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AUGUST 18 - 25, 1965

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Preface

A group of fourteen scholars engaged in behavioral research in New Guinea met in Honolulu, August 18-25, 1965, to consider the state of such research and to make recommendations considering the future of research in that geographical area and how it might be made more effective. This meeting was sponsored by the Division of Behavioral Sciences of the National Research Council. The National Research Council was represented at the conference by G. P. Murdock, A. Spoehr, H. J. Coolidge, and P. B. Hammond. The conference was organized by R. F. Salisbury, who acted as chairman of the plenary sessions.

Eight working committees, assisted by invited consultants, prepared reports of recommendations that emerged from the plenary discussions. These reports, as amended and approved in the final plenary sessions of the conference, constitute the topical sections of Part I of this report. A series of prepared working papers was presented and discussed in plenary sessions of the conference; these papers are presented as Part II of this report. The many geographical references made throughout the report are illustrated in a map of New Guinea. The recommendations of the meeting, which are presented in Part I, are, of course, tentative and, in some instances, represent individual or minority points of view.

The participants wish to express their thanks to the National Research Council for its support and leadership, to the Pacific

Scientific Information Center of the Bishop Museum and the East-West Center of the University of Hawaii for their help and hospitality, and to Dr. Mary Salisbury who acted as rapporteuse and as editor of this volume.

The conference and publication of this report were supported by a grant from the Army Research Office.

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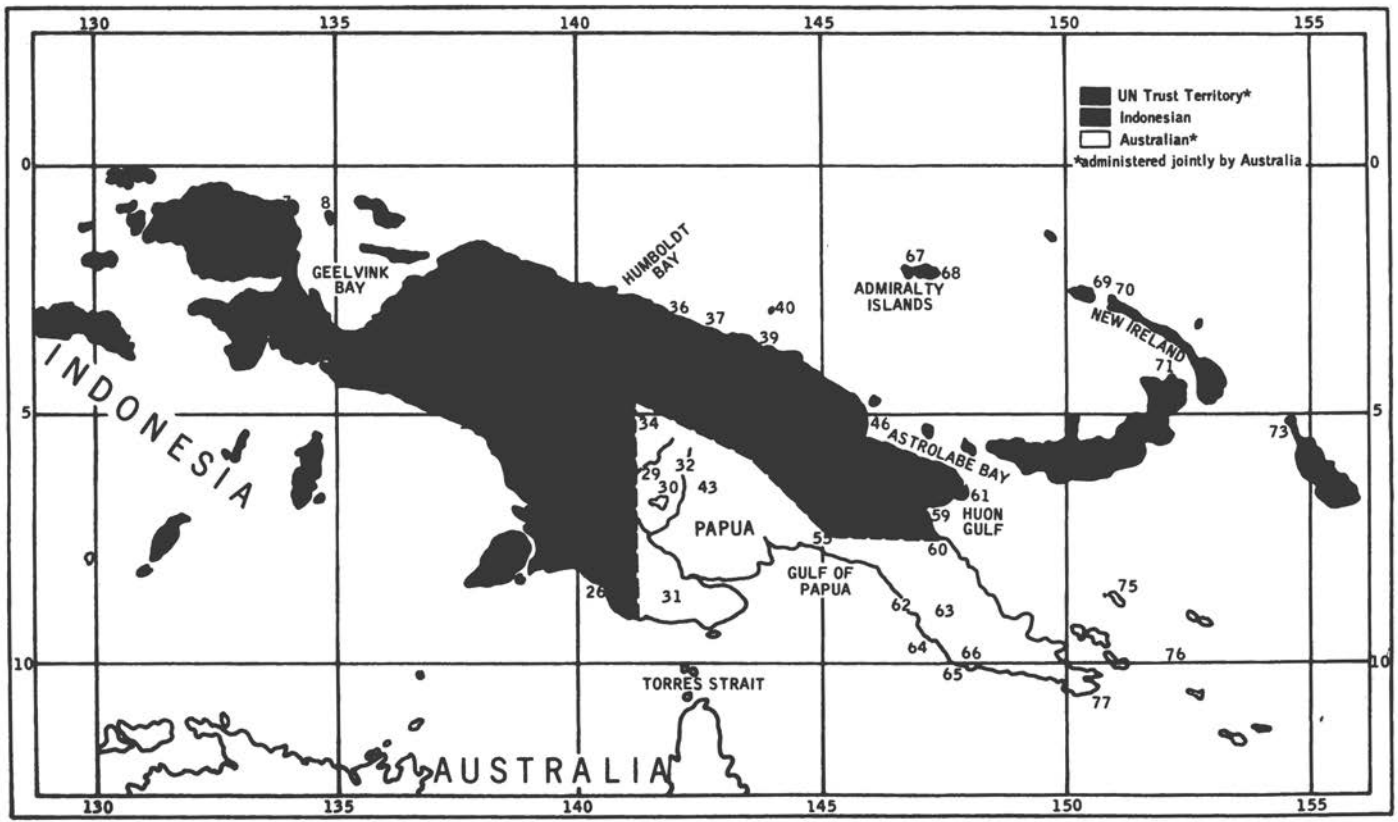
MAP OF NEW GUINEA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PART I

Topical Reports and Recommendations

General Observations and Recommendations

The following observations and recommendations recurred in each discussion of specific fields and topics. Given here in general form, they are also included in specific forms in Part I of this Report.

REPRESENTATIVENESS

All participants in the conference attended as individual scholars, not as official representatives of institutions, disciplines, or countries. The group did not attempt, of course, to discuss all aspects of behavioral science research (see Other Disciplines, page 4). Our recommendations should be seen not as intended to restrict the activities of other research workers, but to open the way for a great extension of research activity in all fields, including those not represented in the composition of the meeting.

OTHER DISCIPLINES

We observe that a preponderance of social science research in New Guinea has been conducted by scholars in anthropology, geography and linguistics. We regret that scholars from disciplines other than anthropology, geography, and psychology were unable to attend this meeting, although some were invited. We feel that there is not sufficient awareness in many social science disciplines of the wealth of research opportunities in New Guinea, and we recommend that these opportunities be brought to the attention of scientists in those disciplines.

OPPORTUNITIES FOR COMPARATIVE RESEARCH

Intergroup variation in behavior is one of the most pervasive and repeatedly noted features of New Guinea peoples. The occurrence of about 400 different languages among a population of three million people is only one index of this. The degree and kind of variation found in one aspect of behavior, occurring in a matrix of common behaviors, can readily be related to other variations of environment, society, culture, or exposure to change. Much if not all the basic theory of behavioral science depends upon studies of covariation. We therefore recommend that New Guinea be considered a living laboratory for studies of this kind, especially where there is a need to hold constant as many features as possible, other than those whose covariation is being studied. Parallel studies of several peoples living within one delimited area are recommended as a promising research strategy for comparative studies.

INTERDISCIPLINARY COLLABORATION

The variation found in New Guinea applies not only to the various aspects of behavior—language, culture, economy, and personality—but to a wide array of conditions (racial, genetic, climatic, physiological, botanical, and geological) that affect behavior. The few pioneer attempts made in New Guinea to relate behavioral phe-

nomena to the biological and physical conditions of human life testify to the promise of interdisciplinary collaboration in this field. We recommend that increased emphasis be given to interdisciplinary collaboration in the design and execution of behavioral studies in New Guinea.

UNCONTACTED AREAS

Contact with modern industrialized countries, a money economy, world religions, and centralized governmental bodies has an irrevocable effect on small relatively self-contained agricultural societies. In New Guinea a few societies remain (the last in the world) where these contacts are still minimal, though in a few years this will no longer be true. It is urgent therefore, for the test of any scientific theory relating to peoples not affected by industrial society, that the remaining relatively uncontacted areas be studied while there is still time.

SOCIAL CHANGE

A corollary to the preceding paragraph is that the speed of social change in New Guinea is greater than it is anywhere else on earth. The tribal war leaders of 10 years ago, who knew only stone tools, today may be elected to a national multiracial House of Assembly whose members fly throughout the territory and make speeches using instantaneous-electronic-translation equipment. In a country undergoing such spectacular change there are some groups that have had extensive contact since the 1870's. In these groups prolonged development has produced a few trained doctors, virtual 100 percent literacy, and annual per capita cash incomes of over $100. New Guinea therefore presents a good laboratory for studying the processes of social and cultural change and development. Cross-sectional studies of different groups at different stages in the process of change provide one possible research strategy, thanks to the degree of variation in amount of contact observable in New Guinea. Another research strategy is longitudinal study involving periodic revisits to an area. This type of study is made

more urgent by the possibility (only for the next few years) of studying changes such as those resulting from the cessation of feuding or from the emergence of towns from their very inception. The process of change is irreversible, and it begins only once.

INDIGENOUS INVOLVEMENT IN RESEARCH

The indigenes of New Guinea are no longer content to be merely objects of research. We recommend the active involvement of the indigenes in the planning as well as the execution of behavioral science research in New Guinea. We wish to draw attention to the example of indigenous thinking on research, an example provided by the paper, "Proposals from Residents at the New Guinea Administrative College" (this volume, page 136). It is an informative and useful document, although we recognize that the group from which it comes is not a representative one.

Ethnography

PRIORITIES FOR ETHNOGRAPHIC STUDY

We recommend that certain basic ethnographic tasks in New Guinea be regarded as urgent. Some societies there require early attention. These can be classified under two headings: (a) studies of the few remaining societies in early stages of contact or still to be contacted and (b) studies of societies that, though contacted for some time, are important because knowledge of them would fill significant gaps on the ethnographic map or serious gaps in our coverage of social institutions in New Guinea; these include some societies that have been studied previously but have not been reported in accordance with contemporary ethnographic standards and interests. The following paragraphs describe these two classes of studies in greater detail.

Uncontacted Areas

Studies are needed of societies in early stages of contact or still to be contacted. These studies are of particular importance for the following reasons:

1. Such societies present unparalleled opportunities for docu-

menting types of human behavior that the advent of Western civilization will soon obliterate. This is relevant for assessing the range of human adaptive possibilities.

2. Such societies present a unique opportunity for recording the kinds of conditions under which a great deal of human biological and cultural evolution has taken place. Many extant biological and cultural traits found among modern industrial populations are probably the result of adaptation to these earlier kinds of conditions, and it is only in New Guinea that we can undertake studies among living populations to show the relation between such conditions and the operation of the biological and cultural traits in question. This opportunity is of inestimable importance for all scientists concerned with processes of human evolution, and failure to marshal all available resources for seizing this opportunity would represent a disservice of incalculable magnitude to scientists now and in the future.

3. The kind of understanding of the predevelopment situation that has been acquired through concerted interdisciplinary research is also essential for assessing potentialities for economic and political development among New Guinea peoples.

Granting these three reasons, the following particular locations are suggested as good examples of societies either in an early phase of contact or still to be contacted. This list is not exhaustive.

One of the most promising areas extends north of Lake Murray from Mt. Bosavi in the east through the Star Mountains, possibly as far as the Juliana Mountains in the west, and in the south to the tributaries of the Strickland River, and includes the Indonesian patrol posts at Waropko and Sibil.

Within this area is a series of recently opened governmental patrol posts that includes (a) the Nomad Patrol Post, which is located near Mt. Bosavi and has an immediate population of 3,000 to 5,000 indigenes, known collectively as the Biami, who are characterized as aloof but not actively hostile. The Nomad River, upon which this patrol post is situated, is a tributary of the upper Strickland; (b) the Ningerum Patrol Post, which is located closer to the West New Guinea (West Irian) border and has in its locale 10,000 to 11,000 people about whom little is known; and (c) the Olsobip Patrol Post which is located approximately 40 air miles from Telefomin in a rain forest - limestone type of environment. Recent newspaper reports of discoveries of "new" people near Mt. Stoll refer to the northern edges of this area.

There is every prospect of greatly increased governmental activity within the next year or two. At the same time, the construction of new patrol posts with airstrip facilities represents a favorable logistic situation for field ethnography.

The area between the Baliem River and the Juliana Mountains is important as linking the Star Mountains and the Dani peoples. It includes the western tributaries of the upper Digul River and the Mt. Goliath people near the tributaries of the upper Eilanden River.

The area near the Oksapmin Patrol Post, located east of Telefomin, is important because, according to recent reports, people there are still using stone tools.

The area in the vicinity of the Wonenara Patrol Post, to the south of Kainantu, east of Okapa can be reached by air. Also of interest are the so-called "Kukukuku" peoples south, east, and west of the Wonenara Patrol Post.

Contacted Areas

Studies of societies that have been under contact for some time are important either because they fill a serious gap on the ethnographic map or because they would fill a serious gap in our coverage of social institutions. A few among many possible examples are outlined below.

On the southeast coast of New Guinea are a number of societies with institutionalized chieftainship; examples are Gabadi, Nara, and Mekeo, none of which has been adequately described. The relevance of this comment also extends to the study of chieftainship in the Massim area.

In the Western Vogelkop between Sorong and Ajamaru there are secret societies and houses of male initiates who concern themselves with female witchcraft. A study of this is urgently required because these institutions have never been adequately described.

The Ramu Valley and the Adelbert Mountains appear to have been left largely uncovered by professional ethnographers.

The societies of the hinterland and foothills in southern New Guinea behind Rigo and Port Moresby, the Koiari, for example, should be studied.

No work has been done in the coastal plain area west of Wewak, specifically in the But-Boiken area, stretching west to the Ulau and Yakamul, or in the Gawanga census area southwest of Maprik.

Additional work should be done among peoples of southern New Guinea between the Mimika and Elema, especially in the Asmat areas.

Modern ethnographic fieldwork would be desirable in many areas of New Britain, New Hanover, southern New Ireland, and other

islands of the Bismarck Archipelago for which the existing sources are mainly those of the German Südsee Expedition of 1908 or fragmentary reports by Parkinson in 1907.

The absence of work in the highlands, noted by Elkin, has largely been corrected.

RECOMMENDATIONS CONCERNING THE IMPLEMENTING OF ETHNOGRAPHIC FIELDWORK

Information Pools

Information on newly contacted peoples should be made available to the anthropological community for collection and for dissemination to interested scholars as soon as possible. It is suggested that this might become a function of the New Guinea Research Unit of the Australian National University (ANU) and the Indonesian Science Council (MIPI).

We have in mind the necessity of bringing this sort of information together with information concerning the availability of fieldworkers ready to go into the field. In this connection it would be most advantageous if the administration of New Guinea could facilitate the work of suitably qualified anthropologists by permitting their entry into newly opened areas at the earliest possible opportunity.

At the same time, we should like to point out that the Administration of New Guinea is entitled to a quid pro quo in the form of information that it might desire to have.

Funds for Junior Workers

We recognize that basic ethnographic research may require intensive and prolonged fieldwork for a period of at least 2 years, and we therefore recommend that every effort be made to provide funds for a study of this length. We recommend also that, in order to hasten the production of results from such ethnographic research, funds be made available for an additional 2 years for the preparation of material for publication. Similarly, current ethnographic field techniques require the employment of skilled indigenous

assistants and the use of expensive material aids, including tape recorders, film equipment, and computers and other data-processing devices for which liberal funds should also be made available.

Funds for Established Workers

Established professional anthropologists tend to leave field research to junior workers. This practice limits the effective use of the senior scholars' accumulated knowledge and experience. It is important, therefore, to enable established scholars to return to the field, either to continue their own research or to direct that of their students, or both. Funds should be made available to facilitate this action.

Orientation Training

Possibilities for financing pre-fieldwork orientation sessions for prospective New Guinea fieldworkers at universities with experienced staffs should be explored.

The Study of Social Structure

Ethnographers in New Guinea have been especially interested in studies of social structure. These studies must be pursued even more vigorously to advance the state of anthropological knowledge and theory in general. This section has to do with that part of ethnography concerned primarily with the problems of social structure.

Advantages of New Guinea

New Guinea presents certain characteristics that make it particularly desirable for the study of social structure. Among those characteristics are the following:

There is in New Guinea a variety of social structures existing under varying conditions of environment and acculturation. Groups tend to be small, local, and relatively isolated.

While the future development of modern theory in social structure depends upon research in such areas, relatively few societies in New Guinea have been studied with modern techniques.

Because of the low intensity with which contact has been made in some parts of New Guinea, many societies have remained relatively unaffected.

Recommendations on Research

The following areas for social-structure research are among those that hold great promise.

Only recently in social-structure theory have certain formulations been made—for example, formulations concerning bilaterally organized societies. Many such formulations can now be tested to great advantage in New Guinea.

The study of acephalous stateless societies with heavy population densities is of special interest for the understanding of governmental processes. New Guinea provides a wealth of material for such studies.

The fact of structural variability makes New Guinea societies unique, first for coordinate studies of immediately adjacent peoples by small collaborating groups of fieldmen, and second for the comparative study of peoples who, though not adjacent, show a spectrum of variation with regard to one or more identical or analogous principles of organization, such as unilineal or amilineal descent or dualistic principles.

Exchange networks have unusual importance in the general area of New Guinea, and there is an unparalleled opportunity to study such networks as integrating mechanisms within and between communities.

The opportunity is also presented for studying relations between closely interacting but radically different social systems, e.g., marital and residential arrangements between communities characterized by different types of unilineal descent.

The collection of genealogical material in studies of social structure can be of great value for studies of processes of biological evolution and population genetics, both of which constitute subject matters that can be studied to special advantage in the characteristically small local groups of New Guinea.

RECOMMENDATIONS CONCERNING INTERDISCIPLINARY RESEARCH

Recognizing that some ethnographic topics increasingly call for interdisciplinary research, drawing upon biological and physical

as well as social and cultural data, we recommend that the following provisions be made.

Nonethnographic Workers

Funds should be available for the collaboration of workers from other disciplines so they may pursue research with demonstrable relevance to the findings of the anthropological fieldworker.

Teams of Workers

One way to pursue interdisciplinary research is to send a complete team into the area to be studied at the outset. Alternately the ethnographer might proceed first to the field and might then arrange for progressive assistance from members of other disciplines as it becomes evident that their skills are needed. Conversely, members of these other disciplines should be encouraged to draw upon expert ethnographic counsel as it is needed.

Some of the topics in which interdisciplinary research has proved or may prove useful are: (a) ritual regulation of ecosystemic relations; (b) cultural, psychological, and physiological reaction to problems of stress; and (c) nutritional problems.

Resources and Economics

BACKGROUND OF EXISTING WORK

Geographical research in New Guinea has been concerned mainly with agrarian problems and related social inquiries. The environmental studies made by the Australian Commonwealth Scientific and Industrial Research Organization (CSIRO) and the Australian National University (ANU) have likewise been concerned mainly with the resource base of agriculture and forestry. The scope of geographical research is potentially much wider, and in other Pacific territories geographers have also worked on problems of population, industry, transport, and organization and on studies of regions rather than individual locations.

In economics, Western-type inquiries date from about 1962 and are again concerned mainly with problems of rural development. We also call attention to the specific industry studies carried out by the Australian Bureau of Agricultural Economics.

Bearing in mind the extensive literature on the economic development of underdeveloped territories in general, we recommend New Guinea not merely as offering particularly important opportunities for replicating studies done elsewhere, but as a field for studies that have intrinsic value in the advance of theory.

RECOMMENDATIONS ON RESEARCH

It is of prime importance that the resource evaluation inquiries now being carried out be extended to the whole territory, and that a comprehensive population census on a de facto basis be undertaken soon. Such a census is needed to determine where people are actually living and working, as well as for more strictly demographic purposes. In view of the fact that about one in six of the adult male population is employed, generally away from the "home" area, the de facto basis is essential. This is a prerequisite of much research that must be undertaken in migration, employment, and urbanization.

This general recommendation does not rule out the need for specific-purpose censuses that may be required for social science research in particular areas, such as towns. These would present a range of questions wider than and different from those that could be asked in a general census.

The rest of this section discusses those specific research fields with high priority that we think should be included.

Ecology

Minute local variations in environmental conditions are of great importance in understanding the human ecology of New Guinea societies. While much work has been done on this subject in recent years, especially in the highlands, much more remains to be done. It is important to stress, however, that such work should be soundly based scientifically, in particular with regard to microclimatology, plant ecology, and soil-formation processes. Without such precision, ethnoecological work must remain in large measure descriptive. Despite the help provided by the CSIRO surveys, anyone working in this field in New Guinea must have expertise available to him either by his own training or through consultation with specialists in the natural sciences.

