studies** in New Caledonia.

The Curator of the Oak Ames Herbarium, Harvard University Botanical Museum, Dr. Leslie Garay, was based at headquarters during a **plant collection** tour of New Caledonia.

Dr. Douglas Yen, **Crop Research** Division, New Zealand Department of Scientific and Industrial Research, was based at headquarters during a botanical survey.

Economist, Mr. R. C. White, began an **economic survey of Niue.** He also visited Fiji, Western Samoa and American Samoa for discussions.

The Executive Officer for Economic Development, Dr. J. Barrau, visited Wallis Island to advise on **plant production problems** and Fiji to **investigate sources of plants** needed for Wallis.

SEPTEMBER

Dr. P. S. Green of the Arnold Arboretum, Harvard University, arrived for **botanical research work** occupying approximately a month.

Mr. J. M. Warren, Fisheries Officer of the Department of Agriculture, Fiji, with SPC assistance, visited Honolulu and Tahiti to acquaint himself with **fishing techniques** and various fishing methods, including knowledge of deep handlining, flaglining, live-bait fishing, baiting operations and fishing gear.

SOCIAL DEVELOPMENT

The programme includes activities relating to:

Literature Promotion,
Territorial Library Development,
Education,
—Assistance (study visits, specialists, seminars),
—Research centre, preparation of plans,
—Language teaching,
Community Education and Self-Help,
Co-operatives,
Promotion of Applied Research,
—Urbanization,
—Handicrafts,
—Vital Statistics,
Social and Labour Problems,
—Labour,
—Housing,
South Pacific Games,
Social Development Clearing-House.

A considerable amount of the Section's work during the period was concerned with preparations for the opening of the **Home Economics Training** Course.

Detailed proposals in the field of Social Development for the Commission's **Work Programme for 1964** were circulated to Commissioners.

JULY

Literature Production Technical

Officer, A. M. Koenen, visited Western Samoa to assist with initial operation of new printing equipment and follow-up activities with former trainees of the **Literature Production Training** Centre.

Social Development Assistant, A. McBean, visited Tonga, Niue and Western Samoa in the course of **handicrafts** survey.

Home Economics Officer, Mrs. E. Eden, visited Western Samoa for consultations.

Co-operatives Specialist, R. H. Boyan, returned to headquarters following conclusion of a **training** course for secretary-treasurers of **co-operative societies** in the New Hebrides.

Urbanization Research Information Centre Officer, Dr. J. V. de Bruijn, commenced visits to Tahiti, American Samoa, Western Samoa and Tonga.

AUGUST

Executive Officer for Social Development, Dr. R. Seddon, visited Sydney in connection with **Literature** Bureau matters.

Urbanization Research Information Centre Officer, Dr. J. V. de Bruijn, visited New Hebrides for talks on **urbanization** and related matters.

Executive Officer for Social Development, Dr. R. Seddon, accompanied by Mrs. Seddon, left for Fiji to represent the Commission during the **South Pacific Games.**

Social Development Assistant, Mr. A. McBean, continued **handicrafts** survey in French Polynesia.

Literature Production Technical Officer, A. M. Koenen, continued work in Western Samoa on publication matters.

Literature Bureau publications during the period included:

A Guide to Pitcairn

Arts and Crafts Handbook

A New Hebridean Handbook

Meetings for Everyone

and a number of visual aids in the form of poster productions.

All of these were arranged on behalf of territorial administrations.

SEPTEMBER

Inter-Territorial Education Seminar on **Teacher Training,** Apia, Western Samoa, 2-11 September, attended by participants from Western Samoa, American Samoa, Fiji and Niue. The Commission arranged for Mr. D. Owner, Director of Teacher Training in Papua and New Guinea, to attend as consultant.

Social Development Assistant, A. McBean, returned to headquarters to complete reports on **handicrafts** survey.

Literature Production Technical Officer, A. M. Koenen, returned to headquarters to complete reports prior to conclusion of service with the Commission.

Training Course in Home Economics opened at Suva under the direction of Women's Interests Officer, Miss Marjorie Stewart, Home Economics Officer, Mrs. Elizabeth Eden, and Assistant Losalini.

Mr. Paulias To Nguna, Assistant Education Officer, Papua and New Guinea, undertook tour to British Solomon Islands Protectorate, New Hebrides and Fiji for study of comparative problems and methods followed in meeting them.

GENERAL ADMINISTRATION

The Provisional Budget for 1964 and programme proposals in Health, Economic Development and Social Development were completed and circulated to Commissioners.

The Secretary-General, Mr. W. D. Forsyth, made official visits to Western Samoa, American Samoa, Fiji and Canberra during July. He discussed SPC activities with Prime Minister Mata'afa of Western Samoa, the New Zealand High Commissioner, Mr. Wright, and various heads of department, including Mr. B. E. V. Parham, Director of Agriculture (particularly arrangements for the Rhinoceros Beetle Project) and made contact with international experts from U.N. agencies stationed at Apia as advisers to the Government of Western Samoa. In American Samoa, through the courtesy of the Acting Governor, Mr. Aspinall, he discussed SPC activities with several heads of department, and in Suva and Canberra had discussions with the Senior Commissioner for the United Kingdom, Sir Kenneth Maddocks, and the Senior Commissioner for Australia, Mr. R. Swift, as well as with senior officials concerned in both places. In August, he made an official visit to the New Hebrides and had discussions with the French Resident Commissioner, M. Delaunay, and the British Resident Commissioner, Mr. Wilkie, and senior officials.

Visitors during the period included:

Sir David Smith, distinguished New Zealand jurist and former Chancellor of Victoria University of Wellington.

Dr. Alice C. Dewey, Associate Professor, University of Hawaii, in course of sociological survey.

Professor J. Hollyman, Associate Professor of French at Auckland University and President of the New Zealand Linguistic Society, to study a group of Melanesian languages in the Koumac area in the northern part of New Caledonia.

Professor O'Connell, Dean of the Faculty of Law, University of Adelaide, who has been making a study of legal aspects of the New Hebrides Condominium.

Publications issued during the quarter included the July edition (in English and French) of **South Pacific Bulletin,** three issues of **South Pacific News,** and a number of press releases. Other publications in course of preparation during the quarter were the printed editions (in English and French) of the **Annual Report** for 1962 and three **Technical Papers** for the Health Section.

TRAINING COURSE IN HOME ECONOMICS FOR COMMUNITY WORK

TOWARDS the end of September twenty young Pacific Island women from twelve South Pacific territories commenced a one-year training course in home economics for community work. The establishment at Samabula, Suva, of the Home Economics Training Centre by the South Pacific Commission in collaboration with F.A.O. and the Government of Fiji marks the first step in the development of a multi-purpose Community Education Training Centre for the South Pacific Region.

The establishment of the Centre is a further example of collaborative effort in that the buildings have been provided by the Government of Fiji while all other costs are being met jointly by the Commission and by F.A.O. acting as trustee of funds being provided by the Australian Committee of the Freedom from Hunger Campaign.

The major purpose of this first Training Course in Home Economics for Community Work is to provide training for prospective area organizers of women's interests and other personnel who, after successfully completing the course, will return to appropriate appointments in their home territories.

The curriculum of the Course includes not only the principal home economics interests—food production, foods and nutrition, home management and improvement, clothing, family health—but also the principles and practices of community education, club organization and programme planning, and recreational activities.

Particularly noteworthy has been the extent of territorial interest in the opportunity being provided for this type of

(Continued on page 58)

Three trainee librarians beside the PICS library, which occupies two-thirds of the building on the left.

The Pacific Islands Central School Library

By Dan Peacock

During 1962 Mr. H. V. Bonny of UNESCO made a survey under SPC auspices of existing and potential library development in the South Pacific area. Readers of his subsequent report will be interested in this account of a flourishing school library in the Trust Territory of the Pacific Islands.

WHEN the Pacific Islands Central School moved from Truk to Ponape in 1959 it was hoped that the new location would provide greater opportunity for the expansion of all phases of the school's instructional programme. Four years later, this hope has become a reality. The school has grown as anticipated: enrolment is larger, facilities have increased, and the curriculum has been expanded, especially in the sciences, agriculture, and commercial subjects.

One of the first buildings completed, the library has seen a great deal of use since the school opened. In fact, when the first students arrived on the new campus they did not have to wait for classes to begin to get on with the job of learning. The library was open to them, and they were urged to use it. They were told that they should not consider the library a warehouse where books were stored for safekeeping, but rather a cafeteria where they would find a varied selection of books which could provide them with a balanced diet of reading if they chose wisely. Ever since, PICS students have been choosing at the rate of some 30 books per day. Circulation records reveal that, on the whole, they have read well.

Readers' Choice

Students of this island school choose their reading in much the same manner as their counterparts in similar continental schools, for they are guided in their selections by the use of a card catalogue and the Dewey Decimal System. The more than 9,000 volumes which comprise the school's collection are divided among the 10 major Dewey classifications. Following fiction and biography, favourite areas of readings have been in this order: pure science, history and geography, social science, language, applied science, general works, literature, philosophy, religion, and, lastly, recreation and the arts.