Geographical areas of particular significance include places where some form of climatic or other environmental stress imposes difficulties on cultivation. These might include, for example, the upper and lower altitudinal fringes of dense settlement in the highlands, the dry pockets, areas of very high rainfall, and certain coastal areas backed by very unproductive hinterlands. While much ecological work is routine and descriptive, the matter of theoretical

significance will emerge from the comparative evaluation of the technology with which similar and different environments are exploited. It is often argued that the environment itself imposes limitations; however, it should be questioned whether the difficulties lie, in fact, in deficiencies of technology. There is a direct link between ecological studies and social-structure studies in inquiries into the system of land allocation. In this field, guiding hypotheses exist for the selection of areas of particular interest.

There are certain areas in which the relationships between man and resources are undergoing modification in new ways and at unprecedented speeds. These modifications arise from various causes, including rapid population increase, enhanced mobility, introduction of new crops and technology, use of money for consumer purposes with consequent effects on land use, and labor migration that withdraws labor from the land. We feel that there is a need to examine the suggestion that modifications are locally leading to incipient and actual destruction of agricultural resources through soil impoverishment and erosion.

Agricultural Development

There are many instances in New Guinea of rapid agricultural change resulting from the introduction of cash crops and possibilities for consumer use of money. These are being met in some cases by spontaneously developed devices containing elements of traditional practice. All these need investigation on their own merits. The automatic adoption of Western practices, as has been advised too often, provides an insufficient range of potential opportunities to meet the specific needs of labor, capital, and resource use required to maximize potential in a changing economy. The urgency of research in the field is underlined by the speed with which changes are occurring and by the fact that the present early stages will never recur. The fluidity of the situation allows a wide range of opportunities for research, including inquiry into changes in the allocation of time, in the value system, in land selection and tenure, in diet, in social organization, and in settlement pattern. For example, in some areas the planting of cocoa and coffee has advanced from a novelty to a dominant industry in as short a time as 8 years. There is also a wide field for study in all coastal areas in which extensive coconut planting is now being carried out and in areas adjacent to urban or other markets around which cash-crop production of vegetables is rapidly expanding.

Population, Settlement Pattern, and Migration

New Guinea offers an almost unique laboratory for the study of settlement pattern. There is almost every possible variation from very large nucleated villages to complete dispersal, accompanied, even within limited areas, by a great variety in family residence arrangements and local organization. A single study in Chimbu, utilizing records of individual residence and movements over a period of 8 years, suggests that much of the variation may be accounted for by changing gardening activities within single areas. There is, however, a need to study the variation comparatively, as between different areas. The variety of settlement patterns occurring in New Guinea presents a challenge that should not be further neglected.

Inquiry into the factors determining population distribution has been made only in a general and preliminary way, whether over the territory as a whole or in small regions. It should be possible to produce much more detailed and thorough analysis of population distribution, taking account of medical as well as more strictly social and geographical determinants, if population data, map data, and aerial photography are improved.

Migration also calls for more thorough inquiry than it has yet received. Migration may be either temporary or permanent and may involve movement to plantations, towns, or resettlement areas under local and spontaneous or under government-sponsored schemes. Resettlement and migration should be viewed as adaptation to a changing demographic situation on the one hand and to a changing pattern of resource use and economic development on the other. Both general and detailed studies of migration and resettlement are urgently necessary.

Land Tenure

It has been argued that traditional tenure systems existed in a context of small autonomous communities in subsistence economies at relatively fixed levels of consumption and with low long-term rates of population increase. Under such systems the adaptation in short-term changes needs careful study.

The context within which the traditional tenure principles operated has now changed markedly in most parts of New Guinea. Commercial sources of food, clothing, and other commodities have provided an alternative to land as the basis of subsistence. Cash

cropping, new forms of economic organization, and the use of money (which is exchangeable for an increasing range of goods, services, rights, and relationships) result in having the land serve functions different from those it served in traditional society, and in having people manipulate in new ways those social relationships that are relevant to land. Increased mobility has resulted in large numbers of people living within cultures whose tenure principles are different from their own. Improved communication has resulted in increased familiarity with other tenure systems to which people may turn in their quest for precedents to solve new tenure problems.

The following research studies are recommended:

1. Economic studies of productivity relative to inputs of land, labor, and capital; questions of scale, mechanization, and work organization.

2. Studies of the legal aspects of indigenous tenure principles and their adaptation and/or integration into a national tenure framework and of existing and possible systems of land courts, land codes, and legal procedures.

3. Studies relating to the recognition of local versus national, indigenous versus expatriate, and local versus indigenous immigrant interests in land.

4. Studies to relate land tenure to other principles of organization and social relationships; to examine the patterns of social organization involved in the many novel forms of land-working units such as cooperatives, quasi-companies, clan associations, and village plantations. The nature of sanctions applied should get particular attention.

5. Studies of the conflict between individual and group interests in land.

Regional Relations

Trading between contrasting resource zones has always been present in New Guinea. However, to date studies have tended to concentrate on specific systems without attempting to view regions as interdependent. Studies taking interdependency into account are urgently needed.

This continues to be true under conditions of urbanization and industrialization where completely new directions of flow are being evolved. Aggregations of population, wealth, and goods-transfer facilities into limited places and areas are creating a new pattern of

movement of people and goods. The nature of this pattern provides a field of research that is almost untouched. The whole subject of rural-urban relations fits into this category as do the effect of a developing road net (e.g., in the central highlands) and the effects on the distribution of wealth, and hence of trade and labor movement, produced by the concentration of intensive cash-crop development in very limited areas of New Guinea.

Traditional Exchange Systems

The study of the patterns of flow of goods and persons between resource zones also demands economic study, that is, consideration of how these flows are regulated and the rates at which different goods and services are exchanged. The various series of exchange systems in New Guinea have traditionally employed not an open-market system of price fixing but systems of culturally standard (though practically flexible) "fixed equivalences," barter arrangements, and delayed reciprocity between trade partners. How exchange rates are determined in the absence of open markets is an important theoretical issue, both in economics and in anthropology. More quantitative studies of actual exchanges throughout entire networks are required if theoretical advances are to be made in this field.

A related study should concern the emergence of middlemen. The conditions under which specialized middlemen emerge can also be studied in New Guinea from a comparison of networks in which middlemen do occur, and those in which they do not. The basic descriptive research to permit such a study does not yet exist in print.

Another series of exchange networks within single regions involves flows of goods and persons, in which the utilitarian aspects of the commodities exchanged appear secondary to other purposes. These exchanges, of which the kula system is the best known, have often been called ceremonial exchanges. Hypotheses abound regarding the functions of exchanging, but none has been adequately demonstrated from the fragmentary (if abundant) data on hand. A common feature of these hypotheses is that they regard the exchanges as "control mechanisms"; changing rates of flow of the goods exchanged serve in some way to correct imbalances in other activities of the exchangers. To test any such hypothesis adequately demands that flows be measured throughout entire networks, and that mea-

surements be taken at many different time periods. Historical depth as well as regional coverage must be obtained in future research.

Transitional Economic Forms

Administrative officials in New Guinea have tended to equate economic development with the presence of economic forms common in developed countries, such as cooperatives, large-scale plantations, banks or credit associations, and public utilities as agencies of local government bodies. These Western economic forms have been extensively promoted.

Along with these forms, other forms in an almost infinite variety, which compete or attempt to carry on the same tasks, have emerged spontaneously. Consequently, much economic activity in New Guinea is being carried on by forms that are neither Western nor traditional in nature. For convenience, all these forms are grouped here under the rubric of "transitional economic forms." Two prevalent examples of these in New Guinea today are private retail stores owned by indigenous entrepreneurs and partnerships or kin "associations" owning resources and retaining profits from them while operating them as a service for members, partners, and other participants. All these forms have great intrinsic interest but have scarcely begun to be described in published work except in the bulletins of the ANU New Guinea Research Unit.

Transitional economic forms have great theoretical importance in numerous fields, all of which need study.

In developmental economics, inquiries are being made into what constitutes the "social infrastructure" prerequisite to economic takeoff. The more obvious features, such as education, communications, and roads, for example, have been observed to be necessary but not sufficient conditions for takeoff; the spontaneously emerging economic forms of New Guinea may well throw light on additional organizational factors needed.

For the study of entrepreneurial history, these forms show a high development of individual enterprise, and would provide excellent tests for theories about the emergence of enterprise such as those of McClelland or Hagen.

For students of economic organization, the wide variety of forms that emerge concurrently and often in successful competition with such officially sponsored fors as cooperatives provide a laboratory situation for isolating the particular organizational forms that are best adapted to particular environments.

For the anthropologist, the frequent occurrence of traditional elements in the new forms (pre-existing links of barter - trade partnership used to market new cash crops, or ceremonial distributions used to establish credit, which is then used for the purchase of large items of capital equipment, for example) presents an opportunity to analyze the degree of flexibility of institutions, or to re-examine preconceptions about the former functioning of traditional societies.

Politics

GENERAL RECOMMENDATIONS

In addition to studies of formal governmental institutions there is a pressing need for studies of emerging patterns of local, regional, and national political behavior.

New Guinea offers a combination of situations that should be of particular interest to political scientists and other students of political behavior. To date it has not received the attention that it merits. Research includes the work of anthropologists and of four or five students of government. Yet, in New Guinea there is an opportunity to study the emergence of nationhood in a colonial situation before it has taken place.

SPECIFIC RECOMMENDATIONS

Some distinctive features of the New Guinea situation that demand examination by students of political behavior and government are treated in detail in the following pages.

Lack of Coordinated Movements

In Papua - New Guinea the evolution of an independent nation without a nationalist organization to oppose the metropolitan power has been characterized by frequent local uncoordinated attempts at separatist and independence movements. This is expectable in view of the fragmented nature of indigenous communities. As a consequence, a crucial focus for study is the necessity for specialized associations of the Western type and their role in the formation of political groupings, parties, and alliances in creating any sense of national unity or identity.

Ad Hoc Government Policies

Recent Australian policy toward New Guinea has shown haste and drive in promoting development and public investment, but there appears to be little evidence of clear-cut decisive application of policy in many other important areas. For example, local government councils and cooperatives appear to have been promoted without a full understanding of their implications. On the other hand, the apparent tendency of indigenous people to experiment, coupled with their empirical approach to life, suggests that they may make unexpected but successful adaptations to central-government policy. As a consequence, studies are needed concerning policy formation and the implementation of particular policy decisions by the central government in both parts of New Guinea. These need to be related to comparable studies from other Pacific and colonial areas.

Consensus as a Goal

In developing a national legislature in New Guinea, the Australian administration has adopted a policy of keeping one jump ahead of the vocal demands of the people. This contrasts with the rearguard nature of developments in some other colonial territories. It seems to be accompanied by a view among New Guinea politicians that the political process which is not one characterized by conflict of interests, is a matter of achieving consensus. Conflicts of economic interest may in due course find political expression. As a consequence, explaining and understanding the emphasis on consensus is a problem for study. Is it related to the low level of political

sophistication or experience with introduced political arrangements, or is it typical of indigenous political arrangements?

Conflict between Central and Local Pressures

New Guinea offers opportunities for those interested in dialectical approaches to political development. On the one hand, the central administration is obliged to establish institutions that run at levels of efficiency likely to meet the requirements of sound local administration, balancing international trade, providing economic independence, and so on. On the other hand, many indigenous people are unaware of such demands emanating from sources of national responsibility, and they are unaware of the discipline such demands involve. Their interests tend to be local and ethnocentric. While accepting new institutions as something to be experimented with and something that might give a return, their attitude is inadequate to meet the requirements expected of the administering authority. This could make for conflict. Introduced institutions come to be used for different purposes and come to have meanings different from those their introducers intended. Thus, studies are needed of how far the new syntheses conform to the theoretical expectations of political scientists or, in practical terms, of how far they meet the need for national or statewide political organization.

The Impact on Indigenous Way of Life

Politics must also be studied from the indigenous point of view. For example, introduced institutions such as missions, schools, local councils, and economic-development programs, are making increasing demands on the time and resources of the people. The people are engaged in subsistence and cash-crop agriculture, or both; in ceremonial preparations; and in other essentials of their way of life. As a consequence, studies are needed concerning the nature of changes in life patterns or in the efficiency of indigenous organization, changes that are occasioned by these new demands, especially by the political ones that appear unavoidable. It is questionable how far the latter demands are seen as legitimate by indigenes, so the theoretical issues of how government can operate without acceptance of its legitimacy by its subjects can be studied in New Guinea.

Elite Legitimacy

Anthropologists interested in political behavior have opportunities to inquire further into the nature of political power and its legitimation in local and indigenous societies and into attitudes toward innovators, strangers, professional practitioners (teachers, doctors, and witch doctors), local and national politicians, and bureaucrats. Conflicts between various types of elites may emerge.

Political Attitudes

Studies are needed of the stereotypes that indigenous people apply to others, and of how they classify the rapidly changing world about them. Similar studies are needed of expatriates, educated elites, indigenous entrepreneurs, managers of commercial companies, church leaders, and other minority groups.

Consciousness of the Wider World

The nature of awareness among indigenes of the place New Guinea holds in the world should be studied. Without this information, analyses of the policies of indigenous political leaders when the country obtains political independence will be of limited value. Such information would assist in predicting the influence of external foreign policy on political independence.

Regional Differences

In Papua - New Guinea there is a variety of political reactions by whole tribal societies to innovations. For instance, there are regional differences between highland and lowland groups in what people expect from introduced political institutions. The groups differ in the size of their language groups, in social structure, in the duration of contact with Western culture, in cargo philosophy, and in traditional routes of intertribal communication through trade. As a consequence, comparative regional studies would be of great scientific interest (see "Research into Regional Economic, Educational, and Political Development," page 72).

Communication Problems

Difficulties of communication are a pronounced feature of New Guinea. The principle of democratic representation in political institutions presupposes an adequate system of communication. Of the mass communication media, the transistor radio has already shown its importance for a largely illiterate and spatially dispersed population. Studies of mass media communication and, particularly, of its political effectiveness are needed. The roles of rumor and word-of-mouth transmissions should be studied.

National Integration

The emergence of a national sense of unity and the subsequent development of a new nation are in the making in New Guinea. Needed during the process are studies of integrating mechanisms. Features that seem characteristic of New Guinea are the absence of charismatic leaders of national stature; the pragmatic approach of indigenous people, their expectation of tangible returns from leaders, and their interest in wealth; the retarded development of an educated elite of senior indigenous executives within the civil service; the quality of the military and police forces; the apparent acceptance of election to political office as a method of distributing power; and the development of fiscal and taxation policy. Students of politics may find this area of inquiry rewarding theoretically, and the research may have direct practical implications.

Urbanization

CHARACTERISTICS OF NEW GUINEA TOWNS

The changes currently taking place in New Guinea cannot be comprehended in their entirety without taking into account the growth of towns. Although New Guinea towns are not yet large (Port Moresby has a population of approximately 35,000), they offer significant opportunities for the comparative study of urbanization. Certain of their characteristics relevant to research are discussed below.

Documented History

The towns are recent, and their history has to a large extent been documented. In a number of cases the historical record of town growth can be determined from the very beginning.

Rapid Change

New Guinea towns are undergoing very rapid change. They both reflect and contribute to social and cultural changes taking place in New Guinea as a whole, and they serve as foci of power. Their

inhabitants are undergoing a rapid transition from rural and even primitive life to that of town dwellers.

Intratown Diversity

Within each town there is marked diversity. In the economic sphere there is diversity in wages and sources of sustenance and in the area of entrepreneurship. Town dwellers are diverse in ethnic origin and in the language groups from which they are drawn. Although it is the movement of indigenous New Guinea people to the towns that contributes most to their increasing size, Europeans, Chinese, Japanese, and individuals from other Pacific islands are also present. Persons of mixed ancestry, who have not yet found their place, are an important group for study. In these towns there are particularly marked differences in levels of knowledge and sophistication.

Intertown Diversity

There is also diversity in the character of towns. Some are port towns, while others are in the highlands. Some are very recent; others are older and more established. In some areas networks of small towns are developing. With the growth of transportation it can be anticipated that towns will affect one another, as well as their respective hinterlands. These hinterlands themselves are different environmentally, economically, and in the characteristics of population, and they affect the character of the towns to which they are contributory.

Number of Towns

New Guinea towns are numerous enough to provide a comparative framework for study in New Guinea alone. In the Territory of Papua, Port Moresby, Rabaul, Lae, and Madang are the largest and most important towns. The following Papuan towns may also be considered important: Wewak, Kavieng, Lorengau, Samarai, Goroka, Sohano, Kokopo, Banz, Minj, Wabag, Kainantu, Kundiawa. To these can be added the West New Guinea (West Irian) towns of Sukarnapura, Manokwari, Merauke, Biak, Sorong, and Fakfak.

Background Material

Urbanization research in New Guinea has not been entirely neglected. Several studies have been initiated in Port Moresby, Biak, Manokwari, Sukarnapura, Rabaul, Madang, Lae, and Goroka. These studies indicate the complexity of the problems involved and can serve as a useful base for future work.

RECOMMENDATIONS ON RESEARCH

Statistical Data

The kind of statistical descriptive data that are normally compiled by governments and that are a fundamental requirement for understanding the dynamics of urbanization in metropolitan countries do not exist for New Guinea towns. Nor do the government authorities in New Guinea have the facilities to procure such data. Future research on urbanization in New Guinea therefore requires provision for this type of data gathering by research personnel competent in demography, statistics, and other relevant fields.

Morphology of Towns

Although the study of process is inherent in the concept of urbanization research, the morphology of New Guinea towns has not been blocked out in terms that make possible the comparison of their differences and similarities, or comparison at different stages of development within a single town area. The measurement of population movement between town and hinterland, of communication channels and transport facilities, of spatial arrangements within urban and peri-urban communities, of the flow, utilization, and control of the economic resources on which the town depends, has barely begun. Internally, the nature of town organizations and of economic aspects such as entrepreneurship, employment structure, and capital distribution are, for the most part, yet to be worked out.

Social Relations of Town Dwellers

There is a need for basic descriptive case studies of interpersonal and intergroup relations between members of the same tribe (sensu lata) in towns and in their communities of origin, in small urban neighborhoods, and among the members of common-interest groups, such as church clubs, welfare societies, and trade unions. In each case, the researchers should follow individuals into their homes and from there through the whole range of their social activities and interactions, including their experiences at work. The aim of these descriptive studies, focused upon various cross-cutting segments of urban society, would be to build up a comprehensive but finely textured guide to the total range of social relations into which urban residents enter and to the diverse processes by which they adapt themselves to the conditions of urban life. Like the other research tasks already recommended, work of this kind is a necessary preliminary to specialized studies of particular variables in the urban situation.

Urbanization as an Ongoing Process

The recommendations given above are intended to provide the necessary descriptive basis for the specialized examination of change. The New Guinea town dweller is becoming a kind of person previously unknown in New Guinea, and the urban society of New Guinea is a kind of society that only a short time ago did not exist in the area. The following questions, which are by no means exhaustive, indicate problem areas arising when urbanization is viewed as an ongoing process.

What are the emerging patterns in the distribution of power? In the economic sphere, worker - management relations, the relation of the ever-present urban squatter to landlords, and the control of rights of numerous kinds are relevant fields of investigation. Also, how is the organization of large-scale business enterprise effecting indigenous economic change?

What is the process by which town elites are being formed, and what kinds of new roles, statuses, and social functions are they assuming? In what areas of town life, such as trade unions or political groups, are they becoming most active? We know that, as these elites develop they maintain contact with friends born in the same area who form elites in other towns. The importance of these intertown connections in contributing to a regional rather than a purely local elite has not been explored.

What is the nature of urban kinship organization, what are the factors of urban life that act upon it, and what changes are taking place within it? How important is marriage in the towns between persons of different tribal and linguistic backgrounds? What are the forms of domestic family organization, and why, in at least some cases, does the extended family as a residence unit persist and even become accentuated? What are the characteristics of the "culture of poverty" present in the numerous slum and squatter areas?

Governmental machinery in New Guinea tends to be adapted either to the village or to the centralized administration of the region as a whole, rather than to the town. How is urban local government developing in relation to other facets of social change, and what sections of the urban population are most active in its formation?

The presence in New Guinea of Europeans, Chinese, Japanese, Pacific Islanders, and mixed-bloods, in addition to indigenous peoples, makes the study of racial and ethnic relations imperative. What kinds of social and economic interactions are taking place among these groups, and how does this interaction affect the character of urban life?

What kind of town - hinterland patterns are forming, and how are the hinterlands themselves being transformed?

New Techniques of Investigation

Finally, the towns of New Guinea are of sufficient size and complexity to demand the devising of ingenious and refined techniques of investigation. For this task, the training and employment of indigenous research personnel promise more fruitful urbanization studies.

Intellectual Life and Development

In order to understand culturally different people we must know something of how they reason, think, and perceive as well as what they think, what they perceive, and what they reason about. Both the process and the content of thinking are subjects for investigation. Thinking and perceiving operate on the physical world and on the economic and social milieu. They apply, too, to the magico-religious components of the total environment. This field clearly lends itself to an interdisciplinary approach.

THE COGNITIVE PROCESS

The general approach of the psychologist to the problems of how cognition operates is empirical, quantitative, and instrumental.

General Capacity

Work already done on the general cognitive capacity of the indigenes of New Guinea shows some similarities to European results and some differences.

Studies by McElwain, Ord, and van der Hout indicate that the mean level of general cognitive capacity is equal or nearly equal

to that of Europeans. Generally, non-Europeans are inferior in performance on standard intelligence tests, even where the obvious limitations of language and culture-determined content have been removed. However, when steps are taken to maximize the validity of the item types and of the items themselves within the non-European culture, the difference in mean performance between the European and the non-European groups is reduced accordingly.

The development of adequate and valid tests of general cognitive capacity has an important practical application in New Guinea. Such tests can be used to identify children capable of accelerated training in European-type skills, who will constitute a large part of the emerging elite.

Specific Abilities

It is clear now that the nature of the "cognitive attack" differs from population to population. There are differences in the repertoire of solution tactics available for problem solving. For instance, European persons seem to be able to recognize and to use symmetry readily when this is appropriate. A problem whose formal properties are symmetrical is more easily solved by Europeans than by New Guineans, who seem to lack symmetry in their repertoire of problem-solution tactics.

Detailed study of specific areas of pronounced ability or disability has great theoretical interest. It is important to know whether these abilities or disabilities are general and inherent or are learned and can therefore be affected by specific training.

Cognitive Dysfunction

Some clinical evidence suggests that depressive disorders of cognitive functioning are much less frequent in New Guinea than they usually are in urbanized European communities. The degree of these dysfunctions has to be measured, particularly senile dementia, although this seems relatively infrequent and mild.

"Cognitive Progression"

The "cognitive progression" should be studied throughout the whole life period (holding sex constant). Of particular interest for study

is the way in which belief systems are acquired. Are there crucial differences between how a New Guinean acquires his view of how the world operates and how a European acquires his world view?

Sex Differences

Some studies in New Guinea show a sex difference in performance on cognitive tests, males being superior. When such a difference appears in a European group, as it frequently does on practical-performance nonverbal scales, the difference is attributed to skills differentially acquired that probably do not have a biological basis. It would be of interest to get at the basis of differences in New Guinea. Do male children have training and experience of a general kind that equips them better than females for problem solving?

THE CONTENT OF COGNITION

Cognitive studies are further usefully extended by inquiries concerning the contents of fields of knowledge among the people we seek to understand.

The Universe

The actual and cognized universe of Melanesians can be divided, for analytical purposes, into three systems. These are the economic system, man in relation to his physical environment and its resources; the socio-political system, man in relation to other men; and the religious system, man in relation to gods and spirits.

Some studies indicate, however, that this universe represents a single realm, without the usual European distinction between the spheres of the natural and supernatural. Men, gods, ancestors, and objects coexist in the natural environment.

Views about the universe and its component systems show some variety throughout New Guinea. Understanding of these views may be advanced by inquiring into the different concepts that serve to explain and organize the universe, and into the causal agents that are believed to rule it. The degree of purely secular and magico-

religious interpretation of the economic and socio-political systems and the degree to which man uses purely secular techniques, or combines them with ritual, to control or manipulate his environment must also be considered.

Needed Research

Among the possible lines of inquiry are developmental studies of interpretation and of notions of causality within individual societies; comparisons of these interpretations and notions in different societies; thematic analysis and comparison of explanations, such as those given in myths; and psycho-linguistic investigations of such elements as transitive verbs and collective nouns.

Personality

GENERAL RECOMMENDATIONS

The term personality is used here in a wide and general sense as the mediator of behavior and as the psychological structure that may be a determinant of behavior in specified situations.

Although still far too few, investigations of intergroup personality variation in New Guinea suggest a range of differences at least as great as that of other aspects of behavior. Patterns and rates of suicide (or the absence of suicide), dependence or autonomy, sex attitudes and sexual roles, inter alia, have been used by some workers as indicators of personality, and all show considerable intergroup variation. Such indications thus provide justification for the continued, indeed intensified, study of psychodynamic processes, child-rearing practices, and the assessment of affective, as well as cognitive, perceptual, and motivation characteristics of New Guinea peoples.

Although local variation in New Guinea seems to be most striking, it is quite possible that more broadly based tendencies in character and character formation may accompany or underlie these local differences, and these broader tendencies also warrant study. Pioneer efforts to describe these more general qualities of personality in New Guinea include some notable works, such as those of Mead, but these are inadequate in number. They empirically

seem to support the notion that a certain group of tendencies is particular to a certain locale. However, given fine-grained local studies and the chance for productive comparisons within surprisingly small distances, the rewards for the further investigation of personality, both broad and particular, should be considerable in New Guinea. If the genetics of behavior can soon be brought to bear on problems of character development and variation, a New Guinea laboratory should prove remarkably opportune.

Not the least of the research opportunities afforded by New Guinea is the chance to develop longitudinal inquiries in areas of rapid and general change. Here could be studied the personality traits that are relatively stable despite the notable modifications of behavior in other respects or on other "levels." Because personality is now thought by some to be an important variable even in such conventionally remote matters as economic development, its study may provide a basis for theorizing beyond the traditional domain of psychology.

SPECIFIC RECOMMENDATIONS

Although every aspect of personality ought to be studied, certain specific topics suggest themselves as being of importance in the New Guinea context.

Motivational Studies

Motivation can be studied in terms of a number of technical concepts such as value systems, decision-making processes, risk-taking behavior, subjective expected utility studies, and so on. Some of these may generate sets of controlled experiments that would be useful.

In the past projective devices have been used frequently. In some cases these have been useful, particularly where the results could be tied to objective overt "anchor points," but more often this has not been the case. Caution should be used with projective tests, particularly when the response is given in a language foreign to the respondent. Recent advances in psychometric theory and technique have led to improvements in the form of projective tests, and these should be extended.

In New Guinea, where a sharp division exists between the indigenous and the European groups, a set of inquiries might be derived from reference-group theory.

It may be that the European does not appear in a single aspirational model, but that particular types of Europeans do so for particular New Guinea groups—the civil servant, the church leader, the Army officer, and the business man, for instance. It is possible that the female European adult constitutes, for some attributes, a model reference person for the New Guinean female.

Study of reference groups may show the nature of the pressures and conflicts that impinge upon persons passing from a culture represented by one set of reference figures to a culture that has a dramatically different set.

The reference group has, of course, a reciprocal set of attitudes toward the referring group. These are important. It may be that the attitudes the Europeans take toward indigenes determine in part the attitudes that indigenes take toward themselves.

Adoption of Change

The central question is how it is that certain persons take steps to gain information about a new practice, then decide to adopt it, and finally do so. A substantial literature exists on this topic of adoption of practices, a good illustration being the adoption of hybrid corn.

Such studies have used sociometric analysis and decision-making theory. However, it may be that the application of learning theory would give further understanding, using such concepts as partial reinforcement, need reduction, and extinction.

A major influence of Europeans upon the people of New Guinea has been pressure to adopt change in such areas as education, medicine, government and law, and agriculture. Greater understanding of the psychological processes of people who are forced to adopt change would be useful.

Studies of nonadoption of change have equal theoretical interest. Such studies suggest that decisions to change are effective only when the people involved feel that they have participated in the decision making and that the decisions are acceptable to their peers. The factors impeding the adoption of introduced changes in New Guinea, factors inherent in the indigenous systems of values, education, and magico-religious beliefs, should be studied.

The emergence of new cultures, embodying features of both the

indigenous and the foreign cultures but with some features of neither, is marked in New Guinea and needs careful study. Such cultures tend to "have a life of their own," producing changes, but often not those changes desired by Europeans. Cult movements are examples. The psychological processes involved in such cults, the reduction of dissonance between cultural features, the degree of felt participation and felt peer-group support all need study.

Studies of leaders and their exercise of leadership roles in the introduction of change are desirable. Other studies have shown that the adoption of change is a two-stage process, with leaders innovating autonomously but followers adopting their innovations only after face-to-face interaction. Such studies should be tested in New Guinea.

Attitudes

In describing personality it has often been useful to postulate that the subject has a set of attitudes that indicate persistent readiness to make responses of a particular kind to specified subjects, events, or persons.

Attitude studies that would be worth pursuing might include the following:

1. The construction of scales using the Thurstone-Chave technique, but using indigenes both as judges of the scale and as respondents. Great interest would center on the difference between the judges' scales of indigenes and of Europeans (for instance, on the "badness" of specified crimes).

2. Attitudes toward change in various areas. For example, it appears probable that attitudes toward change are uneven. Thus, the view that the natural world is animistic may be highly resistant to change, whereas attitudes toward secular technology, such as tools, food, fuel, and materials for decoration may change rapidly. One may ask whether there is any general principle that would allow a prediction of which areas are likely to change and which are likely to resist change.

3. New methods (notably those of C. Coombs, which set up multidimensional models containing both the persons holding the attitudes and the objects about which the attitudes are held) might allow more sophistication and more powerful analyses than have hitherto been available. It would be of theoretical interest to see whether these methods could be used in New Guinea. Devices used

to analyze political behavior (in Malaya, for example) could be used to advantage in New Guinea.

4. Interethnic and interracial conflicts take several distinctive forms in New Guinea because of the number of different groups involved. These forms should be studied in terms of attitude formation and change in order to test formulations developed from data using primarily populations of the United States and the United Kingdom.

Medicine and Genetics

New Guinea, with its relatively small and isolated populations living under a variety of physical and cultural conditions, constitutes a unique laboratory for collaborative research among social, medical, and physical scientists on many important topics, some of which are discussed in the following paragraphs.

The Relation between Physiological, Psychological, and Sociocultural Stresses

Comparative epidemiological studies could be carried out to advantage in New Guinea settings, especially within areas of communities that, although they are closely related, have measurable differences in specific cultural and ecological variables. Examples of areas in which investigations might be pursued include the study areas in the University of Washington Micro-Evolution Project in the eastern highlands and in the Columbia University Human Ecology Project in the Simbai and Jimi Valleys of the Bismarck Mountains. Also opportune would be studies dealing with new behavior patterns among people presumably adapted to nonurban conditions who are being newly exposed to urban stresses. A specific problem requiring further study has to do with the reasons for the low incidence of depressive psychological disorders among New Guinea people.

Cultural Conditions Favoring or Inhibiting the Transmission of Infectious Diseases

Examples of the kinds of traits that should be observed closely in the study of the effects of cultural conditions on the transmission of infectious diseases include settlement patterns, trade contacts, patterns of waste disposal, food handling, and food sharing.

Native Concepts of Health, Disease, Physiology, and Anatomy

There is a need not only to establish the native concepts but also to assess their influence on the occurrence of disease entities recognized by Western medicine and on the prevention and treatment of disease both in traditional and in recently acculturated settings.

Determinants of Natality and Mortality Rates and of Interpopulation and Intrapopulation Variations Therein

A series of continuing mortality surveys has been undertaken in the Territory of Papua by medical missionaries and by Public Health Department personnel (studies have been made, and reports written by R. F. R. Scragg, F. D. Schofield, L. Atkinson, and G. Scott). Much more work should be done, however, particularly in relating variations in natality and mortality rates to variations in cultural practices.

Variations in Normal Human Biology under Different Environmental Conditions

A study that has already been conducted in this area concerns the differences between the salt metabolism of highland Chimbu people and that of European city dwellers. These differences have been found to be unexpectedly large. Additional research is needed in similar matters, such as variations in energy expenditure among people engaged in different economic activities or among those exposed to different incidences of malaria or parasite loads.

The Influence of Genetics on Behavior

New Guinea provides the kind of controlled comparisons needed if the current lively controversy in the behavioral sciences on this subject [cf. Items, Social Science Research Council, New York (1964)] is to be resolved.

Education

Education is always an important function in a developing country. It is basic to the acquisition of the technical knowledge and skills upon which a viable economy depends. It is, however, also a main source of tension and dissonance. In education the school and the community ordinarily have a degree of identity. The school is an apparatus for transmitting the skills necessary for living in the community of adults.

In New Guinea, however, the school is in a real sense an alien organization. The teachers, even when indigenous, are usually foreigners, and the content of the teaching is not that which a normal adult of that community needs or expects.

New Guinea is not unique in this respect; indeed, probably over one half of the children in the world today are receiving education that is alien in the same sense.

In many cases the resistance to such education is high, and attendance and performance are poor. In New Guinea, however, there seems to be an avid demand for schooling on the part of both parents and children. Some observers have suggested that education is "sun" in a magical context—the wand that will bring all the good things of life. In any case, studies by social psychologists and sociologists are suggested. In a general way these might increase our understanding of the functions of schools and, in particular, of the New Guinean educational situation in ways that might permit improvement in its efficiency. Such studies would probably

take as starting points such topics as the child himself, the class, the teacher and the content of teaching.

It is a common observation that the New Guinean child is severely handicapped in schooling, because he lacks the kinds of experience that facilitate learning to read and to manipulate numbers. This suggests that studies should be made of school-preparedness, and, if possible, experiments should be conducted to determine the effectiveness of preschool or kindergarten training.

Another obvious fact hindering learning is that the schooling is conducted in a language other than the mother tongue. A good deal is known about teaching English as a foreign language, but presumably, although there are some basic principles, the best method of teaching English in each area will depend upon the structure and form of the mother tongue of that area. Support should be given to linguistic studies dealing with this problem, studies that are likely to have a big payoff in application.

Another feature of European or Western skill is in the manipulation of numbers and number concepts. There have been rapid advances in recent years in teaching number concepts—the "new mathematics." It would be of interest to extend the studies now being made in the western highlands by Professor Dines of the University of Adelaide.

A persistent dilemma in educational planning in areas like New Guinea concerns the general form and content of education. Should it be identical with that provided in the home countries of the expatriates or should this be modified to meet local conditions and needs? When the latter (modified) type is discussed, however, it is often regarded as a diluted inferior form that is improper in some way to offer to the indigenes. This attitude hampers the development of education while it is bound to the alien expatriate form.

While studies of education generally are clearly useful, there are several particular technique studies that would be of interest.

Reading skills may be greatly facilitated by graded texts that regulate the amount of new information to be mastered. It is not likely that the grading provided for English-speaking children will be the same as for New Guinea children. Studies of English usage and vocabulary among New Guinea children would be of linguistic interest in themselves but would also form the basis for reading texts.

A main difficulty of studying in a school in which the language of instruction is foreign is slow reading speed. New techniques are now available for rapidly increasing speed of reading without

loss of comprehension. For instance, these are being used at the East-West Center in Hawaii for non-English-speaking students. Studies should be made to see how these methods could be applied in New Guinea.

The teaching machine based on programmed instruction is a useful new teaching device. The essential feature of programmed instruction is the immediate and individual feedback of "knowledge of results." Again, however, it is not likely that programs developed for Europeans will be efficient for New Guineans. It is possible that the provision of teaching machines would be the cheapest and most effective means of securing a rapid increase in educational efficiency.

English is a particularly difficult language to learn, to read, and to speak because of its phonetic irregularity. A device to increase the regularity is the Augmented Roman Alphabet. This device facilitates learning and the transfer back to orthodox spelling. It appears justifiable that experiments be conducted to see whether this device or a modification of it could be used profitably in New Guinea.

If the educational program in New Guinea is to be accelerated, the key is the availability of indigenous trained teachers. It would be of interest to study the personalities and the methods of teaching of indigenous trained teachers. From there it is probable that a more efficient procedure for the selection of teacher-trainees could be developed.

Note

This section incorporates a subcommittee report titled "Some Aspects of Research on Education," prepared by D. W. McElwain.

Recommendations Regarding the Implementation of Research

FUNDING

A program of research of the kind recommended, on the scale required, calls for great augmentation of the funds currently available for research in New Guinea.

INTERNATIONAL ADVISORY COMMITTEE

To further the implementation of the recommendations of this conference and to convene future conferences, a formal administrative means should be created. We recommend that the most expedient way to do this would be the formation, by the Committee on Research in the Western Pacific, Division of Behavioral Sciences, National Research Council, of an ad hoc (interim) international advisory committee made up of scholars and specialists from institutions and countries actively concerned with research in New Guinea.

Members would serve as individuals but would be expected to provide avenues of information and communication between local colleagues and institutions or departments and the committee.

Members should be actively associated with ongoing research in New Guinea; if it seems desirable, new members could be added by the committee.

The composition of the advisory committee should be decided by the Committee on Research in the Western Pacific, taking into account the number of countries, institutions, and disciplines involved in research and recognizing the pre-eminent interests of Australian New Guinea and of Indonesia in research on the island. Also, the advisory committee should be able to invite the help of other specialist advisers when appropriate. The advisory committee would normally do business by correspondence, working through a central secretariat. It would hold meetings when necessary if travel funds were available.

CONFERENCES FOR RESEARCH SYNTHESIS

A need exists for developing an overview of the separate studies undertaken and envisaged. Conferences like the one reported here might be held regularly for this purpose, perhaps biannually. Great efforts should be made to ensure the participation of New Guinea specialists from disciplines not represented at this conference, such as linguistics and economics. Participation by outside consultants—specialists from physical or biological science disciplines or specialists from behavioral science disciplines who have knowledge of a problem under discussion, as it has been treated in other geographic areas (e.g., of urbanization in Africa)—is highly desirable at particular sessions of such conferences. Formal arrangements to obtain their services should be made.

There is also a need for seminars focused on specialized fields of New Guinea research. The seminars run by the New Guinea Research Unit in Port Moresby and elsewhere for personnel inside New Guinea have proved useful. Funds should be available to permit wider participation in such seminars in conjunction with other meetings, such as the Australian and New Zealand Association for the Advancement of Science (ANZAAS), or national professional meetings held in the United States. The possibilities for such opportunity should be actively explored. The services of outside consultants are as desirable at seminars as they are at conferences, and formal provision for obtaining their services should be made.

DATA DEPOSITORY

A central depository should be established for current and future documentary materials, published and unpublished, relating to New Guinea. These materials might include microfilm copies of New Guinea newspapers, unpublished theses, and ethnographic materials in patrol reports, for example. It is highly desirable that such a depository be located in New Guinea, perhaps as the nucleus of research libraries at the Tjendrawasih University and the proposed University of Papua-New Guinea.

It is also desirable that depositories exist in other locations and that they be accessible to scholars in other parts of the world. This would be achieved if a group of libraries would agree to reproduce all materials so copies could be deposited in all collaborating institutions. Participation by several libraries would permit sharing of the large capital costs involved in microfilming, and would make available technical library facilities not currently present in New Guinea. The libraries might include those of the Indonesian Science Council (MIPI) in Djakarta, the Pacific Science Information Center, and the Centre Documentaire pour l'Oceanie, together with one in Australia, one in New Zealand, one in The Netherlands, one in Fiji, and one in the United Kingdom, plus one on the West Coast and one on the East Coast of the United States.

TRANSLATION FACILITIES

Published materials on New Guinea written in Dutch, English, German, Hungarian, Indonesian, Japanese, and Russian are currently unavailable to many scholars. Translation of all sources into English would be the quickest way of rendering them readily available to most scholars. Funds should be made available to undertake this task, and a registry of translations should be kept to permit ready reference and to avoid duplication.

REGISTRIES

Central registries are needed to make available knowledge of research opportunities, available personnel, and other facilities.

A registry of areas that have been newly contacted in which urgent ethnographical research should be conducted is necessary. (See "Ethnography," page 7.) The New Guinea Research Unit might perform this registry service for the short period it will be relevant, providing the names of such areas to serious scholars.

A registry of indigenous people who have acquired skills in conducting social research, and who might be useful in later projects would be helpful. This registry might include social science students of the future University of Papua-New Guinea, and the training of local research assistants might be coordinated with the teaching and training of the University of Papua-New Guinea.

A registry of scholars in all disciplines who are willing to be consulted about or to participate in interdisciplinary research would be a service that might constitute an extension of the activities of the Pacific Science Information Center (PSIC). A registry of specific interdisciplinary projects for which specialized personnel are required is also recommended. Funds for making available such information and for technical facilities needed for such research are required.

STUDENT ORIENTATION

Both predoctoral and postdoctoral scholars proposing to work in New Guinea but not having access at their own institutions to practical knowledge of current conditions in New Guinea should be encouraged to spend time at convenient centers where such knowledge is available. Grant-giving bodies should recognize both the scholar's travel to such a center, and the reimbursement of the agency that he consults, as legitimate items of support.

If the flow of research scholars increases, it may be desirable to formalize this "orientation" service, especially for scholars in disciplines other than anthropology. In New Guinea, the Public Service Commission already conducts such courses for incoming administration personnel and might, if appropriate, consent to admit scholars to its courses.