The need for a wide selection of books has been demonstrated to the satisfaction of the librarian by the catholic taste of island readers. One might naturally suppose that eyes which have seen little beyond the reef would also read within a very limited range, but this apparently is not the case at all. By recording what students read, as is done at PICS, it is possible to learn what authors are favoured and what subjects preferred. But there are no definite "patterns" or "trends". Perhaps the most persistent feature to be observed is that students seem genuinely impressed with biographies and read them regularly. An explanation of this can be found in a quotation from André Maurois' article in the May, 1961, UNESCO *Courier* in which he said in reference to the universal popularity of biographical writings: "Even the great differ from us not in essence but in degree, and that is why the lives of great men are of such interest to us all". Hence, the library's copies of such timeless lives as Alexander the Great, Joan of Arc, Martin Luther, Washington, Lincoln, and Churchill are as often seen on students' desks in the dormitories as on the shelves, where they seldom remain for long.

In a lighter vein, some favourite authors among those represented on fiction shelves are Mark Twain, Nordhoff and Hall, James Michener, Pearl Buck, and Robert Louis Stevenson.

Tastes vary according to reading ability and the ages of the students which range from sixteen to thirty-four with an average age of twenty. Like students everywhere, PICS students recommend to their friends the books they have enjoyed, and it is this persuasion more than anything else that seems to perpetuate the favourites.

Varied Needs Met

Use of the library is not limited to the 134 boys and 25 girls who comprise the student body of the high school. In addition the needs of the faculty of seven are also catered for, and, since the beginning of this year, those of a Micronesian Teacher Education Centre under the direction of Miss Mary Reddin of the University of Hawaii Education Department. The twenty-one young men and four young ladies enrolled in this full-time programme have somewhat different library needs. Much of their work is of college level and a substantial number of volumes has been added to the collection for them. Many of these books are kept on reserve shelves behind the circulation desk and are often consulted by several people each day.

Because it was often prophesied that the high school would add post-graduate programmes to its curriculum, the library has also tried to build up a collection of works of special value to those who live and teach in these islands. This special collection is housed in a "Pacific Room". It includes not only some of the early works dealing with Micronesia but also the publications of the Trust Territory itself, and of similar areas, and the bulletins and technical papers of the South Pacific Commission, the Pacific Science Board, the Bishop Museum, etc.

Students Learn Techniques

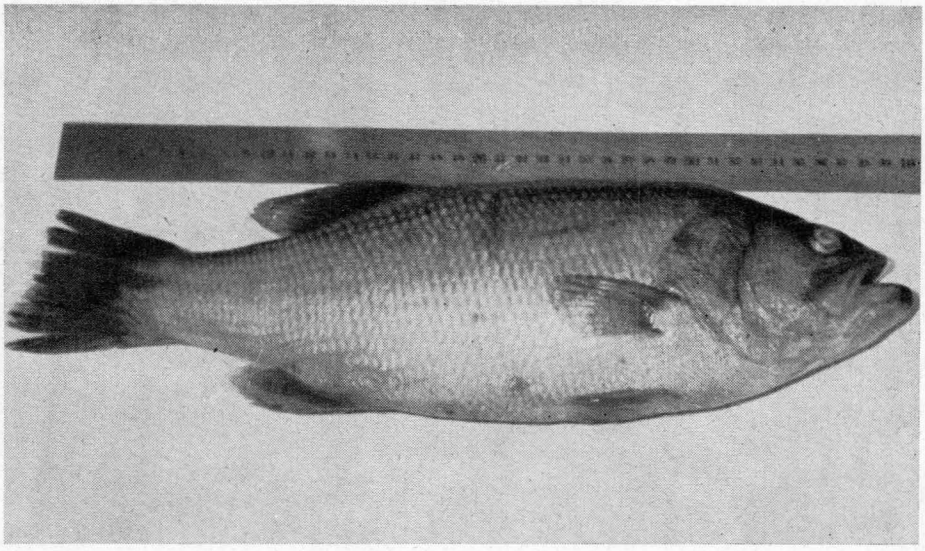
In addition to the writer, whose duties have been divided between teaching and the library, the supervision is in the hands of some twenty students who work in the library for approximately one hour each school day. Their schedules are so arranged that they can be on hand in the evenings and at week-ends as well as during the periods of the day when all students are expected to fulfil work assignments for the school. Until recently the instruction and training these students received in library service was limited to the routine duties that each performed.

At the beginning of this school year, and with the opening of high schools in each of the major districts of the Trust Territory of the Pacific Islands, it became evident that more extensive training was needed for the people who would be called upon to staff the libraries of these expanding schools. Therefore, Director of Education, Robert E. Gibson, and PICS Principal, John E. Barry, invited each of the districts to send at least one trainee to PICS for a period of approximately five weeks during August and September, 1962. Most of the instruction given to those who participated was in the nature of on-the-job training. All library routines were covered and the more technical aspects of librarianship were touched upon. It was felt, however, that because of time limitations those who came for training would benefit most from a thorough acquaintance with the daily operation of a school library rather than a mere introduction to the more complex problems of building a library collection. On the other hand, this library and those the trainees represented have received generous gifts of rather large numbers of books from libraries in Guam and, in some instances, from libraries and schools in the United States. Emphasis was therefore given to the ways in which these volumes could be integrated into the library and the school's total programme.

It is hoped that additional training can be provided for these young people and tentative plans are being drawn toward that end. In any case, whatever training our librarians are given, it is certain that library collections will continue to grow, both through the generosity of those who believe in the good that can come from an abundance of books and through the continuous accession of both new titles and new editions purchased through normal appropriations. Surely this is as it should be, for it is difficult to imagine small schools on small islands offering the large variety of courses that are associated with schools in metropolitan areas. It is less difficult to visualize well-stocked libraries in which diverse fields of interest can be represented and through which the inquisitive student can open his own doors to wider knowledge.

An ever-increasing number of PICS graduates are finding their way into college. If it is true, as Carlyle said, that "The true university is a collection of books", these students should not be strangers there.

BLACK BASS SUCCESS IN NEW CALEDONIA*



IN July 1960, nineteen largemouth Bass fingerlings were obtained from the Fish and Game Division of the State of Hawaii and released in one of the rivers feeding the lake at Yaté, in southern New Caledonia.

At the time, it was felt that further introductions would be necessary to establish this predator in the lake, where it was expected to control the abundant Tilapia population and to provide some attractive sports fishing.

For various reasons, no more introductions were made, and for a long time routine checks failed to reveal what had become of the small original stock. Vague rumours told of fish much larger than Tilapia being seen at various points around the lake, but it was not until July 1963 that the Forestry Department of New Caledonia was able to secure two specimens weighing respectively 2½ and 3 lbs. Many more bass were seen on this occasion, and some of them were estimated to be much larger than the two specimens collected.

The photograph shows a 16", 3 lb. Largemouth Black Bass, a prize which would satisfy many freshwater anglers in the Pacific and elsewhere.

* See also *South Pacific Bulletin*, Vol. 10, No. 4, October 1960, pp. 25 and 38. Photograph courtesy France Australe, Nouméa.

COCONUT RESEARCH AT RANGIROA

(Continued from page 40)

The technique of solid injections of manganese and iron salts, although not absolutely perfect, can already be used for extension purposes and the station is still working on its improvement. Meanwhile, this formula, though imperfect, can be recommended for all low, coral islands in the Pacific, since it is likely to produce spectacular results on highly chlorotic palms and to improve quite substantially the yields of coconut palms in normal conditions.

This chemical treatment applied concurrently with proper periodical maintenance, excluding all burning, in groves whose population does not exceed 200 palms per hectare, will, in two years, increase the production from 300 or 400 kg. of copra per hectare to 800 or 1,000 kg.

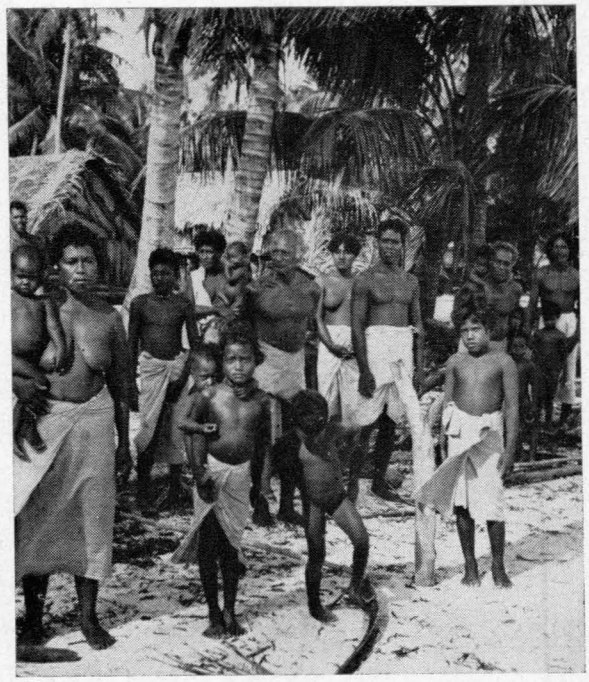
The problems raised in connection with the correction of nitrogen deficiencies, the definition of optimum spacing in existing groves (thinning out) or in groves to be replanted, the methods of progressive regeneration, the refining of cultivation practices, improvements due to a better knowledge of the criteria of genetic adaptation (selection), etc., will all be solved in turn, and practical measures will be found for extension purposes as a result of the experiments at present under way at Rangiroa.

Naturally, the value of the research is not limited to the Tuamotu atolls and the station is working in the largest spirit of co-operation. All the results are available without restriction to anyone interested, and the station is prepared to welcome visitors who may draw benefit from it.

Sikaiana Atoll . . . .

By R. A. Lever

Few "outsiders" have had the opportunity of living among the villagers of such a remote coral atoll as Sikaiana, in the Solomons group. Despite the lonely and frequently arduous conditions of their life, these people apparently have little desire to emigrate to more prosperous lands. Instead, they are gradually incorporating elements of the modern world into their traditional way of life.



Sikaiana islanders are Polynesian with a Micronesian strain. These villagers are shown on their coral beach.

ON the outskirts of the 600-mile-long archipelago of the Solomon Islands are a number of small islands inhabited by Polynesians, whose ancestors are believed to have been unable to establish themselves among the Melanesians of the larger islands. Sikaiana, also referred to as Stewart Island, is a small coral atoll lying about 110 miles east of the populous Malaita Island, itself one of the larger Solomon Islands.

The atoll is about 10 miles long by 5 miles wide, and can best be imagined as an immense necklace, ovoid in shape, with the 1¼-mile-long Sikaiana at the narrow, eastern end, and the small, uninhabited Tehaule (or Faule), Matuilotu and Matuavi at the broader, western end. Originally there were two more islands, but one (Barena) was washed away about sixty years ago. The other, Hakatalatala, disappeared still earlier, and is now just a memory and a few submerged rocks of coral. As Sikaiana is only about 150 feet high, and is said to lie 13 miles east of its marked position on the charts, care is needed to navigate a landfall. There is no anchorage in the very deep water on the ocean side of the reef, so the final 200 yards must be accomplished in a narrow outrigger canoe, into which one transfers a few necessities from the dinghy of the schooner. Since there is almost always a heavy swell running, the canoe's oarsman needs great skill to catch a breaking roller which will land his passengers on the shore platform merely damp from spray rather than thoroughly drenched.

The 300 or so natives are typical Polynesians with a little Micronesian admixture; their skins are copper-coloured and their hair long and straight, so that they differ greatly from the dark, woolly-haired Melanesians of the larger islands. Their original home is believed to have been Tonga, lying about 2,000 miles to the south-east; but over the centuries there has been also an influx of castaways from the Ellice Islands to the north-west.

A quality among these people to impress the visitor is the incredibly long memories of the older men so far as pedigrees are concerned. They are able to trace back their families for seven generations, that is, a period of some 180 years; in fact, right back to the ancestral chiefs from the former Tongan homeland, though with increasing literacy there is a tendency for tribal memories to fail, and for the written record to replace the oral tradition.

Few actual monuments of the early period exist, but the writer visited a portion of low wall built of coral blocks about which he had read in some earlier traveller's record. The guide said it dated back some ten generations, which would coincide with the 300-year-old Tongan settlement.

The distinguished Polynesian, the late Sir Peter Buck, was asked if the Sikaiana words for the different parts of canoes were comparable with those used in other Polynesian islands. A short vocabulary was found to tally best with Samoan words—thus showing former contact over a distance of some 1,800 miles. For example, a Sikaiana islander always gives the definite article "te" before a noun, so that he says *teama* for the outrigger and *teliu* for the hold of a canoe. A Samoan will say *ama* and *liu*.

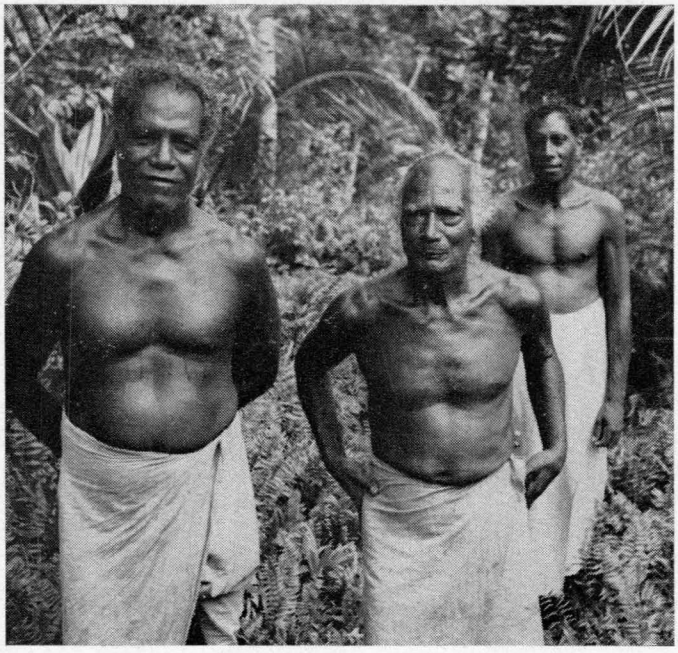
An American whaler, Andrew Cheyne, lived on Sikaiana for nine months in 1847 and five years later wrote a book called "Islands In The Western Pacific". A very brief vocabulary in it shows most of the words as being similar to those of Tonga and Samoa, and all the numerals, except for number one, are similar to those of Fiji.

The value of the canoe for such an isolated population is obvious and hours are spent every day catching fish—the only protein food available except for occasional pork, or corned beef brought back from the "outside world" or bought from the trade store of a visiting schooner. The canoes have beams of only about 18 inches and rely on outriggers fastened by a fairly elaborate series of Y-shaped struts to the side kept to windward.

Because of its many uses, the coconut palm occupies a unique place in the economy of these people. Besides food and drink, it gives toddy from fermented juice of the cut spathe, thatch for houses from the fronds, sawn timber for house-building and fuel from the trunk. Other crops are taro tubers, yams, breadfruit, bananas, sweet potatoes, pandanus or screw pine and a little tobacco. Cultivation of the taro is rather impressive. Quite good crops are obtained from raised beds of leaf humus, atolls having virtually no true soil.

Marine shells are put to varied uses. The top-shaped trochus is collected for sale as the raw material for mother-of-pearl buttons and other shells are used with turtle shell for neat and efficient fish hooks. In former times, the thick valve portion of the giant clam was used for making both adzes and armlets, which in the larger islands were fashioned from stone not available on Sikaiana. The hours of laborious grinding to make these objects can be imagined, and the advent of trade axes and cheap bangles soon ended this tedious type of manufacture.

Regarding the abundance of shellfish on the atoll, the writer had a curious experience during a night ashore: a persistent scuffling and rustling sound suggested rats scuttling over the floor of the house, but the beam of a torch re-



Two of the older generation of Sikaianans. Such old men can trace their families by memory for seven generations back, or some 180 years.

A group of village children. Note the houses roofed with coconut fronds and the eaves plaited to the gable end.

vealed dozens of hermit crabs crawling over the floor mats inside large periwinkle shells!

Mention must be made of the loom or *teko* used by the women for weaving very fine mats from dried pandanus leaves. Sikaiana is one of the few islands in Melanesia where the use of the true loom occurs. A girdle is slipped around the operator's waist as she leans back to pass the shuttle with the weft through the warp. The bright purple aniline dye used for marking copra bags has taken the fancy of these people, who now use it in the mats in preference to their own vegetable dyes.

Credit for the discovery of the island is given to Captain Hunter, who saw it from the *Sirius* in 1791 on a voyage from Port Jackson to Batavia, but did not land. Knowledge of its existence, however, dates back as far as 1606. In that year, the Spanish navigator de Quiros, when in the isolated Duff or Wilson Group north-east of Santa Cruz, kidnapped a visiting Sikaianan who gave the position of his home as four days' sailing from the Duffs.

Atoll life is lonely, isolated and frequently quite austere. The pleasant people of Sikaiana appear to have no wish to leave their island, however, and modern efforts to improve atoll conditions generally will contribute to better living standards for them.

THE COOK ISLANDS

(Continued from page 49)

ernment scholarships. There are also 425 pupils who have completed primary education and are receiving the equivalent of a first-year secondary education at primary schools.

Scholarships to New Zealand secondary schools and universities, and for commercial, trades, nursing, dental and teacher training, have been provided by the New Zealand Government since 1946, and for agricultural training in Western Samoa since 1957. At present 92 Cook Islanders are studying or training in New Zealand on Government scholarships.

To keep pace with the growing need for both primary and secondary education created by a high birth-rate, schoolrooms are being built as fast as finance allows. A new design, which enables buildings to be prefabricated by the Public Works Department on Rarotonga and shipped to the outer islands for erection, has reduced cost and building time, and economical materials are employed. The cost of each classroom has been reduced from £2,500 to approximately £1,000, and 42 new classrooms were erected in 1962, compared with 10 to 12 in previous years.

Public Health

All Cook Islanders receive free medical and surgical treatment, and school children and patients in hospital receive free dental treatment. A Health Department, headed by a Chief Medical Officer, is centred on Rarotonga where the main hospital and sanatorium are located. Health services on the outer islands are provided by resident assistant medical officers, dressers and nurses. There is also a rapidly developing and efficient public health section headed by a medical officer of public health. The Department's staff of 148 includes a matron and four sisters, 16 assistant medical officers, six public health inspectors, 34 nurses and 22 nurse trainees. The dental staff comprises one dental officer, five school dental nurses, three assistant dental officers and assisting staff.

Health standards are good and the Cook Islands are remarkably free from the usual tropical diseases.

Housing

Housing standards in the Cook Islands, as in other New Zealand territories, are improving markedly. Part of the Government's drive to raise living standards, a scheme for assisting house-building with loans, has caught the public interest and applications are being received at an average of one a day. Under this scheme annual grants totalling £20,000 are made from a revolving fund for the improvement of housing. Interest-free loans of up to £200 are granted. The interest rate on bigger loans is 3 per cent. Individual loans have averaged £225 and more than £60,000 has been lent so far.