PART II

Prepared Working Papers

Local Variation and Its Assessment in New Guinea

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Variation is central to the idiom of science, for nature is first apprehended through her forms and varieties of form. As far as anthropology is concerned, the expression, "study of man," has long seemed to me less accurate than "the study of human variation." In this paper the term "local variation" applies to human behavior essentially, but by extension to other factors probably of critical importance to behavior. A variation is any difference in the form of behavior, in the relationship of behaviors, or in the frequency of such forms or relationships among individual human beings. The term "local" indicates our concern with the arrangement of humans in space. More specifically, "local" indicates a provisional acceptance of the ethnographer's conventional unit—local group, band, tribe, people, neighborhood, community, residential nucleus, hamlet, village, or town—as a point of reference for the discussion of behavioral variation. Local variation, then, will ordinarily imply differences between local groups of human individuals in the observable forms, relationships, and frequencies of their behavior or in the inferences that can be based upon behavior.

If this paper were only to emphasize the fact of local variation in New Guinea, there could scarcely be much argument. At most it might leave a reader with the conviction that local variation is quite as prevalent and possibly more marked than he had previously been prepared to acknowledge. I should indeed like to

consider first how the behavior of New Guinea peoples is in reality and whether certain characterizations are not too easily and uncritically accepted. On the other hand, I want to suggest that in some of its aspects local variation may have been given too little emphasis or may even have been overlooked. Beyond questions of fact and emphasis, however, I wish to point out several ways in which observers have so far dealt with local variation in New Guinea—the theoretical uses they have made of it. Above all, I should like to relate the phenomenon of behavioral diversity in New Guinea to certain issues in the observation and analysis of behavior in field studies. The current question of so-called "loose structure" in New Guinea is an example of one such issue, and the nature and needs of modern ethnographic analysis are another. In conclusion, I offer a list of questions regarding the importance of local variation for persons interested in behavioral studies in New Guinea.

HOW DIVERSE IS NEW GUINEA?

Two initial observations can be made concerning man in New Guinea: that the area is generally believed to be one of marked diversity, and that local variation has been and continues to be somewhat neglected as a direct object of or framework for anthropological research.

Local variation in New Guinea has become almost an ethnological byword. Does its reputation reflect the pioneer phase of ethnographic studies in which much of New Guinea still remains? Perhaps common patterns will become clearer with more work. What of the difficulty of adjusting perspective to a land so much larger than the term "island"—at least to Americans—connotes? The estimated population of 3 million, for instance, sometimes makes New Guineans seem a demographic anomaly among South Sea Islanders. One may not easily realize the size of the place even after knowing it, which perhaps tends to magnify the impression of diversity.

Even allowing for such factors, the human and geographical diversity of New Guinea, by objective standards, seems considerable.

> The variation of (environmental) conditions is enormous. There are cold highlands and hot lowlands, steep hill country and endless swamps, lowland tribes living mainly on sago and tribes depending on tubers, some of them

enjoying the opportunity to improve their diet with fish and shell-fish, and others depending wholly on the meagre results of hunting (van der Leeden et al., 1962a).

New Guinea includes countless miles of swampy mangrove coast as well as great interior swamps, tropical rain forests, cool highland forests, extensive grasslands at various altitudes, and even alpine flora and glaciers. The potential human implications are not slight. New Guinea contains hunters, fishers, and collectors, as well as cultivators ranging from marginal to intensive, both in combination and each in considerable variety in the particular plants or animal resources they employ for food fabrication. Husbandry varies from nil, through the casual raising of captive wild piglets, to breeding and stall feeding.

The linguistic diversity of New Guinea is often cited as an indication of local variation in general. Both the estimated 500 to 700 languages and the existence of languages with as few as a hundred or so speakers seem to make the point dramatically. Such language statistics are frequently cited, however, with little reference to other considerations. Can the implication be taken at face value? The Pacific slopes of North America comprise another area of notable linguistic diversity with which New Guinea might be compared. Some 75 to 100 languages are attributed to California alone. On the basis of an estimated aboriginal population of 130,000 (Kroeber, 1939), California perhaps had an average between 1,300 and 1,733 speakers per language. (These figures are rough and were arrived at in an effort to make California comparable for both language and population.) In New Guinea there were between 3,600 and 6,000 speakers per average language, using present estimates. On such a basis, New Guinea was considerably the less diverse of the two areas. Only when the number of languages is related to the size of the area does New Guinea's linguistic diversity seem greater, for, at the same rate, California should have had between 250 and 350 languages, instead of fewer than 100. Population density was greater in New Guinea, of course, even though California contained one of the more densely populated parts of North America north of Mexico.

Now, the mere number of languages does not measure, except very generally, the differentiation among them—how far one language is from another. While it is true that New Guinea's languages belong to more than one major group, California is notable in having included representatives of all six of Sapir's North American phyla. Again, in this respect, New Guinea may be less diverse than California.

The degree of isolation of each area is another matter to be taken into account where one is concerned not just with the fact of diversity but also with to what extent local conditions favor diversification. What was the probable rate of introduction of languages from the outside, as opposed to those evolved within the area? California, as an integral part of a large continental land mass, had continuous overland contact along a wide front with at least six language phyla, each of them comprising a number of stocks or families. California thus probably had the greater opportunity to accumulate diverse languages through migration, independent of local development. New Guinea, remote from any such linguistic hearth as North America or East Asia, is no more than a link in a peripheral chain to the outer Pacific. In this light, New Guinea's 500 to 700 languages apparently gain weight once more as a measure of local conditions favorable to diversification.

If all the various indices of linguistic diversity could be balanced to arrive at an inclusive or composite rating, it would probably favor New Guinea. This is not the place to carry the discussion further, but perhaps enough has been said to emphasize that, without corollary considerations, the number of languages can only roughly suggest diversity. Language statistics have an appeal, because a language seems the most discrete and hence enumerable sort of factor reflecting ethnic identity. Moreover, in the perspective of the modern world's approximately 3,000 languages, the number of languages in New Guinea is undeniably an impressive fraction.

Turning from speech to other behavior, how much does diversity of language tell us? If, on balance, California were linguistically more diverse than some other area, for example, would one expect a correspondingly greater diversity of culture in California? The cultural range of California, in fact, seems not nearly to match its linguistic diversity. In New Guinea, on the other hand, cultural variability may exceed the variety of language in some respects. Two villages known to me are both within substantially the same dialect area of Tairora, an eastern highlands tongue with possibly four distinct dialects. The villages are scarcely 15 miles apart, and their history links them to each other, but they vary appreciably. In one village the presence of ghosts is feared, and encounters with ghosts are accepted as a part of life, having been experienced by a number of people. The physical appearance of a ghost is commonly agreed upon, and the danger of ghostly contact is attested by not infrequent illnesses and several deaths, of which everyone is aware. In the other village, while the existence

of ghosts is not questioned, no one meets ghosts, nor can anyone say with assurance what a ghost looks like. Consequently, though people may be uneasy at the thought of meeting one, ghosts are not commonly listed among the dangers that beset men, nor are illnesses or deaths within the village generally attributed to them. It seems altogether likely that other language boundaries in New Guinea may enclose communities that differ as much or more than these.

In the Tor area of West New Guinea (West Irian), two neighboring peoples contrast strikingly with regard to their sexuality (Oosterwal, 1961). Although somewhat random, matters such as this or the immediacy of ghosts would not seem to be transient differences or merely temporary fluctuations. In my opinion, neither sharp local differences in suicide rate or pattern nor the psychological character of two neighboring peoples, one of them showing a strong tendency toward dependent relationships, the other toward individualism and autonomy, seems to be transient or temporary. One need not insist a priori that these differences are profound or lasting, however, to make a more convincing case for New Guinea diversity. It is enough to note the prevalence of such differences and to suggest that any question of how profound or enduring they may be can be readily investigated under the conditions afforded by New Guinea.

Certain other areas of behavior are thought to be directly influenced by both short-run and long-run local differences in ecology or demography, that is, by changes in the food supply, by disease, or by the fortunes of marriage or war. Differences or fluctuations of this kind seem frequent in New Guinea, and their effect on the social structures of small-size local groups has been noted from time to time, particularly by Dutch anthropologists (e.g., Held, 1951; Pouwer, 1960; Serpenti, 1965). Sociological variation often occurs within a surprisingly small radius or within the same linguistic group. Whether one regards such variation as minor changes or as fluctuations presumably depends upon the scale of typological or temporal reference. Local differences of structure are probably great enough in many cases to be apparent even to the ethnographer who is not specifically searching for them. The possibility of sociological variation within a recognized region makes it useful to compare not only the social structure to others from which it may differ but also local ecological, demographic, and historical factors that may help shape the structure.

I consider the highly localized instances of cultural and sociological variation cited here fairly representative of New Guinea at

large, and I suspect that, in general, such contrasts tend to match the distances involved. Comparable contrasts occur in political systems, art, religion, psychological character, and cosmology, and it is not unlikely that further research, especially if more attention is given to detail than has sometimes been true in the past, will amplify our estimation of some of the differences. It seems to me that the impression of local variation associated with New Guinea is now based mainly on the grosser, more obvious differences, such as the number of languages, the high development of art in the Sepik Basin or the Asmat area, visible coastal-interior contrasts, and other differences that are either large in scale or easily apprehended by the casual observer. Such differences are undeniable, impressive, and probably important; but if "local variation" comes to stand only for differences of this magnitude—differences only on the broad regional scale—it will have the unfortunate effect of obscuring other variation which, though smaller in degree and more local, may be quite significant and may afford the student the opportunity for behavioral analyses as strategic and penetrating as comparisons made farther afield.

The recognition of the familiar is also a frequent experience of ethnographers who have studied parts of New Guinea other than the ones they know best. In a paper about variation, therefore, it is well to remind oneself of the reasons this should be so. Though large, New Guinea is still an island, and only a few of its coastal peoples have maintained any frequent contact with the world outside of northwestern Melanesia. While subsistence activities have technically included a fairly broad range—from foraging to intensive cultivation—few peoples have managed to develop a subsistence base sufficient for stable communities beyond a certain size. For that matter, sources of subsistence could perhaps be considered more variable than the tools employed, for there is a certain truth to the loose appellation, "Stone Age people," which was applicable to nearly the whole island.

Accordingly, the point has been made that, underlying local variation in New Guinea are broad common themes. If the variation has too infrequently been considered a problem in its own right, perhaps the common themes have too often been taken for granted. The result is much the same: that while one is not likely to be contradicted about the existence of either themes or variations, agreement about their precise nature is not so easy to reach.

The great variability of Papuan culture does not exclude an interesting degree of conformity. The definition of that conformity is a matter of contro-

versy far more so than the actual fact itself. It is exactly this conformity which makes New Guinea such an interesting area . . . (van der Leeden et al., 1962).

The presence of basic general tendencies is, in any event, the condition under which comparative studies will be carried out in much of New Guinea and one that can be considered most attractive for the approach that has sometimes been called the method of controlled comparisons (Eggan, 1954).

WHAT ATTENTION HAVE ANTHROPOLOGISTS GIVEN TO LOCAL VARIATION IN NEW GUINEA?

Professional observers have treated human variation in Melanesia in several different ways. The reality of local variation is clear enough in the early classics of the region such as Parkinson and Codrington, and in what Elkin (1953) refers to as "works of the survey type," speaking of Pfeil, Krieger, Poch, Brown, and Neuhauss, whose works fall roughly into the first decade of this century. Studies of this sort carried a descriptive record of what was seen or reported in various places within a larger region, and the European reader was readily apprised, sometimes in considerable detail, that Melanesians were not all alike. Such surveys obviously do not belong to the same tradition as the later monograph or ethnography-in-depth for which Malinowski's Melanesian work, more than anything, else, has served as a model. Moreover, while local variation is certainly more in evidence in the early surveys than it is likely to be in the typical ethnography that begins in the 1920's, it was not a part of the concept of such works to be analytical or systematic in dealing with variation; more often it was simply a matter of documentation, sometimes augmented by casual speculation.

I shall be more concerned in this section with what are generally described as local studies. The reason is not that ethnography in this style has regularly confronted local variation as a problem or as an analytical device, however, but that this has been the dominant style of fieldwork and reporting throughout most of the span of professional anthropology in New Guinea.

A work that makes use of the cultural variety of New Guinea, and at the same time is in the vein of local studies, is Mead's well-known Sex and Temperament in Three Primitive Societies (1935). Mead's purpose in this book is to display the plasticity of

human character, above all with respect to sexual roles that have conventionally been taken to be largely fixed and innate. It is not adverse to say of the book that it has in no sense an areal orientation. The "mountain," "lake," and "river" peoples described are all located in New Guinea, to be sure, and hence share common conditions and traditions. This fact is not quite incidental, but it is principally to add bite to the argument about plasticity. The case is the more impressive since one need not move from a single island—indeed, from a single river basin—to find such wide differences. Unquestionably, the work underscores the range of human variation in New Guinea, even while making no special point of it.

A number of Dutch anthropologists appear to have given more consistent attention to local variations than have anthropologists working in Australian territory. In his Waropen monograph, Held (1947) comments:

> In Geelvink Bay we therefore find not only unity, but also diversity among the coastal groups. Geelvink Bay is therefore an interesting field for study, because here, where comprehensive research of larger areas is much more difficult than for instance in Australia, there is still some room for diachronic and comparative research, beside synchronic investigations.

Comparable citations could be produced from the studies of other Dutch ethnographers, and it does not seem too much to say that this emphasis is generally characteristic of their recent work in New Guinea. Yet there is no reason to suppose that Geelvink Bay is unique, or that variation within a limited area, such as the one Held describes, is confined to the western half of the island. The difference seems to be in the style of ethnographic work that has prevailed in each case.

The concern of Dutch ethnographers with variation is no small part of the background of the current discussion of "loose structure" (van der Leeden, 1960). Initiated by Held (1951) and carried on by men such as van der Leeden, Pouwer (1960), and others, this problem has now become a theme among a number of British and American students of New Guinea as well (Barnes, 1962; Brown, 1962; Langness, 1964).

Ethnography might seem, strictly speaking, to lie outside of a consideration of local variation. The differences between one local group and another would presumably be the province of avowedly comparative studies, a further undertaking to which ethnography is sometimes considered preliminary. The ethnographer legitimately need do no more than supply an intensive description and an analysis of a single local situation or community, wherever he

may choose to draw its boundaries. If that were the invariable practice, no further comment would be called for here. At least two forms or methods of ethnography can be recognized, however, in which intensive local studies may become involved de facto with local variation. One method I will label "composite," the other "the typical case." The underlying assumption is the same in either instance, namely, that local variation is negligible between the local group or groups principally studied and a certain number of others, usually those to be found in the immediate vicinity. It is because of this often implicit assumption that the composite and typical case methods in ethnography become directly relevant in a discussion of local variation.

If the composite ethnography cannot in all instances be easily identified, it can nevertheless be readily characterized. In it the ethnographer produces a synthetic report of findings, not detailing or making local differences the object of analysis. The studies of Berndt (1954-1955, 1962) in the eastern highlands of New Guinea illustrate this method more clearly than most, if only because the groups studied represent four languages. Kamano and Jate are related fairly closely, possibly being only dialects, while Fore is a distinct language belonging to the same family. The fourth, Usurufa, is a language of another family. (Incidentally, these are not village names but language groups, the largest of which exceeds 10,000 or more members.) In reports of this study so far, Berndt (1962) takes the four groups for practical purposes as nearly equivalent, mutually representative, and largely interchangeable, with language the only fixed difference. The question of procedure is considered briefly, but as a rule local variability is not seen to occur or, if it occurs, is not viewed as an inevitable problem for analysis. Thus, in a discussion of kinship in the four groups, Berndt (1954-1955) consistently speaks, in a collective sense, of "the kinship system." By implication, perhaps 25,000 to 50,000 people are represented.

Though seldom as obvious as this, the composite treatment of local variation is in all likelihood quite common among ethnographers in New Guinea and elsewhere. At the one extreme, the question of variation is completely ignored, and the data of two or more communities are used indifferently, thereby holding local differences to be implicitly nonexistent or, at the very most, too minor for investigation. At the other end, a composite treatment may more or less casually note the occurrence of some variation within the vicinity, neither lumping differences nor discriminating systematically in relation to analytical criteria. In the latter case,

the final synthesis, such as it may be, is produced in the mind of the reader. The composite method is usually intended to yield a description that, besides being legitimate, is more detailed or complete than would be possible by using only the facts obtained from a single local group. There are often compelling reasons for combining data from two or more local groups, such as the nonoccurrence of a ceremony during the ethnographer's stay in his own group, obliging him to draw upon his observations of what he takes to be the same ceremony in some other group.

A composite treatment of variation in space, incidentally, is not the only possible use of this method. Facts from different points in time can also be telescoped to produce a synthesis. The best known example of this is probably in connection with so-called "historical reconstructions," where the method is more apt to be questioned than in a spatial synthesis. Perhaps it is challenged here, however, only because the procedure is usually explicit.

The purposes of this paper do not require that composite procedures be either recommended or rejected. A composite ethnography surely raises fundamental questions about culture and about legitimate methods of studying behavior, but there is not room here to consider them. The frequent occurrence of this method in one form or another can hardly be overlooked, however, in an attempt to understand the attention, or lack of it, given to local variation in New Guinea.

If the composite method in a sense accepts the region for the locality, ethnography is also used in taking the locality for the region. I have labeled this "the typical case method." There are two superficially different ways in which a locality may be taken for a region. The first is that in which the locality and whatever larger area are interchangeably referred to, implying that one is a fair sample of the other. Sampling in this form is usually less risky if only because it is probably clear what is being done. The purpose is often innocent, moreover, in suggesting merely that some characteristics of the group actually studied may be general in a larger area but with no claim that these can be specified in detail in the absence of supporting information. As long as facts elsewhere but not locally applicable are not confused with facts locally but not elsewhere applicable, no complications may arise, for example, in making broad comparisons on this basis.

The second way in which locality and larger region are sometimes confounded is the way facts or interpretations obtained from one study are used without sufficient qualification to augment or challenge facts or interpretations obtained from other localities.

This is often done in the discussion of what characterizes a particular region or some institution thought to be prevalent there. The logic is basically the same as in the foregoing form of sampling, but the risks may be greater in the second form, because factors critical to the discussion, though unreported or unrecognized, may differ from locality to locality.

In the eastern highlands, for example, a Benabena group has recently been reported in which the facts of social structure are said to support an interpretation at variance with other interpretations of highlands social structures (Langness, 1964). If conclusions drawn about highland groups elsewhere were challenged in the light of such a community, however, information would be needed, not only about the situation in which these occur, but about other matters as well. The physical environment of a group, to mention only one matter, would need to be considered before proceeding very far abroad with comparisons. For the highlands, and perhaps even for Benabena, the community in question appears to occupy a rather peculiar environmental niche. The immediate area has the lowest rainfall yet reported for a central highlands region; the people raise an appreciably greater number of pigs than any other group, and they have for some time been developing a significant dependence upon maize and manioc as secondary crops, instead of the more usual cane, taro, or bananas of the highlands (Brookfield, 1962). Possibly such local peculiarities do not make a peculiar social structure inevitable, but there is a need to consider what the group in question, or any group, actually represents in the highlands region before wider conclusions can be drawn. Local variation is thus central to the issue.

Possibly there are some general perspectives in ethnography itself that should be scrutinized. Both the composite and the typical case methods appear to reflect a tradition inimical to a full accounting of local variation. There may, indeed, be a bias toward emphasizing local similarity. Ethnographers have frequently been concerned with indicating the widest geographical area within which generalization was believed to be feasible, and, as a consequence, titles of monographs often carry tribal or regional designations. Cultural and social anthropologists, at large, indentify many a local study not with the community upon which it is based (who even knows its name?) but with some larger group or ethnic label. I would call this the generalizing tendency.

Incidentally, the generalizing tendency is possibly one of the few that broadly distinguish the intellectual perspective of ethnography from that of "community studies." If the ethnographer recognizes

certain purely local features in his community, it is not usually with the purpose of setting it apart. Community studies, on the other hand, tend to reveal the local situation in as much of its uniqueness as possible. Belshaw's study of Hanuabada (1957), for example, had as one of its purposes, surely, to identify the characteristics par excellence of that community. If the "great village" had shown only features recognizable in any Motu settlement, the very fact might have been cause for comment. A presumption of difference was certainly among the reasons for selecting Hanuabada. Ethnographers, whatever immediate criteria they may employ in selecting a group for study, commonly want one that is representative of its area, whose known differences, if any, affect only living and working convenience but supposedly do not make the place untypical. Having made such a choice, the ethnographer is perhaps less likely to dedicate himself to a search for local peculiarities. He may even be a bit defensive about it and would be embarrassed to learn that the price of his convenience or of the warmer welcome given him by the villagers of his choice had been an "anomalous" situation. Singular local groups are sought, as a rule, only for special purposes.