Communications

Broadcasting is a most important medium of mass communication. A radio station transmits for 3¼ or 3½ hours three evenings a week, and for 30 minutes daily from noon.

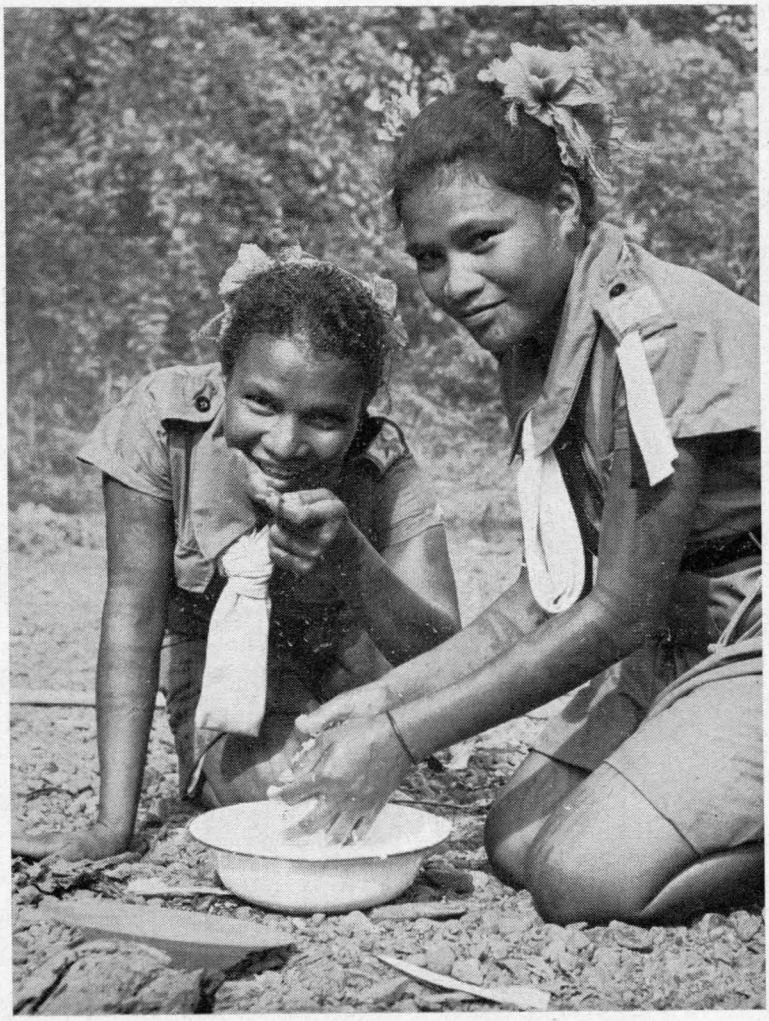
LEADERSHIP TRAINING FOR . . .

Girl Guides in Papua and New Guinea

By

Lady Cleland

In this article, the President of the Guide Association of Papua and New Guinea tells how problems of isolation and language are being successfully tackled in order to train Guides and Guiders in that Territory.



Girl Guides learn to make coconut cream.

GIRLS in Papua and New Guinea are very enthusiastic Guides and Brownies, as are girls everywhere. And, just the same as everywhere else, the great problem is to find enough leaders so that all the children who wish can become Guides and Brownies in well-run Packs and Companies.

This article attempts to describe how this problem of leadership training is being tackled by the Guide Association here.

Firstly, unlike Guiding in many underdeveloped countries, there are not many Packs and Companies attached to schools, with teachers for leaders. This is partly because it began in the villages and has had a natural spread from village to village; and partly because it is difficult for a Guider who has been teaching girls all the week to bring much freshness of approach and a new breath of enthusiasm to those same girls when she has them for a Guide meeting.

Also, it is the village girls, with their isolation and their longing for contact with life outside their villages, who have the greatest desire to be Guides and Brownies.

In the towns there are Australian and English-speaking Papuan and New Guinean girls to train as Guiders for the urban Papuan and New Guinean children; but this is not possible in the villages, and it forced the growth of some way to train the older village girls as Guiders, and at the same time give them continuing supervision and help them with new ideas.

Another very real problem, of course, is language. Village girls and young women seldom speak more than a smattering of English and it is very slow and unsatisfactory trying to train them in English. There are too many different native languages to be able to concentrate on one. The only way was for an Australian Trainer to give a thorough training in either Guide or Brownie work to well-educated Papuan and New Guinean girls, and for them in their turn to train the Guiders in their own language group.

To do this needed a residential training centre, staffed with a resident Australian Trainer. The Territory Headquarters was extended by building on a two-bedroom flat, shared by a General Secretary and a Trainer, as well as a dormitory, dressing and shower room for students. A well-equipped kitchen was already part of the building, which otherwise consisted mainly of a large, airy hall and offices.

The first eight girls were recruited in 1959 from Milne Bay, Manus, Rabaul, and Port Moresby, and were given a sound training in all homecraft subjects—health, hygiene, child care, sewing, cooking, housecraft, etc., as a background to their training as either Brownie or Girl Guiders, and in the work of training other Guiders.

These girls then went back to their own areas as Guide or Brownie Training Assistants. They worked in pairs under the local Commissioners, training the Guiders, visiting the Packs and Companies in the villages and generally helping to build up the quality of Guiding. They became staff members employed by the Territory Headquarters working under the general supervision of the Trainer and the Territory Training Adviser.

This first group, nearly all married now, showed sufficient promise and provided enough experience to alter and improve the syllabus, paying far more attention to training in Leadership, responsibility, teaching in the use of visual aids, etc.

The scheme for training was also extended to cover a further period of twelve months' field work under supervision from the Trainer at Headquarters. It was realised that the success of this scheme lay in the supervision of their actual work and in the encouragement

of the girls after their training. At the end of these two years the girls were examined for their Territory Training Certificate, entitling them to receive a full salary comparable to that of Welfare Assistants and Infant Welfare nurses.

Following P.O. & R.* in principle, a Training Certificate syllabus adapted to the needs and the life of the Territory was drawn up. Test books were written, making Tenderfoot a shorter and simpler test, by putting some of it into 2nd Class. 2nd Class was divided into five sections for Guides and three sections for Brownies. On completion of each section the children received a coloured patch to sew on their uniforms. They get their 2nd Class Badge when they have all their patches and show that they are keeping their Promise and Law.

This has proved to be very popular with children and Guiders alike, and has led to a far higher proportion of enrolments and a greater number of 2nd Class Guides and Brownies.

The second group of eight girls was recruited in 1961 from standard VII-VIII. This group was more fluent in English and able to get a far better grasp of their work. Towards the end of their year's training, during which they did a great deal of practical work with Packs and Companies, each girl organised and ran a residential Guiders' training week at the Training Centre.

At the end of their twelve months in the field they all came back to do a six weeks' refresher course, during which each girl had to plan and take five different training sessions, on which she was tested for her Territory Training Certificate.

The Panel of Testers was amazed at the development of these girls and at the excellent sessions they ran. Their practical sessions were admirably related to village needs, and were better than the most abstract international and, in some cases, the Promise and Law sessions.

There were many group discussions over the problems they had encountered and they came forward with good ideas about how to handle them, in all of which they showed a considerable sense of responsibility and initiative.

This then is a short account of the preparation and training of the people who train the leaders. They are professionals and are on the staff, which at the present time consists of a General Secretary and two European Trainers, each in charge of a Residential Training Centre in Port Moresby and Rabaul. There are four Papuan and four New Guinean Training Assistants, and we propose training another eight in 1964. Two further questions of considerable interest are those of finance and the effect this staff has on the numbers of Guides and Brownies, and the quality of leadership of the Guiders. Both of these questions will be dealt with in a further article in another issue.

A Brownie baths the "baby".

* *Policy, Organisation and Rules.* Girl Guide Association.

FUTURE ASSURED FOR SOUTH PACIFIC GAMES

(Continued from page 29)

regarded as not breaking continuity of residence, but, on the other hand, time spent away from the particular territory for these reasons would not count towards the two years' residential qualification for expatriates. In short, an expatriate must, in all cases, have resided effectively for a minimum total of two years in the territory he was to represent. A further condition was that a competitor must actually have returned to residence in the territory after one of the excusable absences before being eligible to represent that territory.

Some Events Modified

A number of relatively minor modifications of detail in the clauses of the charter, notably with regard to the programme of events, was made. Of these perhaps the most important was that in future no Games events would be run on a "knock-out" basis. It was recognised as undesirable that any team which had been brought to the Games at, perhaps, great trouble and expense, should be precluded from further effective experience by being eliminated in the first event played. The list of optional sports from which host territories would make their choice (according to facilities available) was amended, lawn bowls being eliminated and cycling, soft-ball (men and women) and weight-lifting included. In addition, both 7-a-side and 5-a side basketball teams for women were specifically mentioned, and women's volleyball and women's hockey were admitted. Rugby football was defined precisely as Rugby Union football. The three basic events—soccer, lawn tennis, and athletics —were left unchanged.