Because so little is known of many areas, ethnographers in New Guinea often have few facts to make them wary of generalization as well as ample reason to hope that their work will fill some substantial lacuna in the cultural map. Unlike community studies, therefore, ethnographies are rarely charged with failing to admit possible resemblances between the group studied and others of its vicinity. The New Guinea ethnographer commits the sin of misplaced uniqueness far less often, I would suspect, than he commits the error of unrecognized diversity.

THE ANALYSIS OF BEHAVIORAL VARIATION: SOME COMMENTS FOR THE FIELDWORKER

The documentation of local variation is only elementary, a task preliminary to other purposes. Documentation should be possible, moreover, without racial innovation in existing field methods, given a sufficient awareness of its importance, the avoidance of biases that tend to obscure variation, and consistent attention to the job. The ultimate reasons for recording local variation can be described as "understanding" in one sense or another. They are not

discussed here but are surely the same as the various purposes of "the comparative method" or "cross-cultural methodology" (Moore, 1961). The following suggestion concerns a working assumption that may usefully orient future research in local variation in New Guinea.

I suggest that local variation—variation between groups—is closely related to the phenomenon of individual variation, or variation within groups. The differences apparent between groups might profitably be seen as the statistical effect of aggregating the individual behavioral tendencies or characteristics of the membership of each group and then contrasting these aggregates in some total or average sense. If for each of a number of various but comparable groups the differences among their members were plotted for given classes of behavior in which the groups differed as aggregates, the range of any group would tend to overlap that of one or more of the others. Because it is obvious that groups can be found (even in New Guinea) between which behavioral discontinuities are considerable, not only in the aggregate but in the range of the membership, a further qualification is needed. Thus, the greater the proximity, the common historical background, or the similarity of environment, the more local variation can be seen as continuous with individual variation, and vice versa. For convenience we might call groups living under such conditions "comparable," recognizing that the conditions, and hence the comparability, of groups is a matter of degree. The conditions are, of course, approximated very often in New Guinea, above all in those cases in which the occurrence of local variation has been most marked. In other words, if individual and intergroup variation are related, the relationship should exist widely in New Guinea.

Though the suggestion hardly seems radical, and it may possibly impress some as trite, I would like to offer one or two points in support of the position taken. Certainly, both local variation and variation within the group have frequently been commented upon by ethnographers in New Guinea, often with reference to the same localities. If there have been problems in delineating any larger behavioral community or universe in New Guinea, sometimes there are also problems in delineating the local group itself in relation to its membership. On its face, this might seem to add little to the argument, but what if one poses the case in reverse? It is hard to believe that the behaviors in which individuals differ could be wholly distinct from the behaviors that differentiate their groups. Such discontinuity between the series of individuals comprising one group and those of the next scarcely seems likely

given the small groups and intermarriage patterns that prevail in New Guinea.

A second point arises from the question of "loose structure" in New Guinea. The course of this particular discussion in the last few years seems quite revealing in the present context. The question of variable social structure (loose structure) in New Guinea appears to be susceptible to at least two interpretations or emphases. For some, the problem arises from the difficulty of specifying an archetypal structure that can be ascribed to the larger (highlands) region (Barnes, 1962; Langness, 1964). Here the focus is upon the behavioral variation among group members, a preoccupation that might well be expected of analysts with an orientation to structure as a system of rules and roles. Yet, the facts that originally posed the problem for Held (1951) and which prompted the label "loose structure" were not solely the variation among the members of a single group. Held was at least as much concerned with the remarkable variety of structural adaptations among groups within the same general district. In this respect, there has been a prevalent concern with ecological factors such as harsh conditions and small-size groups (van der Leeden, 1956). Thus, what now seem to be two problems are being examined, with different answers suggested, though the use of certain common terms, such as "loose structure," may obscure the difference of emphasis. I would suggest that the causes of internal diffuseness of structure, or individual variability, are similar to the causes of intergroup variability. This, incidentally, would help to explain how what may be regarded by some of the discussants as the same dialogue has, in fact, become two distinct dialogues or parts of a dialogue. The point to be made in the context of this paper, however, is that individual variation may be analytically continuous with the problem of local variation.

Such a contention has at least two practical implications for future work in New Guinea, one immediate and one longer-range. The immediate implication is that it would probably be valuable in understanding a given group—its structure and probably its culture—to give attention to the differences among neighboring groups. Perhaps it is also useful to speak simply of variation and to consider local variation to be but a certain way of expressing it statistically. Individual variation would be a finer qualification. In practical terms, fieldworkers may encounter a variety of situations in New Guinea. The range of individual variation for one group may be as great or greater in some respects than the maximum intergroup differences. In other cases, within-group variation may be fairly restricted compared with that between groups. Such findings seem

almost certain to prove significant, e.g., with regard to the social and cultural boundaries, "openness," or "skins" (Naroll, 1964) of local groups in New Guinea. The matter of what behaviors vary most for individual or aggregate groups is obviously important in connection with questions such as social control, conformity, ecology, and so on. Investigated in this light, variation (or local variation) becomes far more than a question merely of accurate documentation or representative sampling for the purpose of completing the cultural geography of New Guinea. It becomes not only a principal talking point in urging the challenge of New Guinea for a variety of topical researches but also directly a problem for investigation.

A longer-range question of ethnographic practice is also raised with regard to individual and local variation in New Guinea. Some of the difficulties in defining "structure" (viz. "looseness") may expose a limitation of the fairly simple structural models now widely used in ethnography, suggesting the need for new models. I would propose models in which there is more allowance for contingency than in the typical models of formal structure now in use. These would be stochastic models based on the idea of a game rather than on the vision (and even the terminology) of a Roman law code or some other fixed role-and-rule schema. Such a change of models is probably not to be accomplished without extensive use of statistics, although not only statistics but probably computers as well would be needed in working out the more complex patterns.

SOME PROBLEMS AND GUIDELINES FOR RESEARCH IN LOCAL VARIATION IN NEW GUINEA

Any discussion of variation raises by implication the question of norms or types. Part of the debate about loose structure seems to be a particular expression of this question: What structural norms can be described amid such diversity? The nature of the conformity or common tendencies or cultural themes of New Guinea projects the question of type onto the largest stage possible within that area.

A question comes up from time to time as to whether the local variation of New Guinea is peculiar in kind or degree to the area. Whatever the answer, further questions arise. If local variation is a singular characteristic of the place, for example, we then face the question of what makes it so. This question surely has larger

developmental overtones. If, on the contrary, there is no justification for regarding New Guinea diversity as fundamentally different from that of other areas, this might raise questions about ethnographic methods and ethnographic results elsewhere, in view of the difficulties encountered in New Guinea.

There is also the matter of flexibility, fluctuation, or short-run variation as compared with long-term change, development, differentiation, or specialization. Are small-scale societies like New Guinea's characteristically protean? Or does diversity beget diversity in New Guinea, as Kroeber (1939) has suggested for the Pacific drainage of North America? What does the "openness" that some have ascribed to New Guinea cultures consist of, and what relevance does it have, if any, in the context of flexibility or fluctuation? Held (1951), among others, addressed himself to some of these matters in portraying the Papuan as a culture improviser. The Mean-Schwartz project in Manus seems to involve some kindred questions in its concern with cultural transformations or equivalences. Still other students are inclined to look at flexibility and local variation from an ecological standpoint: All change is adaptive but not necessarily cumulative. Some change is seen as fluctuation or short-run adaptation in the Columbia University project of Vayda and others. Cumulative or linear development is certainly implicit as an alternative to this view, although not inevitably as a contradiction. The University of Washington Micro-Evolution Project (Watson, 1963) involves a study of several neighboring peoples in part with this orientation.

More generally, local diversity lends itself to at least two kinds of inquiries. The pattern of the first is covariation. A model question would be why, in relation to relevant features of their respective situations, a given people has a high rate of suicide, while another does not. Though the method is familiar enough in modern anthropology, it has so far been little used in New Guinea, especially considering the opportunities that exist for it. The second general kind of inquiry is concerned with the complementary or mutual diversity of a number of social systems, that is, their specialization on behalf of trade, manufacture, war, marital exchange, or other extramural transactions. Diversity may, of course, reflect the adaptation of different groups to one another as well as to other variable circumstances. Regional systems must presumably be discovered through a detailing of the part that each local system plays in the larger one. A study lately undertaken by Sahlins and Harding is explicitly concerned with intergroup transactions.

Differences among the various indigenous peoples of New Guinea

could, on theoretical grounds, be expected to give rise to varying responses to administration, missions, and other postcontact development. The systematic study of local variation from an acculturational standpoint represents a considerable area for research, and one with practical as well as theoretical implications. A surprising number of stereotypes have developed among expatriates in what can be described as the postcontact folklore of New Guinea. These purport to characterize different local peoples, such as the Chimbu, the Tolai, and the Markhams. It seems certain that there is a basis in fact for some of this stereotypy, principally in the manner in which a given people has accommodated itself to the presence of expatriates. While one need not make stereotypes the springboard for research, they tend to confirm the existence of a substantial research problem with regard to the adaptation of different peoples to postcontact conditions.

In closing, several guideline suggestions are offered as being of possible use to the student of behavior in New Guinea.

1. On the basis of most available evidence, appreciable differences can be expected from locality to locality in New Guinea.

2. Any such differences are probably critical for some questions beyond simple, accurate description, and some experience has shown that somewhat surprising differences may occur within short distances among otherwise similar peoples.

3. Possible differences should be carefully considered in generalizing the findings of intensive local studies. The problem of representativeness increases with the degree of detail characterization or analytical comparison.

4. Caution is undoubtedly indicated with regard to generalizations, characterizations, or comparisons that do not show acute awareness of the problem of local variation.

5. Provision for survey or reconnaissance work in the vicinity of an intensive local study is likely to be well justified, and such work may prove even more valuable after there is some knowledge of the immediate locality under study.

6. The pattern of controlled comparisons (Eggan, 1954) is widely suitable under New Guinea conditions; thus collaborative efforts with maximum attention to common definition, descriptive procedure, and emphasis can be strongly recommended.

7. Local variation is more treacherous for comparative work in connection with quantitative differences. Warfare or "warlikeness" can be used for illustration. Many groups may be described accurately as warlike, yet the local emphasis upon or indulgence in warfare may vary significantly, even while lore and practice do not.

8. As a working assumption, individual variation within groups may usefully be considered as relevant to or analytically continuous with intergroup variation under specified conditions.

REFERENCES

Barnes, J. A.
1962 "African Models in the New Guinea Highlands," Man, 62, 5-9.

Belshaw, C. S.
1957 The Great Village. London, Routledge and Kegan Paul.

Berndt, R. M.
1954-1955 "Kamano, Jate, Usurufa and Fore Kinship of the Eastern Highlands of New Guinea," Oceania, 25, 23-53; 156-87.
1962 Excess and Restraint. Chicago, University of Chicago Press.

Brookfield, H. C.
1962 "Local Study and Comparative Method: an Example from Central New Guinea," Ann. Assoc. Am. Geogr., 52, 242-254.

Brown, P.
1962 "Non-agnates among the Patrilineal Chimbu," J. Polynesian Soc., 71, 57-69.

Eggan, F.
1954 "Social Anthropology and the Method of Controlled Comparison," Am. Anthropol., 56, 743-763.

Elkin, A. P.
1963 Social Anthropology in Melanesia. London, Oxford University Press, p. 65.

Held, G. J.
1947 Papoea's van Waropen. Leiden, E. J. Brill; Engl. trans., 1957, The Papuas of Waropen. The Hague, Martinus Nijhoff, p. 6.
1951 De Papoea Cultuurimprovisator. 's-Gravenhage, W. van Hoeve.

Kroeber, A. L.
1939 Cultural and Natural Areas of Native North America. Berkeley, University of California Press, pp. 136-142; 173.

Langness, L. L.
1964 "Some Problems in the Conceptualization of Highlands Social Structures," Am. Anthropol., 66, 162-182.

van der Leeden, A. C.
1956 Hoofdtrekken der Sociale Struktuur in het Westelijke Binnenland Van Sarmi. Thesis, Ledien, E. LJdo.
1960 "Social Structure in New Guinea," Bijdragen tot de Taal-, Land- en Volkenkunde, 116, 119-149.

van der Leeden, A. C., J. T. van Logchem, J. Pouwer, J. van Baal
1962a "Western New Guinea: General Tasks and Specific Problems," Bull. Internat. Comm. Urgent Anthropol. Ethnol. Res. 4, 26-32.

1962b "Research in Western New Guinea: an Assessment of Current Needs," Bull. Intern. Comm. Urgent Anthropol. Ethnol. Res., 4, 29; 33-39.

Mead, M.
1935 Sex and Temperament in Three Primitive Societies. New York, Morrow.

Moore. F. W., ed.
1961 Readings in Cross-Cultural Methodology. New Haven, Human Relations Area Files Press.

Naroll, R.
1964 "On Ethnic Unit Classification," Current Anthropol. 5, 283-312.

Oosterwal, G.
1961 People of the Tor. Assen, Royal van Gorcum, pp. 140-141.

Pouwer, J.
1960 "Loosely Structured Societies in Netherlands New Guinea," Bijdragen tot de Taal-, Land- en Volkenkunde, 116, 109-118.

Serpenti, L. M.
1965 Cultivators in the Swamps. Assen, Royal van Gorcum, pp. 14-20.

Watson, J. B.
1963 "A Micro-Evolution Study in New Guinea," J. Polynesian Soc., 72, 188-192.

Research into Regional Economic, Educational, and Political Development

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The elections to the House of Assembly in Port Moresby in 1964 drew anthropologists' attention to many issues they had overlooked before. In the first place, there was the immediate problem of interpreting the campaigns and the polling. The elections were followed by a large team of scholars—political scientists, historians, and anthropologists. The results of their work, still to be published, will be of considerable scientific value, yet their project would have been improved had their background knowledge of the territory as a whole, region by region or electorate by electorate, been greater. Anthropological research clearly had not furnished the kinds of facts they wanted. Except in those instances in which an observer was following the campaign among the people he had already studied, and in which these people represented a large part of the electorate, it was obviously most difficult to assess the issues that determined voting. The problem was greater in coastal electorates made up of numerous language groups. Even a standard anthropological monograph for the electorate would have covered only a fragment of it—one small language group.

In the second place, anthropologists were forced to realize that development was going on at such a pace that to ignore it was to ignore one of the dominant realities of modern Papua and of New Guinea in general. They were failing to record material of unique importance for pure scientific inquiry. In addition, they were weakening their position in the country by not producing the basic

information on which the training of future administrative officers (both European and indigenous), who would have to face problems far more pressing than ever before, ought to be based. By concentrating their research on traditional cultures, they were running the risk of alienating the new national politicians who, like their Afro-Asian counterparts, were beginning to resent being continually portrayed to the world at large as representatives of pre-adamite "primitive" society.

It is essential, therefore, to build up a series of regional rather than purely local (language group) ethnographies that will cover not only traditional social structures and cultures but also trends in and reactions to modern economic, educational, and political development. These studies should stress especially the interaction between the old culture and the new institutions and they should be carried out in as many regions of New Guinea as possible so as to form a basis of ultimate comparison and generalization. An immediate, if rough, comparison can be made between two main areas, the central highlands and the seaboard, in both of which modern development has been fairly uniform, but between which there are distinct sociocultural differences. These in turn appear to lead to different reactions in development (Lawrence, 1964).

Highlands societies are for the most part large ones. Language groups can be numbered in tens of thousands and are divided into large war-making groups (tribes or phratries), which in turn segment into patrilineal clans. There is evidence that, although traditional religion is important in the lives of these peoples, their cognitive systems place a great deal of reliance on purely secular thought. By way of contrast, seaboard societies, with a few exceptions, are relatively small. Language groups may comprise only a few hundred speakers. They have a wide variety of social structures: patrilineal, matrilineal, double unilineal, and cognatic. There seems little doubt that in most cases religion dominates the cognitive system at the expense of purely secular thought.

Differences in reactions to development in the two areas appear to be as follows. In the highlands, the emphasis on secular thought, combined with other factors such as relatively good administration in the early period of contact, correlates with a low incidence of cargo cult. This suggests a fairly practical or pragmatic approach to Western economic progress and education. Yet highlands political development is strongly influenced by traditional sociopolitical structure. Where a local government council area or House of Assembly electorate consists of only one or few language groups, voting can be determined by traditional alliances and enmities

between groups, which may be quite irrational in the modern situation (Langness, 1963). An example of the problem during the elections to the House of Assembly occurred in Gumine Electorate (central highlands), where so many tribal groups produced their own candidates that they had to appeal to a patrol officer to transcend sectional loyalties and stand for them.

On the seaboard, reactions to development appear to be of a diametrically opposed character. The dominance of religion in most cognitive systems, coupled with bad administration at the beginning of contact, correlates with a high incidence of cargo cult, and in many places an unrealistic response to economic development and education. In the schools, many pupils are still searching for the secret ritual key to European wealth. Cargo cult is also a significant factor in modern politics. Cargo lenders are seen as the radical opponents of councillors and members of the House of Assembly who stand for sober, orderly, realistic progress (House of Assembly Debates, 1964). Yet modern politics on the seaboard is not influenced by traditional sociopolitical structure to any great extent. Old language groups are so small that many of them have to be combined to create a viable local government council area or House of Assembly electorate. Hence, traditional alliances and enmities between their component groups tend to be swallowed up or forgotten in the new situation (Mann, 1959). An exception appears to be the Navuneram incident among the Tolai, where the traditional sociopolitical structure did influence local government council politics. But the Tolai are a large language group (about 37,000).

An example of the sort of study suggested here is a research scheme proposed by the Department of Anthropology, University of Sydney. We have chosen for regional examination the coast and subcoast between Madang and Lae. In this region, some basic ethnography has been done (Hogbin, 1951; Read, 1947; Schmitz, 1960; Harding, ND; Hannemann, ND; Inselmann, 1944; and Lawrence, 1955). It is possible to build up an ethnohistory until about 1950. There has been uniform development: cash crops, cooperative societies, small factories in the towns, trade unions, primary and secondary schools, local government councils, and representation in the House of Assembly. Yet there has been one significant difference in reaction to contact: Around Lae there has been little cargo cult, whereas between Madang and the Rai Coast the movement has been very strong.

We hope to place fieldworkers in selected places in this region, first around Madang and Lae, and later in intermediate communities, so each community will contribute to the building up of its

total ethnography and to the understanding of modern problems, especially those that have emerged during the last 15 years. Apart from examining the traditional sociocultural systems, these workers will investigate such issues as:

1. Reactions to the new institutions specific to each community: the interaction between the old way of life and development.

2. Reactions to the new institutions deriving from past contact experience or previous cargo cult ideology, e.g., the possibility of different rates of progress around Madang and Lae owing to the prevalence and absence of cargo cult.

3. Reactions to the new institutions deriving from contacts between each community and the towns. This would involve an examination of the native urban elite—its contact with rural villagers; its dealings with cargo politicians around Madang; its identification with, or cultural and intellectual separation from, the masses; its degree of bureaucratic outlook; its view of religion as a force in politics; and its view of the kind of society it is helping to build (cf., Almond and Coleman, 1960).

The value of this kind of study is that, in contrast to similar studies in Africa and Asia, it can be carried out at a stage when nationalism is still in its infancy rather than when it has become a fait accompli. The process can be examined from its beginnings.

In conclusion, there is an urgent need in New Guinea to conduct studies aimed at understanding problems throughout entire regions within which there is some degree of gross similarity. Such studies would correct the fragmentary view of New Guinea produced by proliferating studies of individual villages. Understanding entire regions would also permit comparisons revealing the features that show marked and gross interregional differences. These features underlie the multitude of varying local reactions to modern economic, educational, and political development currently being reported. As regions become the significant units within a united territory, the features in which regions differ will become the most salient and significant variables influencing the evolution of an independent New Guinea.

REFERENCES

Almond, G. A., and J. S. Coleman
1960 The Politics of Developing Areas. Princeton, Princeton University Press.