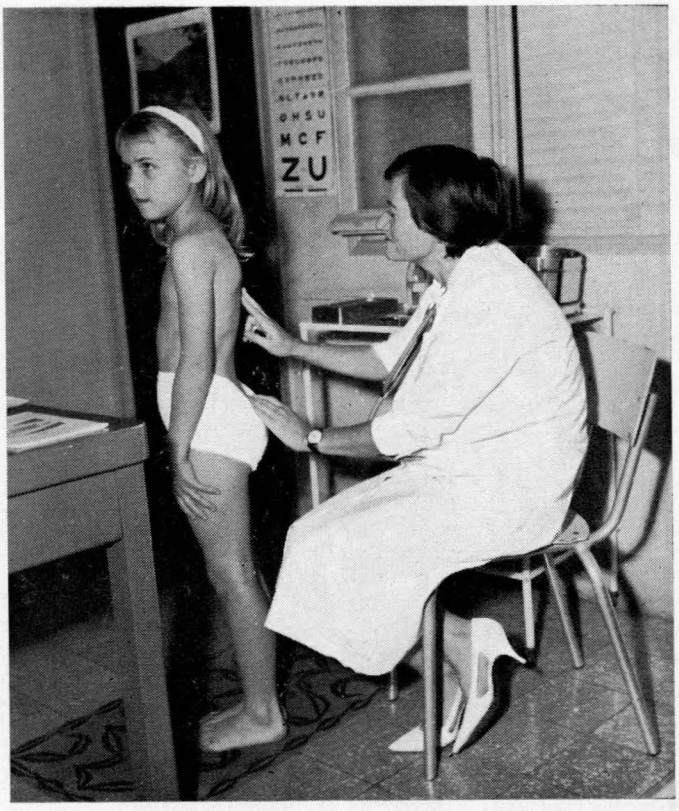
In order to ease the work of future organising committees in host territories, conditions governing entries in the various competitions were modified, the main changes aiming to give host territories more time in which to work out programme details.

The Council meeting was characterised by a determination and understanding that ensure the firm establishment of the Games as an important factor in the development of the peoples of the South Pacific.

TRAINING COURSE IN HOME ECONOMICS

(Continued from page 52)

training, no fewer than forty nominations having been received for the twenty training awards. A second one-year course is planned for 1965 and it may well be that further courses will be offered.



School children are examined at the School Health Centre. These examinations take place at regular intervals during school life, and the details of each child are noted (left) and symptoms followed up.

School Health in New Caledonia

By Dr. Jacqueline Exbroyat*

Well over 20,000 children now attend schools in Noumea and rural centres of New Caledonia. This creates a problem of adequate medical supervision and treatment which cannot yet be considered completely resolved. This article describes how a comprehensive school health service has gradually been built up from modest beginnings, and the plans for its future extension.

Historical Background

THE year-by-year growth of the school population in New Caledonia demands a correspondingly continuous improvement in its school health services and their organization. Thirty years ago, school health control went no further than routine detection of infectious disease. Those responsible for public health then were especially concerned about Hansen's bacilli and tuberculosis morbidity. Later, attention was given to the control of intestinal worms and, under the pressure of serious epidemics, compulsory vaccinations were organized.

The general measures adopted to protect public health led to the establishment, in 1911, of a "Colonial Health Council" (Conseil Colonial d'Hygiène), responsible among other things for sanitation in schools, vaccinations, leprosy and tuberculosis detection and the tracing of intestinal worms.

In 1931, the medical officer in charge of the "Health Bureau" (Bureau d'Hygiène) began regular health inspections in the state and private schools of Nouméa. In March 1940, the Town Health Bureau was officially established. The medical officer in charge was also chief medical officer for school sanitation in Nouméa. In 1952, special premises were constructed and equipped for the Town Health Bureau and the School Health Centre.

At this time, in schools outside Nouméa, District Medical Officers made routine check visits, administered free treatment and vaccinations, and from time to time gave some elementary health education in schools and villages.

A local decree dated October 18, 1947, set out rules governing medical inspections and check-ups in schools. This showed a certain amount of progress, although doctors and social workers at the Centre were still only part-time employees. The decree laid down that in future:

—No child could attend school in Nouméa until he had obtained a medical clearance certificate from the Centre and had smallpox and triple antigen (TAB/DT) vaccinations.

—All children were to undergo regular medical inspections throughout their school careers.

—A qualified social welfare assistant was to be appointed to act as secretary and be responsible for the records. Her duties were also to include investigations for the School Welfare Service.

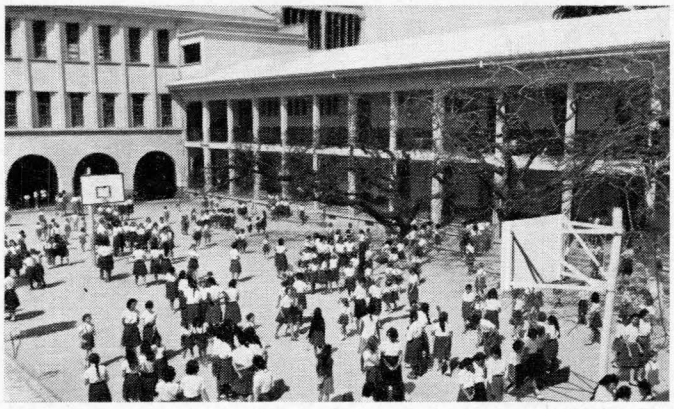
—No full-time or auxiliary staff could teach in any school unless certified free of infectious disease.

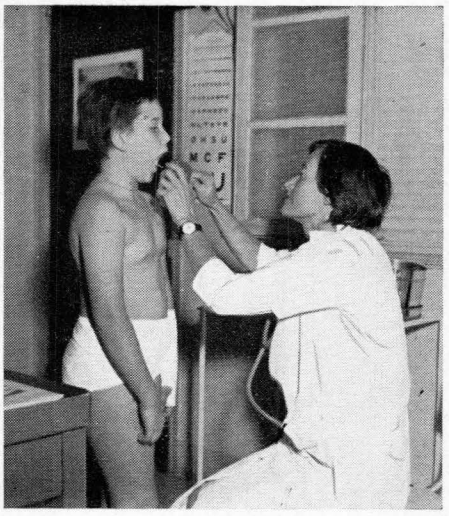
—For the first time a thorough tuberculosis detection campaign was to be carried out.

Last, and not least, finance was provided to cover medical treatment required by those who could not otherwise afford the cost.

In July 1962, a medical officer, called the School Medical Inspector of the Health Service and attached to the Public Education Service, was appointed to

* Chief Medical Officer in charge of the School Health Centre, New Caledonia.





Left: Recreation in a school yard at Noumea. Right: The author examines a child at the School Health Centre.

the Centre on a full-time basis. The Centre gradually extended its organization and two school welfare workers joined the staff.

The importance of developing the child's personality during his school life has been gradually recognized throughout the Territory. To this end, the Social Welfare Service, the Educational and Vocational Guidance Service, the Sports Service and the Basic Education Service have been established and cooperate with the Centre. The South Pacific Commission also gives assistance and advice.

Parents' Education

Great efforts are still needed with parents' education, which is a complex problem because of the diversity of races. Obviously methods of education must differ with Melanesian, Polynesian, European, Vietnamese or Indonesian parents. Generally speaking, children live as they please in this country where parents are seldom strict. They grow up under the influence of a climate—of practically constant temperatures and little seasonal change—whose monotony is rather trying.

Hence, a programme of adult health education is under way. Broadly speaking it consists in training agents, studying local problems and suggesting methods of education appropriate to the country. The work will require time and tact, but should prove rewarding. ,

Mental And Physical Health

The school teacher's mission is no longer limited to teaching, nor is the health educator's mission merely treatment or prevention of disease. Both these educators have a part to play in helping the child to retain or acquire the physical and mental equilibrium needed to lead a normal life within the community.

The teacher is the first person to discover the abilities, behaviour and reactions of a child. A grounding in physiology, pathology and psychology is therefore essential to the training of a good pedagogue, since he will have to decide whether to send a child to one or other of the specialized services (School Health, or Educational and Vocational Guidance).

In centres on the mainland and in the Loyalty Islands, school medical inspection is not as yet based on individual examinations. District Medical Officers administer curative treatment throughout the area and preventive treatment in the schools. They are hampered by lack of time and staff. Serious problems face them: water, parasitosis, general lack of hygiene, malnutrition, local beliefs and habits. No School Medical Officer could undertake single-handed the routine school inspections for the whole Territory. To help the District Medical Officer effectively one or more school teachers of initiative and a travelling health educator making regular visits would prove of the greatest value.

Outside Nouméa, social welfare workers investigate cases which need to be followed up. They also undertake lecture tours on sanitation and health problems, but their work is restricted through lack of time and shortage of facilities such as transport and staff.

Nutrition

A specific problem linked with general health is that of nutrition.

In New Caledonia, the first critical period affecting a child's nutrition is that of weaning. Either weaning is belated or the child is misweaned. Generally at that age its diet consists mainly of starchy foods such as yams, cassava, taros, sweet potatoes and often rice. Its food intake is chiefly glucido-lipidic. This unbalanced diet leads to conditions such as diarrhoea, hypertrophy and general weakness (under-development, mild cases of avitaminosis, obesity or rickets) until puberty and throughout the developing years. This shows the vital importance of proper diet for a child.

However, the Melanesian adult is generally strong and well-developed. It may be asked, therefore, why attach importance to a physiological weakness of a seemingly transient nature? The answer to this is that infant mortality is high at the weaning stage and in the first years of life. This is obviously not due solely to poor diet, but this factor lowers resistance even when it is not in itself a cause of morbidity. Also, taken in conjunction with such factors as race, environment and climate, may not malnutrition help to account for a certain lack of vigour in face of the normal stresses and strains of life? This is merely a suggestion, but an investigation in that direction might be of interest.