Hannemann, E. F.
ND Village Life and Social Change in Madang Society. Mimeographed.
Harding, T.
ND Unpublished Ph.D. thesis on Sio Trade System.
Hogbin, I.
1951 Transformation Scene. London, Routledge and Kegan Paul.
House of Assembly Debates
1964 Vol. 1, No. 1, Government Printer.
Inselmann, R.
1944 Letub, The Cult of the Secret of Wealth. Mimeographed.
Langness, I. I.
1963 "Notes on the Bena Council, Eastern Highlands," Oceania, 33, 151-170.
Lawrence, P.
1955 Land Tenure Among the Garia. Canberra, Australia, Australian National University.
1964 "The Social and Cultural Background to the Election," J. Polynesian Soc., 73, 10-15.
1964 Road Belong Cargo. Manchester, England and Melbourne, Australia, the University Presses.
Mann, A. H.
1959 " 'Navuneram Incident,' New Britain—Report of Commission of Enquiry," Commonwealth of Australia, Parliamentary Papers, Vol. 8.
Read, K. E.
1947 "Effects of the Pacific War in the Markham Valley, New Guinea," Oceania, 19, 95-116.
1958 "A 'Cargo' Situation in the Markham Valley, New Guinea," Southwest. J. Anthropol., 14, 273-294.
Schmitz, C.
1960 Historische Probleme in Nordost-Neuguinea (Huon-Halbinsel). Wiesbaden, Franz Steiner Verlag.

Toward a Configurational Approach to Society and Culture in New Guinea

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Instead of typologies we need a series of relevant elements, like descent, classification, exchange, residence, filiation, and marriage; these should be rigorously defined as analytical categories and then combined and recombined into various combinations and permutations in different sizes, shapes, and constellations (Schneider, 1965).

STATING THE PROBLEM

It has been reported and recognized again and again (Barnes, 1962; Brown, 1962; de Bruijn and Pouwer, 1959; Dutoit, 1962; Epstein, 1964; van der Leeden, 1960; Pouwer, 1960a, 1961, 1964; Vayda and Cook, 1964) that many New Guinea societies show a striking degree of variability and flexibility, which offers a challenge to the scientist who wants to formulate their structural framework. This is more true because labels and classifications successfully used elsewhere, which serve as (no more than) tools to find the system, do not apply to New Guinea Societies without great difficulties.

For the purpose of this conference I see no point in adding to the documentation of variability, but I shall try to indicate concepts and methods that aim at exploring and explaining the system.

Postulating the axiom that any society shows at least a certain degree of consistency, a characterization of New Guinea social systems in terms of structural looseness or flexibility, without indicating the structural framework within which the variations occur, should be rejected. Variations are not unbounded. Gratifying as it may be to Paula Brown (1962) to account for deviations from a structural principle (e.g., the agnatic principle) by referring to special characteristics of the social system (e.g., the pervasiveness of affinal and cognatic ties), one cannot identify a rule by its deviations. Her commendable analysis clarifies the operation of a system, not its structure.

It is no longer sufficient to indicate peculiarities of the New Guinea systems by contrasting models of African systems with the social realities of New Guinea societies (Barnes, 1962). Although Barnes warns against this methodological error in the beginning of his illuminating article, I am not quite sure that he avoids this error himself. He contrasts elements of the model of African segmentary societies, such as the Tallensi, Nuer, and Tiv, with elements of New Guinea highland social realities as interpreted by him:

bounded affiliation	versus	unbounded affiliation
group solidarity	versus	individual enterprise and individual initiative
group solidarity	versus	network cohesion
relative order and regularity of social life (Tiv)	versus	relative disorder and irregularity of social life (due to the high value placed on killing)

Setting aside the dubious meaning of the concepts of solidarity and cohesion, it seems to me that unbounded affiliation and relative disorder cannot be parts of a structural model, but represent a somewhat distorted view of social reality. Unbounded affiliation and relative disorder are just a denial of structure, which implies, by definition, boundaries and relative order. Modes of affiliation as well as individual action always operate within structural frameworks. Moreover, structure is more than and even different from network. It is primarily arrangement. Arrangement implies a network of interdependent elements, but we should not invert this proposition.

It is emphatically not my intention to minimize the important role of individual choice and action and of permitted alternatives as determinants of sociocultural variability and change, especially in New Guinea societies. However, individual choice should be dealt with on the level of organization (Firth, 1961), not on the level of structure. The operation of individual choice may bring about changes on the organizational operational level of a system. In its turn, organizational change may induce a gradual shifting of structural emphasis comparable with the effects of conjunctural development on economic structure. An economic system may evidently shift from relatively free to relatively controlled competition. A lineal development may crosscut a cyclical one.

Our discussion of structural development calls to mind a suggestion proposed by Vayda and Cook (1964), referring to Meggitt (1962), to shift our emphasis of study from "being" toward "becoming." If they want to create by this proposal dichotomies of process and structure, of dynamic versus stable, of diachronic versus synchronic, then these dichotomies must be rejected as equally false as the dichotomy, group - individual, mentioned by Barnes. Structure is a panchronic device, so it can be inferred from synchronic as well as diachronic studies. Nevertheless, I agree with the authors mentioned that the study of a system in its historical and spatial perspectives may reveal regularities that easily pass unnoticed when focusing research on a single plane. One cannot sufficiently grasp the composition and the meaning of a film by analyzing some sequences if he does not know their relative key value for the series of sequences of which they are a part.

Sociocultural systems "are" and "become," they exist and persist, but not primarily on the physical-empirical level, since their structures are images of the human mind, arrangements of empirical and nonempirical elements. Therefore, structures cannot be found by means of empirical generalizations. Structure is a conceptual, a symbolic device; one cannot spot it in empirical reality. One can, and must, infer it from empirical reality. The participants of a culture are constructing systems; the observers are reconstructing them. The anthropologist resembles the archaeologist; he reconstructs the system out of its observed interdependent elements. But he has a privilege not shared by the archaeologist; the constructor or (re)enactor of the system is at hand. So he (the reconstructor) can confront the performer with his own system and is thus able to verify his reconstruction to some extent.

Arrangement that is synonymous with structure is dependent on faculties of the human mind—especially intellectual—indicated by this paper by the term "structuring or arranging principles." These principles of arrangement both act upon and are influenced in their configuration and relative stress by an ongoing process of conscious and unconscious cognition, categorizing and evaluating the Umwelt. A specific set of elements, which we call a (specific) culture, is shared by a specific set of persons, which we call a society. Both culture and society are conceptual symbolic devices; both are configurations or arrangements brought about by the same set of structuring principles that figure as their common denominators. The intellectual faculties of the human mind transform and translate the Umwelt and its objective order into subjective human orders characterized by a series of arrangements and a fabric of meanings of their own. This conspicuously human and symbolic order in its sociocultural dimensions and in its interplay with the objective order of the Umwelt (including human beings) constitutes, to my mind, the object of study of our discipline.

The above considerations, originating in a continuous struggle with stubborn New Guinea field data and confrontation of their theoretical implications with concepts and methods propagated by a daring Levi-Strauss and a cautious nuanced Firth, gradually convinced me of the potential and actual importance of study of the New Guinea societies for a rethinking of general anthropology. The relevance of such a study will outweigh the relevance of some other specialization, if we are willing to reconsider familiar concepts such as (af)filiation, descent, lineage, segmented society, corporate unit, solidarity, bilateral kinship, kindred, deme, ramage, marriage, and locality of marriage. It touches upon intracultural affinities and parallels between social, economic, political, and religious subsystems. It challenges our views of cultural change, which can be exemplified by the amazing divergence of interpretations of cargo cults inspiring the semioutsider Jarvie to an extreme frontal attack on British functionalist anthropology in his book, The Revolution in Anthropology (1964). It challenges our methods of intracultural analysis and intercultural comparison. It even challenges our interpretation of fundamental notions such as structure, process, and organization, which are used abundantly without sufficiently taking thought of their contents.

I express the hope that this conference and further research will consider New Guinea data in this wider perspective.

THE SEGMENTARY MODEL

Let me elucidate this expounded view by means of a confrontation of New Guinea data with the model of a segmentary society designed and elaborated upon Radcliffe-Brown, Fortes, and other social anthropologists. Such a confrontation not only reveals the peculiar properties of the data concerned but also unveils some tacit assumptions of the segmentary model.

I am in full agreement with Barnes (1962), who states, after summarizing eight interconnected characteristics of highland societies that to my mind are shared by coastal societies: "... hence it seems prudent to think twice before cataloging the New Guinea highlands as characterized by patrilineal descent." For all that, Meggitt (1965) feels warranted to design a typology of highland societies in terms of patrifiliation and patrilineal descent. I suspect that Meggitt was motivated by the doctrine of the segmentary model rather than by the social reality of New Guinea. He shows a unilineal bias which is not uncommon among adherents of the segmentary model. Fortes (1959), Freeman (1961), and even Leach (1962), who refers to Rivers, go to such extremes that they put unilineal descent on a par with descent. Fortes (1959) identifies descent with descent group. Such amazing scientific behavior requires an explanation. I agree with Schneider (1965), that it derives from commitment to an organic model of a kin-based segmentary society. This is a prototype of a concrete society formed of homogeneous, or repetitive, discrete, and exclusive segments. The segments, in order to be repetitive, discrete, and able to operate as corporate units, must be connected with a clear unambiguous principle of recruitment, which excludes the possibility of conflicting claims and loyalties. The only principle of recruitment that meets these demands is, in this view, the principle of unilineal descent. This thesis is based on a dichotomy of unilineal versus bilateral and agnatic versus cognatic descent, which corresponds to the dichotomy discrete - nondiscrete, corporate - noncorporate. Radcliffe-Brown (1950), the British ancestor of this doctrine, comments upon his thesis:

> ... It is to be remembered that "descent" here refers to the social relationship of parents and children, not to the physical relationship. Kinship is thus based on descent [emphasis added]. ... There are few, if any societies in which there is not some recognition of unilineal descent, either patrilineal (agnatic) or matrilineal or both. ... But what matters in the study of any society is the degree of emphasis on the unilineal principle and how it is used [emphasis added]. ... A continuing social structure requires the

aggregation of individuals into distinct separated groups, each with its own solidarity, every person belonging to one group of any set [emphasis added] . . . . In kinship systems, cognatic kinship cannot provide this; it is only made possible by the use of the principle of unilineal descent.

A recent echo of Radcliffe-Brown's point of view is to be found in Meggitt's (1965) study dealing with the lineage system of the Mae Enga. In his concluding chapter he sings the praises of the lineage principle. It is unambiguous, excludes overlapping, and promotes solidarity. "But in cognatically organized society where land is short two men genealogically related in quite different ways to the deceased or to his local group might with equal propriety lay claim to the estate." He expresses the opinion that, even in a cognatic society in the case of the occurrence of similar conflicts, the principle of patrilineal descent and patrilocality is called on in order to settle the dispute. In a footnote he refers in this connection to the cognatically organized Dayak (Geddes) who settle conflicts on the subject of estates by applying the rules of last use of the land and the principle of seniority. I do not see the connection of these rules with patrilineal descent and patrilocality.

According to the segmentary model, the segments of a society can be related to each other by complementary filiation (Fortes, 1959) and by discerning levels of segmentation, among other things.

We should be acutely conscious of the fact that filiation and descent are essential parts of the segmentary model. Therefore, it is not surprising that scientists who adhere to this model throw filiation, unilineal descent, descent group, and corporate units into relief. I surmise that a commitment to this model is the main reason Meggitt endeavors to classify a number of highland societies in terms of the degree of elaboration of the agnatic, i.e., the patrilineal, principle. He positively correlates this degree of pressure on horticultural land resources.

He also endeavors to arrange a number of highland societies on a continuum between cumulative patrifiliation—a term used by Barnes (1962)—for the very purpose of discerning the New Guinea kinship systems from systems characterized by patrilineal descent and agnatic descent.

Finally, he tries to bridge the gap between the segmentary societies of Africa, Melanesia, and New Guinea by granting the latter an important intermediate position in terms of a taxonomy of patrilineal-descent groups. Also in this respect he proves himself equal to his spiritual ancestor Radcliffe-Brown (1960), who suggested a taxonomy of African systems in terms of a continuum of unilineal descent:

Unilineal kinship receives only a minimum of recognition, if even that, in the Lozi; matrilineal kinship is emphasized in the Ashanti, and patrilineal kinship in the Zulu and the Nuer; both matrilineal and patrilineal kinship are made use of in the construction of the system of Yako. Between these four selected types there are many intermediate forms.

Note how Radcliffe-Brown puts kinship on a par with filiation and descent.

I am decidedly of the opinion that we should leave the trail followed by Meggitt and a number of outstanding British social anthropologists. We should find a new one for the sake of gaining a clearer insight into New Guinea systems as well as for general theoretical reasons that are virtually present.

My arguments for this point of view, which show a theoretical escalation, can be summarized as follows:

1. For many New Guinea systems the segmentary model is useful only in a restricted sense. It tends to veil rather than to unveil New Guinea social reality and structure.

2. The throwing into relief of unilineal descent by using it as a parameter of analysis, comparison, and classification tends to cause an underrating of the importance of the bilateral infrastructure and of the horizontal stress in many New Guinea kinship systems.

3. A taxonomy of societies, and more especially of kinship systems in terms of one property, i.e., filiation and descent, does not make a system intelligible.

I shall explain my arguments by means of a topical "Cook's Tour" through West New Guinea (West Irian), which will concentrate on four pairs of concepts: segmentation and fragmentation, spatial and dualistic models, unilineal descent and bilateral kinship, and substantial and configurational models.

SEGMENTATION AND FRAGMENTATION

From a genealogical point of view we are often confronted with a process that Groves (1963) aptly called fragmentation instead of segmentation. Firth (1957) has labeled this type of process "definitive segmentation" or "gemmation." Naturally there is fission and fusion, but not within a framework of connected and hierarchically arranged segments. Plenty of societies are labeled unilineal without a segmentary framework: Nimboran, the western hinter-

land of Sarmi, the eastern coast of Sarmi, Waropen, the southern coastal areas of the Eastern Vogelkop, Muyu, and the Star Mountains. Closely connected with the absence of a segmentary conceptualization of society is the almost proverbial lack either of putative or actual genealogical knowledge in these and other areas. A conception of a segmentary society is also lacking in areas characterized by ambilineal descent—Eastern Vogelkop, except the Manikion of the Anggi Lakes and southern areas that show segmentation to some extent, the Mimika and Asmat areas, and the Jachai of the Mappi area.

I refer to a sketch map of West New Guinea (West Irian) included in de Bruijn and Pouwer (1959) for the geographical position of the areas mentioned.

I draw your special attention to the fact that in the above cases I have in mind the structure of a system, not its operation. If the operation of a system is also accounted for, then the case in favor of a segmentary society is strengthened. Even in areas with a segmentary structure, such as the Wissel Lakes area and the Baliem area, its operation is cut across and impeded by the manifestations of other structuring principles, especially the principle of reciprocity, finding expression in individual affinal and exchange relationships, and the concentric principle, expressed in local in-group versus out-group attitudes and behavior. It may be true that the numerous Dani tribes of the Baliem and Swart Valleys discern lineages, subclans, clans, agglomerations of clans, and moieties; this does not alter the fact that in the daily routine (the exchange of women, the frequent wars, and the ceremonies) the dualistic unit composed of two localized lineages, each representing a moiety, is of paramount importance, and that regional aggregates, irrespective of segmentary status, come to the fore. Ploeg (1962), meticulously analyzing a number of localized lineages in Bokondini (Swart Valley), reached the conclusion that these units are often recruited from various levels of segmentation. Therefore he calls them carpels, and avoids the term lineage. My own fieldwork in the Star Mountains confirms his conclusions. The rather frequently reported lack of knowledge of the genealogical relations between the members of a so-called lineage implies a further warning to segmentalists.

SPATIAL AND DUALISTIC MODELS

Although societies corresponding more or less to the model of a segmentary society are not lacking (Wissel Lakes, Baliem Valley, Swart Valley, Ajamaru area of the Central Vogelkop, and the Marind-anim) two other models, or rather a combination of both, come more readily to mind, i.e., a conceptualization of society in spatial terms and in terms of dualism.

According to the first model, already touched upon by Salisbury (1956), a society is conceived as a series of local autonomous aggregates of equal status associated with a more or less defined tract of land and often with a regional ceremonial organization. The position of the local units within the system is defined by an arrangement of hamlets, villages, parishes, and possible regional organizations according to geographical features, especially rivers or parts of rivers with their affluents and valleys or parts of valleys. This rather concrete conceptualization of society is very common and widespread. (For a spatial model on a higher level of abstraction, based on structural principles rooted in the human mind, see pp. 96-98.)

This concrete spatial model can be associated with unilineal descent (e.g., the truncated localized lineages or pseudolineages of Nimboran and Muyu); with ambilineal descent (e.g., the localized ramages of the Eastern Vogelkop); with nonlineal kinship [e.g., with the demes of the Tor River (Oosterwal, 1961)]; and with the extended personal kindreds of the Arguni Bay (van Logchem, 1963). The links between the local units are constituted by the network of the bilateral in the structure, and by manifestations of the principle of reciprocity (e.g., exchange of women, commodities, songs, rituals, festivities, and hostilities). A spatial arrangement need not create confusion from a genealogical point of view, because, in many areas, descent units tend to coincide with the core of residence units (Nimboran, the hinterland of Sarmi, Waropen, the Eastern Vogelkop, Mimika, Asmat, Jachai of Mappi, Muyu, and Jafi).

A spatial arrangement of kin, as opposed to a genealogically based segmentary one, makes a wide knowledge of actual and putative genealogically interpreted intergroup relations superfluous and rather dysfunctional. Even within a nonsegmentary localized kin group, the exact genealogical relations between its members may be of less interest. Being a member of the domiciled core constitutes sufficient proof of being a relative. Sometimes people even point to their domicile in order to prove their genealogical

relationship with a certain kin group. The coincidence of the native term for house and the generic term for kin group in some areas (Waropen, Biak, Numfoor, Muyu, Asmat) is clear evidence of the close connection between the genealogical and the territorial dimensions of kinship and descent. On the east coast of Sarmi it is customary not to refer to a particular descent group by its (dispersed) clan name but by the name of the house in which this group lives or lived.

A dualistic arrangement of elements is highly characteristic of a considerable number of New Guinea societies. This occurs in two modalities: diametrical and concentric. These terms are borrowed from Levi-Strauss.

Diametrical dualism dominates a huge area in the South, ranging from Mimika in the West to the Elema (Williams, 1940) in the East. It includes the following areas and tribes: Mimika (studied by Pouwer), Asmat (studied by Zegwaard), Jachai of Mappi (studied to some extent by Boelaars), Frederik Hendrik Island (studied by Serpenti), Marind-anim (studied by van Baal and Verschuren), Jeeanim (studied by Verschuren), Lake Murray and Suki (studied by Nieuwenhuijzen), and Elema. It manifests itself in a bewildering variety of forms and functions—economic, social, political, ritual, and cosmological. It is a total social fact. The perplexing variety of its forms renders the coastal plains of New Guinea eminently suited as a field for thorough and exact intracultural as well as intercultural comparison. This comparison still has to be made.

Dualism is not correlated with a definite mode of descent and of arranging kinship relations. It may be combined with patrilineal descent (Marind-anim, Lake Murray, Suki, Elema, and the Baliem Valley), with patriambilineal descent (Asmat and Vogelkop), with matriambilineal descent (Mimika and Mappi), and with collateral arrangements of kin (Frederik Hendrik Island and Mimika).

It may have a bearing on local organization, exemplified by the bipartition or double partition of a village or parish in a spectacular way (Mimika, Asmat, and Frederik Hendrik Island). It may bear upon a regional bipartition (Mimika, Asmat, and Frederik Hendrik Island); it may manifest itself in an over-all bipartition of society by means of moieties (Marind-anim, Lake Murray, Suki, and large areas of the central highlands). It may be a ritual and a ceremonial device which need not always coincide with a terrritoral bipartition (Mimika, and Frederik Hendrik Island). It may be associated with a specific opposition of male versus female, such as is realized in the "male" and "female" rituals of Mimika, both performed by males and females together, but in a different relation. It may even

function as a cosmological device. Van Baal's thorough restudy of Marind-anim society and religion, in close collaboration with Father Verschuren, who has observed the Marind for more than 25 years and is still in the field, offers a spectacular illustration of a highly consistent cosmological system based on intricate dualistic identifications and oppositions. It includes elements such as subclans, clans, phratries, moieties, and a hierarchy of totems and subtotems that represent natural phenomena as well as the local flora and fauna. It also comprises a number of highly intricate rites dramatizing a variety of myths that show a baffling consistence in symbols that cannot be understood without an intimate knowledge of culture and society. Indications of diametrical dualism as a principle of cosmological classification are found also in the Baliem Valley. The clans constituting moieties are associated with certain animals and plants.

Concentric dualism is apparent in the territorial and religious organization as well as in the classification of kin in the Star Mountains. Suffice it to refer to my article and to oral explanation.

I hope it will be clear that what seems to be fragmentation, and thus lack of structure, from a genealogical point of view may show consistency and arrangement from a spatial or dualistic point of view.