Solving The Problems

The foregoing outline of the problems is not claimed to be exhaustive, but it prompts consideration of some solutions the Territory has been able to put forward.

A Basic Education Service is reviewing methods of health education of the public. The School Health Centre takes advantage of opportunities for collaboration with this service as well as with a South Pacific Commission specialist in health education. The public has had lectures and seen filmstrips on parasites (worms), tuberculosis, etc., as well as slides and still-views, in some villages inland and on Lifou. Tests based on simple posters portraying the feeding of children have been carried out among the mothers in these villages. Some slides on the control of tuberculosis have been made with Melanesian participants.

The Educational and Vocational Guidance Service has the task of finding out and guiding the abilities of each pupil. This work is supplemented by a medical examination at the Centre. The emotional and social family background of pupils needing individual study is investigated either by social welfare workers or by school welfare assistants.

As a result of these investigations, coaching classes have been started for pupils lagging in their studies, and special

(Continued on page 64)

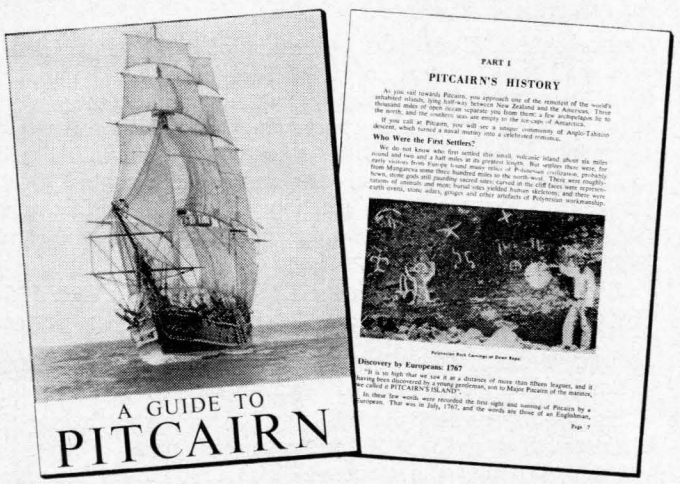
PACIFIC READING

Material in this section is contributed by the South Pacific Commission Literature Bureau. Any enquiries relating thereto should be directed to Box 5254, G.P.O., Sydney, Australia.

Literature Bureau Publications

The following publications have been produced by the Bureau in co-operation with and on behalf of various island administrations.

A Guide to Pitcairn is the title of a 48-page booklet just completed for the South Pacific Office, Suva, on behalf of the Government of Pitcairn Island. This publication is an authoritative account of the early history and present-day conditions on this lonely Pacific Island, based on material gathered from official reports and letters, and is intended for sale mainly to the passengers and crews of ships calling in at Pitcairn. Attractively produced with a 2-colour cover, the lively, well-written text is illustrated with 33 half-tone pictures. The cover and a typical text page are shown below.



Part 1: Pitcairn's History deals with the early history of the island, the arrival of the 'Bounty' mutineers, and the problems and privations which confronted them during their period of comparative isolation from the rest of the world; *Part 2: Pitcairn and Its Story* tells of the present-day inhabitants and describes their main activities in earning a living—agriculture, fishing, handicrafts and trading; details are also given of their community life and leisure; education, health, administration and the law; *Part 3: The Other Islands* briefly describes Henderson, Oeno and Ducie Islands, which, although uninhabited, come within the jurisdiction of the Government of Pitcairn. Four appendices give details of Population Statistics; Finances; Office-holders and a selected reading list.

This book is a welcome addition to the steadily growing list of materials dealing with the Pacific area and should find a ready place in school libraries in the islands and metropolitan countries. All enquiries concerning this book should be sent to: South Pacific Office, Government House Grounds, Suva, Fiji. Price 5/- per copy.

Arts and Crafts Handbook. In co-operation with the Department of Education, Fiji, the Bureau has arranged the production of an 84-page teachers' handbook covering art and

OXFORD BOOKS

ON TEACHING ENGLISH

BEGINNING TO TEACH ENGLISH

D. C. Miller

196 pp, $7\frac{1}{4}$ x $4\frac{3}{4}$, limp 6/6

This introduction to the teaching of English as a second or foreign language has been written for training college students. It will also help experienced teachers who wish to rethink the problems of teaching English to young children.

How should we teach the very first English lesson? Why should we begin with oral work? What words and sentences should be taught first and why? How should we teach young children to read English? How should we correct their mistakes? These and other common problems of the early stages of English teaching are dealt with in detailed plans for the first 50 English lessons and in a dozen short theoretical chapters.

TEACHING ENGLISH AS AN INTERNATIONAL LANGUAGE

F. G. French

120 pp, $8\frac{3}{4}$ x $5\frac{5}{8}$, limp 6/-

The latest book by F. G. French, on the subject of teaching English in developing countries will prove of great value in Teacher Training Colleges. It contains numerous points which will encourage the young teacher to think for himself or stimulate discussion when used as a class book. The fully trained teacher will also find it useful and will find in it suggestions which may enable him to improve further the standard of his teaching and to answer more easily questions encountered in his daily work.

Both prices are quoted in sterling

OXFORD UNIVERSITY PRESS

7 BOWEN CRESCENT MELBOURNE

These four posters were printed for the Dept. of Public Health, PNG.

craft activities for Fijian schools. Entitled *Arts and Crafts—A Scheme of Work for Primary School Classes,* this book covers the syllabus for classes 1 to 8 and provides practical instruction on: painting, drawing, clay work, paper tearing, making hats, masks, mobiles, puppets and kites, stick printing, simple book and poster production, with particular emphasis on the use of available local materials. The text was prepared by Mrs. A. Wilkinson of Nasinu Training College, Fiji, and is illustrated with many clear line drawings. Although written primarily for the guidance of Fijian teachers, much of the information in this booklet should be of interest to teachers elsewhere in the Pacific; territorial administrations, missions and educationists in other Pacific areas will find the book of interest as an example of low-cost printing techniques using small offset equipment and as an indication of the possibilities and scope of this type of equipment in fulfilling the reading and educational needs of the islanders.

A specimen copy of this booklet with details of production is available on request from the Literature Bureau, Box 5254, G.P.O., Sydney, N.S.W., Australia.

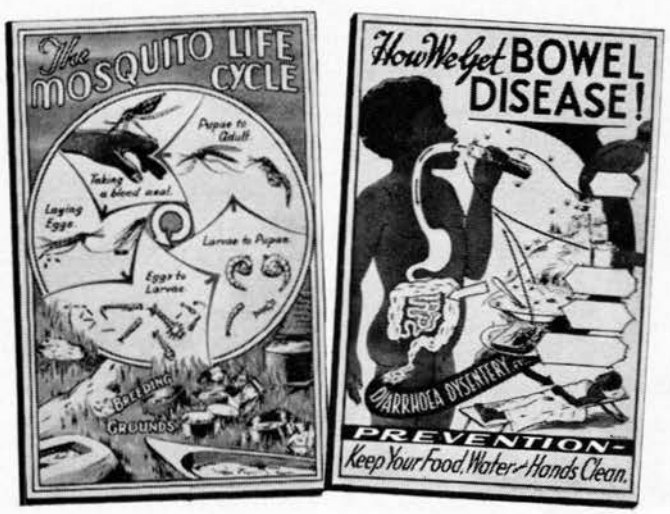
NEW HEBRIDES HANDBOOK. A 20-page booklet entitled *Conditions and Cost of Living in the New Hebrides* has been produced for the British Residency in Vila. Written with special reference to conditions in the British Service, this book provides pertinent information on such matters as: Climate and Health; Communications; Accommodation; Cost of Living; Taxation; Sport and Social Amenities; and Educational Facilities, in the Condominium. Copies are available only from the British Residency, Vila.

MEETINGS FOR EVERYONE. A reprint of this book, originally produced for the Department of Native Affairs, Papua and New Guinea, has been arranged by the Bureau to meet recurring demands. Written in simple English and illustrated with clear line drawings, this 30-page booklet is a simplified guide to the conduct of a club meeting and explains concisely such matters as: How to call a meeting; Choosing the Chairman, the Secretary and the Treasurer and their duties; Keeping Minutes and behaviour at meetings.

Copies are available from the Literature Bureau, Box 5254, G.P.O., Sydney, N.S.W., Australia, price A.1/-, plus postage.

A RECIPE BOOK FOR PACIFIC ISLANDERS. Lucy Hamilton. London: Macmillan & Co. Stg.5/-. 162 pp. Illust.

This book was first published by Macmillan & Co. for the Literature Bureau in 1957, and after being out of print for a time has now been reprinted. Written by Lucy Hamilton of the Department of Public Health in Papua and New Guinea, this book gives much practical information on various cooking methods and contains over 500 tested recipes suitable for the islands peoples. Admirable for use by women's groups, health educationists, teacher training colleges and secondary schools. Available from bookshops.



Visual Aids—Poster Productions

Recent poster production includes (i) two 4-colour public health posters—*The Mosquito Life Cycle* and *How We Get Bowel Disease*—for the Health Education Section, Department of Public Health, Papua and New Guinea, shown left. (ii) The first four of the series of infant nutrition posters, referred to in these notes last July, for the Infant Welfare Section of Department of Public Health, Papua and New Guinea. As can be seen from the accompanying illustration, one is a general poster and the other three provide guidance on a baby's essential food requirements at *2 weeks, 6 weeks* and *8 weeks*. Subsequent posters will cover the 3 months, 4-6 months and 7-12 months periods. In both these instances the finished poster layouts were supplied by the Department and the Bureau simply arranged for the printing.

(iii) A series of 5 wall picture posters for the Department of Education, Fiji. For several years various territories have

stressed the need for such picture posters on island subjects for use in the lower classes in schools; these illustrations were prepared by the Bureau's artist in co-operation with the Education Department and the scenes depicted are: Fishing; Food Preparation; Planting Rice; Gardening; and Washing Clothes. To keep costs to a minimum, each picture is printed in black outline only and any colouring, if needed, can be done either by the teacher or as a class activity.

The posters in (i) and (ii) each measure 25″ x 18″ and are printed in four colours; the wall pictures in (iii) measure 17″ x 13″.

Inspection copies of these posters and wall pictures, with details of production are available from the Literature Bureau; the Bureau will also welcome enquiries from territorial administrations requiring advice or assistance in the preparation of similar materials to suit their own needs.

New Books for the Pacific

HEALTH EDUCATION IN BORNEO (Part 2). J. Rackham and A. Krebs. Kuching: Borneo Literature Bureau, 1962. 140 pp. Illust. M$2.50.

Part 1 of this handbook for primary classes 1-4 was reviewed in these notes for April 1962; at that time we commented: "Although the book was produced in Borneo, there is no subject matter in it which is not applicable to the Pacific; neither are the illustrations foreign to the Pacific; it is therefore most strongly recommended to the attention of people in this area."

We were pleasantly surprised subsequently to find out that the contents of this book in fact almost paralleled the health education syllabus in Papua and New Guinea.

Part 2, which we have just received, is for use in primary classes 5 and 6. As with Part 1, the book gives an outline of the topics to be covered by each class during the school year and this is followed by advice to the teacher on how to tackle the work. The topics are briefly outlined on the left-hand pages and suggestions for class and teacher activities are then given on the right-hand pages. Class 5 topics include: The Function of the Body; the Structure of the Body; Simple First Aid; Germs; Infectious Diseases; and First Aid. For Class 6: The Circulatory System; the Skeleton; Joints; Kinds of Joints; Muscles; First Aid (in more detail); Wounds; Bandages; Fractures; The First Aid Box; Artificial Respiration and Water Safety. The text is illustrated with clear simple line drawings which can be copied by most teachers without trouble.

Teachers and health educationists in the Pacific area should find this book very useful in their work and the Bureau can make available an inspection copy of Parts 1 and 2 to anyone interested in examining them.

New English Course

A comprehensive English course entitled *Minenda Books* is now being progressively published by Jacaranda Press Ltd., Brisbane. The texts have been prepared by Mr. Frank Johnson, Principal of the Teachers' College, Port Moresby, and are intended for use with the revised primary syllabus recently issued by the Department of Education, Papua and New Guinea. The course is based on the structural approach to language teaching and includes material for the teaching of: (a) Oral English, including basic drills in the structure of English, story-telling and oral composition; (b) Written English, including exercises designed to teach and practice all forms of expression as sentence-writing, composition and letter-writing, and (c) Reading, consisting of a series of readers and graded supplementary material. Educationists,

Macmillan

A COMPREHENSIVE COURSE IN
SPOKEN ENGLISH
Hilda Corson Simpson

This course, aimed at teaching non-English-speaking nationalities the correct pronunciation of natural English speech, is intended mainly for students at Secondary Schools and for teachers of Training Colleges. The method has already had considerable success in both the lower and upper forms of Secondary Schools in South-East Asia, and West Africa, as well as in Europe. All that is required is *some* previous knowledge of the English language.

Student's Book	Illustrated	6s. 6d.
Teacher's Book	Illustrated	16s.

A RECIPE BOOK
FOR PACIFIC ISLANDERS — **Lucy Hamilton**

This recipe book has been especially designed to show a wide variety of interesting dishes made from provisions which are readily available in the Pacific Islands. In each case there is a basic recipe, and a variety of additional ingredients is given so that where certain ingredients are not available an alternative is always given.

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missions and teachers in the Pacific area interested in obtaining full information on this course should write to the publishers: Jacaranda Press Pty. Ltd., 73 Elizabeth Street, Brisbane, Queensland, requesting a copy of their catalogue.

INSECT COLLECTING. Ministry of Education, Publications Branch: Jamaica. 1962. 20 pp. Illust. 2/-.

Simply written and illustrated with clear line drawings, this small booklet contains all the basic information needed to start an insect collection. Advice is given on the correct methods of catching, preserving and storing the insects, how to mount and label the specimens as well as details of how to make the necessary equipment. Although primarily intended for schools in Jamaica, most of the information is equally applicable to Pacific conditions; nature study teachers who have no specialized training in this work should find this book of great interest.

SCHOOL HEALTH IN NEW CALEDONIA

(Continued from page 60)

courses provided for children who are retarded or handicapped mentally or physically.

The "Youth and Sports Service" (Service de la Jeunesse et des Sports) is active in providing New Caledonian boys and girls with healthy recreational outlets which promote physical fitness. The Health Service, through the District Medical Officers, keeps a check on the physical condition of all pupils in the districts and supervises the sanitation of school premises. The School Health Centre co-operates with these services also. Though much remains to be done, the Territory is now fully alive to the importance of its children's future and it is hoped that outstanding problems will be solved before very long.

Current Activities

The operation of the School Health Centre is based on regular, routine school inspections. Last year, the state and private schools of Noumea numbered more than 7,400 pupils at the primary and secondary levels, the figure being 20,753 for the whole Territory.

The regular, routine inspections are spread over a two-year period. In the course of them, each pupil undergoes a physical check-up including analyses of stools and urine and any other tests required. Tuberculin intradermal reactions are tested, and any individual showing a positive reaction is subject to an X-ray examination.

Compulsory vaccinations (diphtheria, tetanus and smallpox) are supervised by the senior medical officer of the Town Health Bureau. Absentees are severely dealt with.

All children hampered in their studies by emotional, social, physiological or physical difficulties are examined by the Adviser in Educational Guidance and the Centre personnel. These cases come up for appraisal before a monthly meeting, and in the light of this the child is given guidance to help him make the most of his capacities.

The Centre supervises the initial school examination of children reaching 7 years of age within the year. Of 1963, 10% were found to be suffering 700 pupils duly registered in March from various diseases. Four cases of primary tuberculous infection were detected. A special file bears the names of these children, who are to be followed up within the year either to note further development or to check whether the prescribed treatment has been given. The Centre intends to establish a more detailed picture of the child on entering school, aiming particularly at detecting any speech difficulty or neuro-motor troubles as well as defining the mental age. It also has plans for a more thorough study of the child's behaviour and the underlying causes of his reactions and of his success or failure in school work. Both physical and mental causes will be taken into account.

A second stock-taking takes place at the end of a child's primary education and before a decision is taken as to the course of his secondary education. His adjustment to schooling will be assessed, together with his mental development, and any abnormality will be detected. A third test will assess the child's vocational aptitudes when he reaches the age of 14.

Routine medical inspections are now carried out at the Centre on five half-days a week. They ensure detection of hitherto unnoticed or neglected infections. The school master or mistress accompanying the children identifies those who behave abnormally in class or who appear to suffer from some disability. These children receive a more detailed examination, often accompanied by an educational and vocational guidance test, after consultation with the parents and an investigation by the school welfare assistant. A purely clinical examination is no longer enough. Besides detecting serious infections, it is necessary to consider minor troubles which may at times affect school work. Once these are detected, they help solve many problems, often in a very simple way.

Regular inspections are also held in the schools to check the cleanliness of pupils and premises. Such inspections are carried out in the class-rooms, and this year both teachers and pupils have been given a grounding in health education.

This work implies close collaboration between the medical officer, the social welfare assistant, the teacher, the parents, the psychologist, the educational

(Continued on page 67)

Dr. I. C. Fang, Director of WHO's Western Pacific Regional Office, Manila, visited SPC headquarters during September for discussions with the Secretary-General and Commission officers on matters of mutual interest. Dr. Fang is pictured here with the SPC Secretary-General, Mr. W. D. Forsyth.

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SPC ECONOMIST

Mr. R. C. White was recently released by the Reserve Bank of Australia to join the staff of the South Pacific Commission as its Economist for a three-year term. Aged 39 and born at Warwick, Queensland, Mr. White graduated Bachelor of Commerce from Queensland University. He is also an Associate Accountant of the University of Queensland and a member of the Australian Society of Accountants.

Mr. R. C. White.

For nine years he was employed by the Queensland State Government Service in Brisbane. He spent four years with the Armed Services during World War II with service in New Guinea and Borneo. Mr. White subsequently joined the staff of the Commonwealth Savings Bank in Brisbane for a further nine years before taking up his most recent position in the Research Department of the Reserve Bank of Australia for five years.

Recently he worked on a Fellowship at the Australian University of Canberra on the subject of Social Accounts of the Territory of Papua and New Guinea, which he visited on two occasions. The results of this work are to be published shortly.

AMERICAN SPECIALISTS VISIT SPC

TWO specialists from the U.S. Communicable Disease Centre, Dr. J. Goddard, Director, and Dr. Henderson, Head of the Research Bureau, recently visited SPC Headquarters in Nouméa in connexion with their epidemiological research project in the Pacific area.