UNILINEAL DESCENT AND BILATERAL KINSHIP

It is commonplace to state that every society culturally recognizes the bond of filiation, i.e., the fact of being considered as the child of at least one and usually two specified parents. Again, every society culturally recognizes the bond of siblingship. I will take it for granted that in both cases the culturally recognized bond need not be identical with the biological one. For this reason the universal cultural fact of filiation and siblingship does not imply that the biological nuclear family is the social and historical origin of kinship and kinship systems. This may be so, but it is not necessary. Also, and even in the field of kinship alone, the human mind transforms and translates objective physical facts into subjective symbolic ones. This meaning may correspond to the physical facts, but may also deviate from them, ignore them, and even deny them.

Now, each culture may vary in the degree of elaboration of the universally recognized bonds of filiation and siblingship. The

following model may be suggested. A logically consistent elaboration of filiation results in the vertical line of varying length, the line of unilineal, bilineal, ambilineal, or equilineal descent. In its most consistent form it tends to ignore the horizontal line. The lineal classification of kin according to the "Omaha" system offers an example of this tendency.

Likewise, a consistent elaboration of the bond of siblingship brings about a horizontal line—the line of collateral kin in several degrees—including both father's and mother's kin as far as they are considered to belong to one generation. In its most consistent form it tends to ignore or deny filiation and descent. A classic illustration of this tendency is the generation (Hawaiian) type of terminology. A considerable number of New Guinea societies tend to a horizontal arrangement of kin. Frederik Hendrik Island offers a spectacular example. In spite of an ideally as well as a statistically virilocal and patrilocal "layout," any notion of patrilineal or matrilineal descent is lacking (Serpenti, 1965). There are neither institutions nor kin groups reflecting patrilineal descent. Gardens are passed on successively from a man to his brothers and to their sons. However, this rule of inheritance, which partly reflects a certain horizontal stress, need not entail unilineal descent. On Frederik Hendrik Island it reflects cumulative patrifiliation rather than patrilineal descent. The kinship system neither discerns a patriline or a matriline nor is it ancestor-based. Moreover, the tremendous importance of the institution of adoption, which is commonplace on the island and creates a complicated web of relations, rights, and duties, even makes the use of the term "filiation" a dubious affair.

A second indication of minimizing descent can be found in the horizontal ideology with respect to the genealogical origin of truncated lineages or ramages comprising only four to seven generations (patrilineal: Muyu, Star Mountains, and Sarmi; ambilineal: Mimika, and Eastern Vogelkop). These descent groups are traced back to a number of persons considered to be siblings, their actual or putative parents being unknown. Sometimes the number of so-called siblings is so large that it tends to submerge a lineal conception of the group.

A third indication of a tendency to ignore descent lines can be derived from a peculiar classification of distant kin, the theoretical implications of which have been pointed out for the first time by my Dutch colleague, van der Leeden (1960). According to this terminological system, "one simplifies the classification of distant relatives by reducing them to classifications of relatives in the

third degree. One does so by taking similarity or dissimilarity in sex of the linking relatives in the parent's generation as a starting point." This method of classifying distant kin, which ignores levels of segmentation, has been noticed in a number of apparently unrelated areas, conventionally characterized by various modes of tracing kinship and descent. Among those areas characterized by the patrilineal mode are Sarmi (van der Leeden, 1956); Wissal Lakes (Pospisil, 1960); Star Mountains (Pouwer, 1964); and presumably Ajamaru (Elmberg, 1955). The Mimika area is characterized by the ambilineal mode (Pouwer, 1955). Van der Leeden (1960) comments on this system: "The resulting terminology does not fit in functionally with either a unilineal or a bilineal organization nor with a bilateral organization with generation-type terminology (Murdock's Hawaiian type). It can only be attributed to the influence of the nuclear family and sibling group." He associates this terminology with the asymmetrical status of males and females (i.e., brother and sister) in the exchange of women. I agree with him and add to his comments that this terminology apparently ignores descent and concentrates on filiation and collaterality.

A fourth indication of ignoring a vertical arrangement is the frequent occurrence in New Guinea of the generation (Hawaiian) type of cousin terminology. It has been reported from the coastal area of eastern Sarmi (patrilineal), the Tor area (demes), the Eastern Vogelkop (ramages), Arguni Bay (extended personal kindreds), Majrasi (presumably patrilineal), Mimika (matriambilineal), Asmat (patriambilineal), Jachai (matriambilineal), and Frederik Hendrik Island (collateral stress). Moreover, in some areas we find a combination of Hawaiian and Iroquois terminology: Nimboran (patrilineal, possibly bilineal), western hinterland of Sarmi (patrilineal), Bintuni area (patrilineal), and the Hattam and Moiree tribes of the Eastern Vogelkop (patriambilineal). The combination of vertical and horizontal arrangements of kin that is apparent from both categories suggests the assumption that a kinship system should be considered the resultant of a vertical versus a horizontal arrangement of kin.

A functional ignoring of filiation and descent is apparent from the fact that Papuans are often on familiar terms with relatives or pseudorelatives, referred to as "real brothers" and "real sisters" without bothering about the genealogical connections. If explicitly asked, they shrug their shoulders or they refer to their parents or relatives of their parent's generation who told them so. Only the manifest behavior with respect to these "siblings" is of interest to them. They are not able or are not willing to trace the actual or

putative, the complete or reduced connecting links. Sometimes they refer to a common but usually vague pedigree, but very often they do not do so.

An emphasis on the horizontal collateral line may give rise to a native model of a kinship system conceived as a series of horizontal layers or relatives. These layers are only vaguely and partially interconnected by means of actual or putative filiation. Only part of such a structure has empirical functions, these being determined by factors such as physical proximity, reciprocity, and personal feelings. Features of this model are to be found in Mimika and Frederik Hendrik Island. In Mimika highly localized nonexogamous agglomerations of putative relatives occur and have been termed taparu, derived from tapare ("land"). The taparu are considered to consist of a series of layers, of horizontal units. Each unit is composed of a number of persons belonging to one generation who claim to have an actual or putative mother or mother's mother in common. The vertical links between these horizontal units, which are indicated by the term (peraeko), literally meaning "originating from one vagina" are usually indistinct because the relations between the paraeko and "mothers" are scarcely known.

In a similar way, the nonlocalized extended personal kindreds (tjipente) of Frederik Hendrik Island are considered to consist of a series of generation layers (jaentjewe) constituted by a number of real and classificatory siblings (Serpenti, 1965).

In both areas, common residence is an important unifier, even to such an extent that genealogically distant relatives may be regarded as real siblings if they have a common residence.

It is not surprising that in a system that stresses a collateral horizontal, rather than a vertical, arrangement of kin, a marriage between cross-cousins as well as parallel cousins is prohibited. The ban on marriage between cousins and its motivation (because they are of one blood) has been frequently reported and exists irrespective of mode of descent. Even in areas with a preference for (not a prescription of) marriage with mother, brother, or daughter (Ajamaru and Central Muyu), a marriage with a biological mother, brother, or daughter is not allowed or is frowned upon. This prohibition of marriage with close collateral kin and its motivation in a system stressing horizontal arrangement is the exact counterpart of the prohibition of marriage with unilineal kin in a system emphasizing vertical arrangement.

It is also not surprising that in a New Guinea system or systems stressing horizontal arrangement, the bond between siblings (brother - brother, brother - sister) serves as a main symbol and as

a model of the bond between individuals and groups. The frequent occurrence of the pairs—elder brother and younger brother; elder sister and younger sister; brother and sister—in many New Guinea myths and stories may also be viewed in this light. The conspicuous meaning of siblingship, that siblings are thrown into relief by many New Guinea societies irrespective of mode of descent, has been reported by a considerable number of fieldworkers (Held, van der Leeden, Oosterwal, Serpenti, Burridge, Pouwer).

The Waropen people can conceive of the relation between marriage and kinship only in terms of "brother" and "sister." The prescription to marry a person classified as a mother, brother, or daughter is always described as follows: "The son of a sister must marry the daughter of his mother's brother." One's interlocutor always has to think for a moment before he has equated the formula with the usual one. Less bright individuals even denied that the two formulas mean the same thing. Nobody recognized that this system implied a bride-giving and a bride-taking group in addition to ego's group, and indeed this is not apparent, given the present-day composition of the ruma (comparable with lineage). On the other hand, everyone immediately denied the possiblity of brother and sister exchange. (Held, 1947, cited by van der Leeden, 1960).

In Mimika a man opposes his own children, his brother's children, and those of male bilateral cousins to his sister's children and those of female bilateral cousins by using the terminological opposition, "the children of my penis versus the children of my anus" (kamarima - watako). Anus serves as a symbol for sister's vagina. He says, "I am kamarima, he (or she) is watako." "My relationship to X is that of Y's brother's child to Y's sister's child." Just as the Waropen people, he circumscribes his relation with mother, brother, and daughter from the point of view of cross-sex siblings.

In the Star Mountains the sibling relationships, together with a lineal arrangement of kin, constitute the key to an understanding of the kinship system. I have amply documented this view (1964).

In his article on Tangu siblings, Burridge (1959) reaches the following conclusions:

> . . . the relationship between brother and sister could be said to be the pivot of Tangu social life and culture.
> . . . descent was probably always calculated from siblingship and not vice versa.
> . . . marriage rules probably took their departure from siblingship rather than descent.
> . . . siblingship occupies much the same place among Tangu as does the lineage among the Tallensi.

It is also very interesting to learn that the Tangu system, modeled on the sibling relation of solidarity and exchange, combines very well with various modes of descent.

Because of a vertical bias in social anthropology, the structural importance of the horizontal arrangement of kin has been neglected. The horizontal stress in many New Guinea societies is more than a matter of operational or functional value. It will be clear from the examples given that it also has a structural component. A kinship system is to be characterized by the relative position of its constituting elements between the lines of vertical and/or horizontal arrangement. If we do not take the horizontal arrangement into explicit consideration, and if we subordinate it to the vertical arrangement, the structure of New Guinea systems will not be intelligible to us.

A vertical bias also tends to distort our view and interpretation of the bilateral infrastructure shared by all societies, irrespective of their modes of descent. In accordance with a British scientific tradition, bilateral kinship is usually projected on the vertical axis, either by stating that kinship is based on descent (Radcliffe-Brown) or by identifying bilateral kinship with (complementary) filiation, a term that to my mind implies a vertical conception of kin, be it at a minimum, i.e., the culturally recognized bond between a man and at least one of his social parents. A vertical bias is also apparent in the current meaning of another term denoting bilateral kin, i.e., "cognates," which means "persons akin by birth" (Murdock, 1960, following Leach and Freeman). Firth (1963) defines "cognatic" as follows:

> COGNATIC STOCK the descendants [emphasis added] of a married pair reckoned through both male and female offspring.
>
> COGNATIC DESCENT GROUP those descendants of a married pair reckoned through both male and female offspring and operationally defined, so that they share common aims and actions in a corporate manner. This is equivalent to bilateral descent group.

Murdock (1960) distinguishes between two main types of kinship systems, i.e., the unilineal, or agnatic, type and the cognatic type. The latter comprises three basic subtypes: bilateral, quasiunilineal, and ambilineal.

It seems to me that the opposition between unilineal and bilateral (or cognatic) is a false one, because "lateral" does not designate the component of "vertical." Bilateral kinship is neither a point on a vertical or horizontal line nor a resultant of two lines. It is a field, a universe, that extends between a vertical and a horizontal

axis. You cannot characterize a system by its field, its universe of kin, or its infrastructure. Therefore, a characterization of a system by calling it bilateral or cognatic (if this term is equivalent with bilateral) makes as much sense as characterizing a football team by the field on which it plays its matches. To be specific, we should define the position of the kinship system (and of the football team) in the field. We should determine the position of a kinship system between the vertical and the horizontal axis.

Although the bilateral field is of no use for characterizing a system for designing a typology of systems, this does not mean that we are entitled to forget or to neglect the study of it. The bilateral field may affect the structural set-up and its operation considerably if it is thrown into conceptual or functional relief. It is my impression that there are ample indications for this relief in New Guinea. In Mimika it struck me that, according to native concepts, the right half of a person's body is associated with his mother and the left half with his father. This concept corresponds with a matriambilineal tracing of descent in Mimika. Right is superior to left. The reversed conception exists in the Eastern Vogelkop, which is characterized by a patriambilineal descent. It has been reported from many areas that the bilateral localized and nonlocalized ties of kinship are of tremendous importance for the functioning of New Guinea societies.

The importance of the horizontal collateral arrangement of kin, together with the conspicuous role of the bilateral infrastructure, may explain why even New Guinea kinship systems that show a vertical lineal stress are seldom ancestor-based. Very often the lineal ancestors are unknown, or can be traced only at great pains. Not infrequently, the ultimate ancestors are considered to be siblings of the same or of the opposite sex, their actual or putative parents being unknown. In this connection it is not accidental that a cult of lineal ancestors comparable with the ancestor cults of China, Indonesia, or Africa is virtually lacking. Barnes (1962) shares this opinion,

> An agnatic ancestor cult either does not exist or else does not provide contexts in which non-resident agnates or agnates from co-ordinate segments, are brought together. In most, though not in all, Highland societies the dogma of descent is absent or is held only weakly. . . .

One often gets the impression that the vertical line is not drawn from a cleary defined top downward but from a broad collateral base upward to an ill-defined top. In a way, it reflects ascent rather than descent. Unilineal descent in African societies, such as the

Tallensi and the Ashanti, differs from unilineal descent in New Guinea societies because its relative position in the structural framework is different. For this reason we should beware of the "butterfly-collector" approach (Leach, 1961) in our science of man. I like to emphasize the view that we cannot iron out this difference by stating that the systems, the structural frameworks, are similar but that there is a difference in operation brought about by different empirical circumstances. Although extreme demographic and ecological conditions such as we may find in New Guinea do promote deviations from the lineal principle as far as the composition and functioning of the descent group is concerned, and although it may be true that these extreme conditions throw the bilateral substructure into relief, they do not constitute sufficient cause for the existence of a stress on horizontal arrangement, exemplified in native horizontal models. One should distinguish between the bilateral field and the structuring principle of horizontal arrangement.

SUBSTANTIAL AND CONFIGURATIONAL MODEL

If structure is a conceptual symbolic device manifesting itself in a system, if structure is primarily arrangement of elements rather than a body of interdependent elements, it goes without saying that a typology and an explanation of systems are possible only by determining explicitly the relative positions of the elements within a system. By definition one needs two and, as a rule, more elements in determining the position of one of them. Hence a typology explicitly based on one element does not inform us of its position in relation to other elements. So it does not inform us about the structure of a system. One can learn the structure of a triangle neither from the length of one side nor from the mere fact of interdependence of the three sides.

Meggitt's typology of kinship systems, arranged into a continuum from filiation to descent, informs us about the modalities of a social phenomenon, i.e., patrilineal descent, and if correlated with the availability of land, about a possible interdependence of two phenomena. It does not, however, clarify a structure—a configuration of elements.

If we are interested in structure, we should approach a system from a different angle. A system should be considered as a resul-

tant in empirical reality of the operation of a series of principles of arrangement rooted in the human mind, which constructs the systems. The human mind arranges phenomena by a continuous process of identification and polarization. Calling a certain object black presupposes both an identification of this object with other objects called black and a contradistinction of this object from other objects called white. Things do not have absolute self-sustaining properties. The latter are always a matter of relative position. That is the reason I prefer a positional—a configurative—typology such as Levi-Strauss's (1956) "échange généralisé" versus "échange restreint" to a substantial typology of functionally interrelated elements such as Meggitt's typology of highland systems or Murdock's types of social systems.

I have tried in this part of my discussion to apply this notion of structure to kinship systems in New Guinea by: (a) identifying modes of unilineal, bilineal, ambilineal, and equilineal descent as manifestations of one principle of arrangement, i.e., the principle of vertical arrangement; (b) identifying modes of collateral arrangement of siblings, cousins, and other relatives considered to belong to one generation as manifestations of the principle of horizontal arrangement; (c) relating the vertical to the horizontal arrangement; and (d) considering a certain kinship system as the resultant of two contrasting arrangements, i.e., the vertical and the horizontal.

A cross-cultural typology can be designed by arranging various kinship systems, each of them represented by a point on a continuum that connects horizontal and vertical axes representing the contrasting principles of collateral and lineal arrangement.

I draw your attention to the fact that this continuum differs from Meggitt's continuum of filiation and descent in covering two principles instead of one. It is evident, however, that on a higher level of abstraction these two principles constitute two modalities of one entity. Opposition presupposes a fundamental identity.

It should be kept in mind that the model and cross-cultural typology that I have suggested covers kinship systems that are traditionally lableled as agnatic and cognatic, unilineal and bilateral systems. I consider this an advantage because usually so-called bilateral and unilineal elements occur jointly in a system. This fact has to be accounted for.

Evidently the two principles dealt with are not the only ones that give rise to a social system. Mauss (1951) and Levi-Strauss (1956) have stressed the importance of the structuring principle of reciprocity. They tend to neglect, to ignore, or to take for granted the principles expounded in this paper. It should be clear

that the principles of vertical and horizontal arrangement cannot be considered as mere functions or accessories of exchange. Nevertheless, New Guinea social systems offer striking evidence of the tremendous weight of various modalities of the principle of reciprocity. I surmise that it is not necessary to document this view. The exchange of women is one of its most substantial manifestations. In view of the undeniable amply documented fact that Papuans consider women and deal with them as key gifts in a never-ending series of transactions—of reciprocal prestations that link groups and individuals—it would hamper our understanding of structure if we mistook affinal relations for complementary filiation.

My Dutch colleague, van der Leeden (1960), draws our attention to the fact that two contrasting modalities of exchange of women occur jointly in a number of New Guinea societies. In the very same society we may find direct exchange "échange restreint" exemplified by sister exchange and fixed symmetric connubium, together with indirect exchange or "échange généralisé" exemplified by (a) a circulating connubium between units of exchange, (b) a circulation of women by means of a bride-price connected with a ban on direct exchange, and (c) a circulation of women through the generations. In view of this fact it seems possible to design a model and a cross-cultural typology of marriage systems conceived as resultants of the opposing principles of direct and indirect exchange. It is my impression that coastal marriage systems tend to stress a direct exchange, while highland systems tend to emphasize indirect exchange by means of a bride-price. It would take us too far to digress on this subject. I refer to the commendable publication of van der Leeden, just mentioned, and a publication of mine dealing with indirect exchange, among other topics, by means of a bride-price and a preference for marriage with mother, brother, and daughter, which occur jointly in the Muyu area, which I have already mentioned in another context.

There is also ample room for a model of spatial arrangement, which is partly covered by the spatial expression of the dualistic principle. The pattern of residence of groups and individuals seems to be determined by external circumstances rather than by internal arrangement. Intensive horticulture and modern industry are apparently correlated with concentration of settlements, while shifting cultivation and a sago and fish subsistence correspond with a dispersion of settlements. However, this observation is apparent rather than real. In the highly concentrated western New Guinea cities there is nevertheless a predilection for privacy—for physical distance. On the other hand, the Mimika people, traditionally

living in dispersed hamlets, behave like birds of a feather flocking together. The Star Mountains people show an ideal and statistical preference for nuclear-family dwellings, while the Eastern Vogelkop tribes, which are more dispersed, occupy longhouses comprising three to seven nuclear families.

So it might be possible to handle proximity and distance as opposing principles of a spatial model that is only partly dependent on external factors. It should be understood that I offer no more than an insufficiently documented suggestion.

There may be other principles of arrangement. For gaining insight it is irrelevant whether we consider these principles as merely heuristic devices or as real properties of the human mind.

We might use the configurational method for two purposes:

1. For the construction of cross-cultural models of subsystems or microsystems based on a set of principles. For instance, we might design a positional model of the subsystems of exchange (including marriage), of kinship, or of dualism. The modalities of these subsystems might be correlated with specific factors. The trend toward direct exchange of sisters in many coastal areas of New Guinea might be correlated with the autonomous and ethnocentric character of the local groups. On the other hand, the frequent occurrence in the highlands of an indirect exchange of women by means of a bride-price might be correlated with a traditional focus of interest, i.e., trade, barter, exchange of commodities and food, traveling around, or banking and commercial enterprise. The stressing of collateral arrangement of kin and the relative importance of the bilateral field might be connected with the dominant position of the small local group, frequently not exceeding 100 inhabitants, and with harsh conditions of life.

2. For the construction of over-all models of a society by combining the models of subsystems in various fields, such as kinship, territorial organization, economics, and religion. By doing so, we draw nearer to an understanding of the configuration of a society and a culture. What are the common denominators of the various fields?