The Communicable Disease Centre is a federal organization whose purpose is to provide immediate services to any State in case of epidemic. Its work includes the collating of information on communicable diseases all over the world, research, and the practical application of knowledge gained in the fields of diagnosis and the control of disease.

The Centre is currently conducting experiments for the improvement of vaccination techniques. As part of this project, Dr. Goddard and Dr. Henderson are studying a new technique for smallpox vaccination.

During their stay in New Caledonia, the specialists visited the Director of the New Caledonian Public Health Service and were shown the diagnostic facilities available at the *Institut Pasteur* and the vaccinations carried out by the Town Health Bureau and the School Health Service. At a meeting organized at SPC Headquarters, members of the New Caledonian Medical Association were able to meet the specialists. Dr. Loison, Executive Officer for Health on the South Pacific Commission, and President of the Association, invited members to ask questions and to discuss epidemiological problems facing them in New Caledonia.

URBANIZATION IN THE SOUTH PACIFIC

(Continued from page 24)

inter-ethnic relations between the various ethnic and racial groups living in Rabaul.

The *Organisation de Recherche Scientifique et Technique Outre-Mer* and Harvard University have made socio-economic studies of the Tahitian population and the Chinese element in Papeete. A graduate student from the University of Chicago has recently started field research on the nature of leadership in a neighbourhood of Papeete and in a non-urbanized community. This study is part of an inter-disciplinary research project by a team of social and natural scientists studying the relationship between living organisms and their effective environment.

A student from the Australian National University started this year an urban geographical study of Suva, Lautoka and Vatukoula on the social, economic and political problems arising out of the urbanization of Indians and Fijians. Another of the Australian universities has further plans for a group research project by two geographers, an anthropologist and a town planning specialist for an urban study of one of the Fijian towns.

Students from Victoria University of Wellington, New Zealand, have been working on urbanization problems in Honiara and the Cook Islands, and one student is currently working in Nuku'alofa, Tonga.

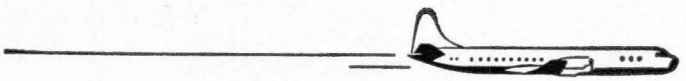
There is likely to be a substantial increase in urbanization information within a few years. It is hoped that such information will provide territorial administrations with data which will throw some light on practical solutions of particular urbanization problems.

The establishment of the Urbanization Research Information Centre is intended primarily as a project of assistance to the territorial governments which have to deal with the many and varied problems of the urbanization process in their territories.

The South Pacific towns are not yet the tightly packed urban conglomerations one finds in Asia, Africa or the industrially developed countries.[13] Urbanization problems in the region, in general, have not as yet the magnitude and urgency they have elsewhere.

But there are problems and whether they are to be solved depends to a great extent on the interest and co-operation of territorial administrations and research institutions in urbanization questions, as well as upon the availability of funds to carry out the necessary research.

[1] In this article the term "South Pacific" refers, rather than to the South Pacific in the geographical sense of the word, to the South Pacific Commission region, covering the area of



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the dependent territories administered by the five member governments of the Commission. It extends roughly from the Trust Territory of the Pacific Islands in the west and north to the Austral Islands and Pitcairn in the east and south.

[2] *Morton and Lucia White* "The American Intellectual versus the American City" in the Future Metropolis. Daedalus, Winter 1961, p. 178.

[3] *Philip M. Hauser* "World and Asian Urbanization in relation to economic development and social change" in "Urbanization in Asia and the Far East", UNESCO Research Centre on the Social Implications of Industrialization in Southern Asia, Calcutta 1957, p. 60.

[4] *K. W. Robinson* "Processes and patterns of urbanization in Australia and New Zealand", New Zealand Geographer vol. XVIII, No. 1, April 1962, p. 32.

[5] Territory of Papua, Annual Report 1938-1939.

[6] *W. Steigenga* "Van sociale analyse naar sociaal-ruimtelyke constructie" (English summary: From Social Analysis to Social—'Spatial Construction). Tijdsch, Econ. Soc. Geogr. January 1963, p. 2.

[7] *"Urban Renewal Notes"* May-June 1963, p. 10. Housing and Home Finance Agency, Urban Renewal Administration, Washington, D.C.

[8] *Richard Seddon,* "Urbanization in the South Pacific", South Pacific Bulletin, January 1962, p. 44.

[9] For a more detailed description of the Centre's functions, see Chapter VII of the Report of the Urbanization Advisory Committee Meeting in September 1961, in Honolulu, Hawaii.

[10] See S.P.C. Technical Paper No. 122.

[11] See S.P.C. Technical Paper No. 137.

[12] These figures are based on some unofficial preliminary conclusions from the census held in June, 1963. See *La France Asutrale,* 15th June 1963.

[13] The density of Suva City is 8.8 persons per acre; that of the Suva Urban Area (i.e. the Constituted City Area plus the immediate urbanized area outside it, excluding Nausori township) 4.7 persons per acre. The overall density of Djakarta and Manhattan is 50-75 and 135 persons per acre, respectively.

SCHOOL HEALTH IN NEW CALEDONIA

(Continued from page 64)

guidance adviser, the family doctor (if any) and the district medical officer. This co-operation will help to produce individuals who are fit and well-balanced not only during their school years but throughout life. It is hoped in the near future to have a full-time welfare service in the schools run by school welfare assistants from the Centre. This would help to maintain closer relations between the Centre, the teachers and pupils.

Solutions will also have to be found to the problem of retarded and handicapped children. Special institutions will have to be set up, staffed with qualified personnel. Some specialists able to attend to pupils free of charge will be needed, such as a psychiatrist, a pediatrician and a physiotherapist. A dental surgeon has long been needed for the staff of the School Health Service. In the main centres of the Territory outside Nouméa, some nursing staff or social welfare agents will be needed for case-finding and preventive and curative medicine, as well as for education at school and in the homes.

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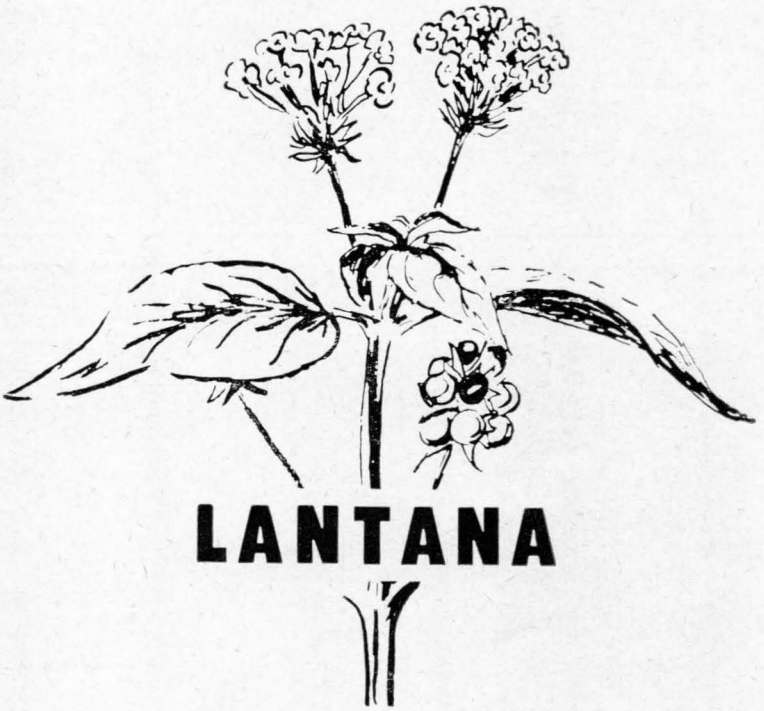

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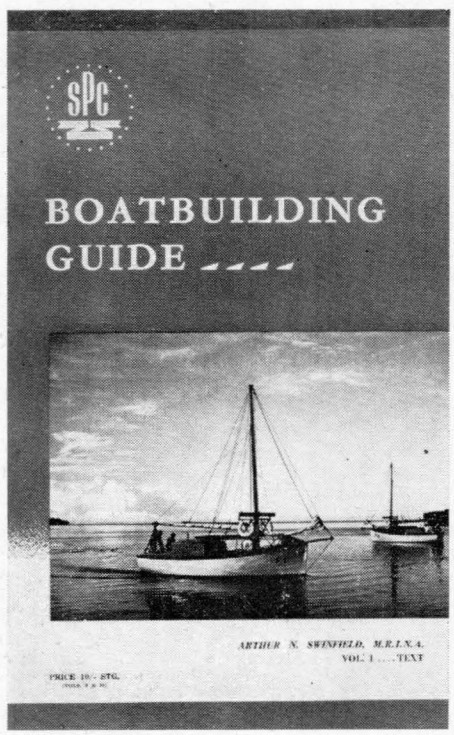

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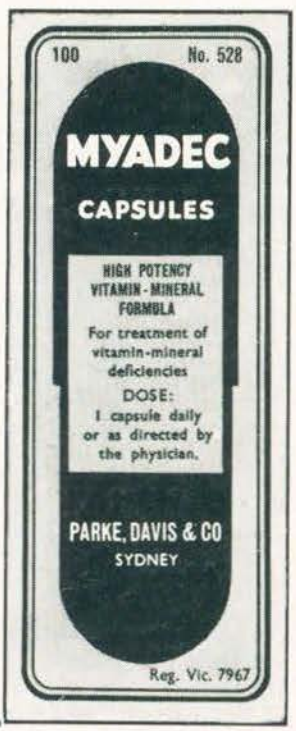

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