In both cases the suggested models have two advantages. They aim explicitly at the arrangement and the relative positions of elements and thus touch the core of any structure, and they cover a wide field of cultural contents including kinship, territorial organization, economy, religion, and cosmology, and thereby bridge the gap between the concepts of society and culture, both of which are symbolic devices that show arrangement. They do so by reducing an extended and complicated field of cultural and social data to a restricted set of modalities of arranging principles.

We know that society and culture manifest themselves as systems. We are also aware of the fact that these systems are man-made. We know only partially how the systems come into being and how they subsist in the minds of men. We still wonder how it is possible that highly divergent elements, which, moreover, may be far removed from and even contrary to empirical reality, are arranged by man into a consistent though not harmonious whole.

REFERENCES

Barnes, J. A.
1962 "African Models in the New Guinea Highlands," Man, 62, 5-9.
Brown, P.
1962 "Nonagnates among the Patrilineal Chimbu," J. Polynesian Soc., 71, 57-69.
de Bruijn, J. V., and J. Pouwer
1959 "Anthropological Research in Neth. New Guinea since 1950," The Oceania Monographs, No. 10; reprinted from Oceania, Vol. XXIX (1958: pp. 132-163).
Burridge, K. O. L.
1959 "Siblings in Tangu," Oceania, 30, 128-155.
Dutoit, B. M.
1962 "Structural Looseness in New Guinea," J. Polynesian Soc., 71, 397-399.
Elmberg, J. E.
1955 "Notes on the Mejbrat People of the Ajamaru District," Ethnos, 20, 3-102.
Epstein, A. L.
1964 "Variation and Social Structure: Local Organization on the Island of Matupit, New Britain," Oceania, XXXV, No. 1, 1-25.
Firth, R.
1957 "A Note on Descent Groups in Polynesia," Man, 57, 4-8.
1961 Elements of Social Organization. London, Watts (3rd edition). pp. 30-40.
1963 "Bilateral Descent Groups—An Operational Viewpoint," Royal Anthropological Institute Monograph No. 16, 22-37.
Fortes, M.
1959 "Descent, Filiation and Affinity," Man, 59, No. 309, 193-197; No. 331, 206-212.
Freeman, J. D.
1961 "On the Concept of the Kindred," J. Roy. Anthropol. Inst., 91, 192-220.
Groves, M.
1963 "Western Motu Descent Groups," Ethnology, 2, 15-31.

1964 The Revolution in Anthropology. New York,, Humanities Press.

Leach, E. R.

1961 Rethinking Anthropology. London, Athlone Press, p. 2.

1962 "On Certain Unconsidered Aspects of Double Descent Systems," Man, 62, 214.

van der Leeden, A. C.

1956 Hoofdtrekken der Sociale Struktuur in het Westelijke Binnenland Van Sarmi. Thesis, Leiden. E. IJdo.

1960 "Social Structure in New Guinea," Bijdragen tot de Taal-, Land- en Volkenkunde, 116, 119-149.

Levi-Strauss, Cl.

1956 "Les organisations dualistes exisstent-elles," Bijdragen tot de Taal-, Land- en Volkenkunde, 112.

van Logchem, J. T.

1963 De Argoeniers. Een Papoea volk in West Nieuw-Guinea. Thesis, Utrecht.

Mauss, M.

1951 The Gift. Free Press, Glencoe, Illinois.

Meggitt, M. J.

1962 "Growth and Decline of Agnatic Descent Groups among the Mae-Enga of the New Guinea Highlands," Ethnology, 1, 158-165.

1965 The Lineage System of the Mae-Enga of New Guinea, New York, Barnes and Noble.

Murdock, G. P.

1960 "Cognatic Forms of Social Organization," in Social Structure in South East Asia, G. P. Murdock, ed., Chicago, Quadrangle Books, pp. 2; 13-14.

Oosterwal, G.

1961 People of the Tor. Thesis, Assen, Van Gorcum.

Ploeg, A.

1962 Nativistic Movements among the Bokondini Dani. Working Papers in Dani Ethnology, 1, Bureau of Native Affairs, Hollandia, p. 61.

Pospisil, L.

1960 "The Kapauku Papuans and Their Kinship Organization," Oceania, 30, 100-206.

Pouwer, J.

1955 Enkele aspecten van de Mimikacultuur. Thesis. 's-Gravenhage, Staatsdrukkerij-en Uitgeversbedrijf.

1960a " 'Loosely' structured societies in Neth. New Guinea," Bijdragen tot de Taal-, Land- en Volkenkunde, 116, 109-118.

1960b Bestaans Middelen en sociale Structuur in de Oostelijke Vogelkop. Nieuw Guinea Studien, 215ff; 309ff.

1961 "New Guinea as a Field for Ethnological Study," Bijdragen tot de Taal-, Land- en Volkenkunde, 117, 1-24.

1964 "A Social System in the Star Mountains: toward a Reorientation of Study of Social Systems," Am. Anthropol., LXI, No. 4, 133-162 (special publication).

Radcliffe-Brown, A. R.
1950 Structure and Function. Free Press, Glencoe, Illinois.
Salisbury, R. F.
1956 "Unilineal Descent Groups in the New Guinea Highlands," Man, 56, 1; 6.
Schneider, D. M.
1965 "Some Muddles in the Models," in The Relevance of Models for Social Anthropology, ASA Monographs. London, Tavistock Publications, pp. 25-79.
Serpenti, L. M.
1965 Cultivators in the Swamps. Assen, Van Gorcum, pp. 68, 70, 80.
Vayda and Cook
1964 "Structural Variability in the Bismarck Mountain Cultures of New Guinea: a Preliminary Report," Trans. N.Y. Acad. Sci., 26, 798-803.
Williams, F. E.
1940 Drama of Orokolo. Oxford, Clarendon Press.

BIBLIOGRAPHY

Held, G. J.
1947 Papoea's Van Waropen, Leiden, E. J. Brill. Engl. trans., 1957, The Papuas of Waropen. The Hague, Martinus Nijhoff.
Rivers, W. H. R.
1914 Social Organization. Cambridge, England, Cambridge University Press.

The Geographical Point of View

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THE DEVELOPMENT OF GEOGRAPHICAL WORK IN NEW GUINEA

With the exception of the early, but important, contribution of Le Roux (1948) in the Wisselmeren region of West New Guinea, geographers were latecomers in the field of New Guinea research, and until 1958 all work done was on a general territory-wide basis. Since then, detailed studies have been carried out by geographers in a number of areas, most of them being concerned with land use, land tenure, and economic development. At the same time, certain other specialists have developed ecological aspects of field injury, so that a useful body of material has now been built up on the relationships between human occupancy and the environment in parts of New Guinea. Nonetheless, much remains to be done in this field, and other fields of geographical inquiry are almost untouched. Both the intensity and the scope of geographical research have been less in New Guinea than in such territories as Fiji and Samoa.

THE STATE OF EXISTING KNOWLEDGE

Environmental Studies

For pragmatic rather than strictly academic purposes, an immensely valuable body of data on landform, soils, vegetation, and land capability has been presented in the published New Guinea reports of the Division of Land Research of the Australian Commonwealth Scientific and Industrial Research Organization (CSIRO). Further reports are in preparation. These surveys are of enormous value to research in human ecology, providing a framework within which more detailed environmental study may be undertaken. Rainfall data for the whole Melanesian region are being assembled and processed by Hart and Brookfield, but the wide scatter of stations and the absence of recording stations at high altitudes make it impossible to provide more than a generalized impression of the rainfall pattern. The New Guinea environment has such immense variations over very small areas that generalized data can never provide more than a guide to aid workers in carrying out detailed research in any particular locality.

Agricultural and Agronomic Studies

Good descriptions of agricultural methods and lists of crops are now available for a number of societies, especially in the highlands. Agricultural cycles have been described, but work carried out over periods of time suggests that it will be difficult to substantiate these descriptions. Very little is known about yields, and there is an unfortunate tendency to extrapolate from such limited data as are available. With the exception of the sweet potato, very little is yet known of the botany of most of the subsistence crops, and this lack of precise knowledge may be contrasted with the very full information available on commercial crops, which have had the benefit of much scientific experimental work.

Agricultural Development

Over wide areas of New Guinea it is no longer possible to study the traditional system of agriculture (begging the question as to whether any "stable state" can ever be recognized), because of the

transformations that have come about as a result of the introduction of a market economy. What we are studying, in fact, is an agriculture in a state of transition. Thus, in Chimbu, Brown and I (1963) have seen coffee advance from a novelty, to a sideline, to an industry in the space of 8 years, and the introduction of coffee and of money has had effects on the whole economy, the diet, and the system of land use and land selection. Indeed, the relationship between land, its occupance, and its allocation described on the basis of our fieldwork up to 1960 (Brookfield and Brown, 1963) has been completely transformed. Similar changes are taking place in many parts of the territory, and the opportunity to study them is rapidly passing. Waddell and Krinks of the New Guinea Research Unit have undertaken a study of the integration of cash cropping into the economy in two villages in northern Papua, recording time spent on all activities by a sample of individuals. The results of this work are now being analyzed.

Land Allocation

Of theoretical significance in the understanding of social organization are inquiries into the system of land allocation within and between groups under differing ecological conditions, different systems of land use, and differing conditions of population pressure. Meggitt's hypotheses concerning the relation of unilineal and affinal principles in resource allocation and the contrary hypotheses of Brown and Brookfield can be tested only by further inquiry in this field. There is evidently great diversity within very limited areas, and, though some general material is available from many inquiries, there is still a dearth of precise data.

Population Studies

Demographic inquiries and studies of population distribution and migration continue to be hampered by lack of reliable data. No detailed mapping of population distribution has yet been carried out in the eastern half of the island, though some useful results in this field have been produced for West New Guinea (West Irian) in the first report of the Demografisch Onderzoek. Migration as an object for study is much neglected, even though perhaps one in six or seven of the adult male population of Papua - New Guinea is absent from home, at work.

Regional Relationships

Only a little general material is available on the formation of regions in New Guinea as a result of economic development. Howlett's (1962) work around Goroka had as one aspect the measurement of the influence of Goroka at distances away from the town and market, but there has been almost no other attempt to measure the hinterlands of towns and other central places. Transportation studies have been neglected, though there is a large field in road transport (especially in the central highlands), air transport, and coastal shipping.

The balance of this paper, consisting of a discussion of priorities and recommendations, is either contained within or superseded by the section, "Resources and Economics" (see page 14 of this report). Hence it is not reproduced here.

REFERENCES

Brookfield, H. C., and P. Brown
1963 Struggle for Land: Agriculture and Group Territories among the Chimbu of the New Guinea Highlands. Melbourne, New York, Oxford University Press.

Howlett, D. R.
1964 A Decade of Change in the Goroka Valley, New Guinea. Unpublished PhD thesis. Australian National University.

Le Roux, C. C. F. M.
1948 De Bergpapoeas van Nieuw-Guinea en hun woogbied. Vol. 1, Leiden, E. J. Brill.

BIBLIOGRAPHY

Bowers, N.
1965 Agricultural Practices and Successional Vegetation in the Kaugel Valley, Western Highlands, Australian New Guinea. Mimeographed.

Brookfield, H. C.
1960 "Population Distribution and Labour Migration in New Guinea," Austr. Geogr., 7, 233-42.
1962 "Local Study and Comparative Method: An Example from Central New Guinea," Ann. Assoc. Am. Geogr., 52, 242-54.

1966 "An Assessment of Natural Resources," in New Guinea on the Threshold, E. K. Fisk, ed.

Commonwealth Scientific and Industrial Research Organization

1964, 1965 Land Research Series, No. 10, Buna-Kokoda Area; No. 12, Wanigela-Cape Vogel Area, Melbourne.

Dakeyne, R. D.

1965 Stability and Change in Yega Economy: A Geographical Case Study of Land Tenure, Land Use and Settlement in Northern Papua. Unpublished M.A. thesis, University of Sydney.

Groenewegen, K., and J. van de Kaa

1964 Resultaten van het demografisch onderzoek Westelijk Nieuw-Guinea, 1., Nieuw Guinea als gebied voor demografisch onderzoekingen, The Hague.

Lea, D. A. M.

1964 Abelam Land and Sustenance: Swidden Horticulture in an Area of High Population Density, Maprik, New Guinea. Unpub. Ph.D. thesis, Australian National University.

Meggitt, M. J.

1956 "The Valleys of the Upper Wage and Lai Rivers," Oceania, 27, 90-135.

1958 "The Enga of the New Guinea Highlands," Oceania, 28, 253-330.

1965 The Lineage System of the Mae-Enga of New Guinea. New York, Barnes and Noble.

Reynders, J. J.

1962 "Scientific Results of the Netherlands New Guinea Expedition 1959: Shifting Cultivation in the Star Mountains Area," Nova Guinea, 3, 45-73.

Van Wijk, C. L.

1963 The Soils of Bougainville Island—Their Distribution and Main Characteristics in Relation to Agricultural Development," Papua-New Guinea Agr. J., 15, 123-32.

Economic Research in New Guinea

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PEASANT AGRICULTURE

Over much of New Guinea the production of limited amounts of cash crops forms an integral part of a diversified agricultural system. I propose therefore to include most agricultural cash cropping under the heading of "peasant agriculture." Marketing and processing of peasant cash crops more often tend to be conducted by specialized organizations and will generally be treated under the heading "intermediate institutions."

Descriptive studies of New Guinea horticultural technologies exist in considerable numbers, with documentation of the yearly rounds, variability in activities of different individuals, relations between choice of garden sites and land rights and tenure, and related matters. Hogbin's studies of Wogeo (1938) and Busama (1951) are outstanding. The number of studies is now increasing rapidly, though few workers appear to be aware of the work of their predecessors. Even Barrau's (1958) study, one of the few comparative studies to date, mainly uses material collected personally by the author.

One reason for the dependence by recent authors on their own field data has been the relative absence of quantification by earlier authors. Where quantities were given they tended to be for one or two individuals' land holdings, garden production, or labor usage.

Little attention was paid to the problems of collecting information from samples of a determinate universe, so that generalizations could be made about universe aggregates and comparisons could be made between samples with different characteristics.

It is only when such aggregate figures (or estimates) are available that problems can be meaningfully posed in terms of an "economic" analysis—how it is that resources are allocated between different alternative usages (Salisbury, 1962). Thus it is only when aggregate figures on labor input and volume of output are collected that it is possible to discuss the efficiency of different techniques of horticulture and to consider why people use different techniques under different environmental conditions. Pospisil's (1963) comparison of Kapauku field and mound cultivation of sweet potatoes is outstanding in this respect. Analyses of peasant production of cocoa and copra among the Tolai (Salisbury, NDa) compare different organizational practices and show how the present efficiency of Tolai production of copra—about twice the output per man-day achieved by more heavily capitalized plantations—is entirely explicable by an increase in organizational efficiency after 1945. Before then, output was roughly equal to plantation output per unit of labor input (it is still less per unit of area); peasant cocoa production is still badly organized and less productive than is plantation production, but the collection of detailed figures on labor input shows that it could easily be made twice as productive. Such economic studies are in their infancy, however.

The study of peasant agriculture in New Guinea, be it for subsistence production or for cash, now requires thorough quantitative study of all the relevant variables. Anthropologists need to follow the example of agricultural economists in trying to provide aggregate figures for both inputs and outputs of particular productive systems, including capital expenditures, land, and depreciation expenses. Agricultural economists need to use anthropological techniques to obtain data on labor and organizational inputs under peasant conditions, and to consider how these labor inputs relate to household demands on peasant producers. As Leach (1954), Salisbury (1962), and others have shown, the meaningful index of productivity of peasant systems is the output per unit of labor input, not the output per unit of land.

UTILITARIAN TRADING SYSTEMS

The existence of ramifying systems of trade in Melanesia and New Guinea has long been known, and many studies of individual villages (e.g., Mead, 1938) have given insights into how much widespread systems affect individual villages within them. In economic discussion these systems have recently become of much greater significance, for they are rarely conducted by the use of cash or open market trading. Instead, one finds a gamut of different trading practices—barter between trading partners or delayed exchanges where the recipient must accept whatever the donor gives; barter at customarily fixed exchange rates or the use of shell money as a medium of exchange, often also at fixed exchange rates; entrepot trading in specialty products, such as pots, which are not used by the middlemen except to obtain goods from a third party; trading as a spare-time activity during ceremonials; and communities entirely dependent on their income as trading middlemen; credit; loans repaid with interests; and speculative financing of trading expeditions. The critical economic question is how the flows of goods are regulated in the absence of flexible all-purpose monetary prices, and, where there are nominally fixed prices, how these are fixed. What are the market conditions—the size and predictability of markets, the relative power positions of produces and consumers, the storability of commodities, the nature of services that are provided, the number of producers and the number of consumers—that relate to the specific trading practices found in each of the different cases?

Unfortunately, most of the economists' questions cannot be answered from the study of one village at one point in time. Studies of entire networks of trade are needed; or at least studies of conditions in both parties to each specific exchange, rather than the condition of just one party. Only in this way can the process of arriving at an exchange be seen as a compromise rather than as a one-sided activity (cf. Salisbury, ND b; Sahlins, ND).

To my knowledge, two studies are underway that may provide material on entire networks, that of Sahlins and Harding on Sio and that of Mead and Schwartz in Manus. Unfortunately, the former study has already shown how difficult it is to conduct this type of wide-range study in New Guinea. For largely practical reasons it was found necessary to concentrate study on the middleman community on Sio, although the original study design called for a survey of several communities spaced along a trading chain. Mean

and Schwartz, while concentrating their attentions on variations in cultural structure throughout an entire region, have already written on the differences between horticultural and middleman communities in Manus. Their five-year study promises to yield important economic information. The combination of several studies of closely related villages by different workers promises to be another practical way to attack the problem. The 1960 studies of A. L. Epstein, T. S. Epstein, and R. F. Salisbury of three communities within the Tolai language group—an impoverished and actively trading group, a remote wealthy inland group, and a traditionalistic coastal group—promise to yield comparable data that could be used for formal economic analysis of an entire area.

There remains a large comparatively untouched field for similar studies. The utilitarian trading of the entire kula ring of the Massim area has cried out for attention since Malinowski's and Fortune's description of the two westernmost groups in the chain; Hogbin's (1951) discussion of the Huon Gulf network, as viewed from Busama, calls for the study of other communities from the Papuan border to Finschafen. Similar trading chains have been reported for the Papuan Gulf area, and for the Geelvink Bay and Schouten Islands areas of West Irian (West New Guinea). Maritime trade is not the only type requiring study, although it would seem to provide the possibility for specialized middlemen to emerge. In the Sepik region the trade in pots by inland groups has long been known (cf. Whiting, 1941; Bateson, 1936); highland exchanges between food crops grown at different altitudes and such commodities as salt or python skins have been widely reported. Bulmer (1962) has indicated the way in which long trading chains dealing in plumes have always existed but have increased their activities following peace and improved communications. All these networks need formal economic analysis.

In stressing formal analysis, I am not unmindful of the techniques of institutional analysis advocated by Polanyi et al. (1957). They pioneered in focusing attention on how such nonmonetary trade provides insights into the institutional structure of the economies of different societies, but the time is ripe for a theoretical advance. Only quantitative studies of entire networks can permit the type of formal analysis that Polanyi, with the inadequate data at his disposal in 1957, felt was impossible in nonmonetary societies.

"CEREMONIAL EXCHANGING"

Under this heading I have included a wide range of activities such as bride-price gifts, peace-making payments, pig feasts, kula exchanges of shells, and other ceremonial distributions of shell money. Descriptive studies of such systems in New Guinea abound, for in New Guinea they reach a high point of elaboration. It would be anticipated that this salience should make it easier to reach theoretical conclusions regarding the economic choices made in such systems than it is in other areas of the world where this form of exchanging is less distinctive. But again, the virtual absence of quantitative data hinders the development of such a theory.

Currently there is much discussion of the function of ceremonial exchange systems. Earlier discussion for the Trobriand sector of the kula (Thurnwald, 1932) suggested that such exchanges were important, as they made it possible for utilitarian trading to take place "in their shadow." A more sophisticated version of such thinking (Vayda et al., 1961) sees the importance of pig feasts as providing channels for the emergency distribution of utilitarian goods under situations of local crises, such as famine. A more extensive literature shows the way in which political relations between groups and within groups are regulated by the use of shell "valuables"; valuables are used by "big men" in the course of striving for noninstitutionalized power in their own groups (cf. Oliver, 1956), but the use of valuables constrains them to act in defined ways and limits the number of people they can control. Intergroup relations, when defined in terms of one-upmanship, involve the use of valuables as the units of accounting for the fluctuating balance (Uberoi, 1961; Salisbury, 1960). This intergroup regulating function can be seen most directly in the way in which marital exchanges under conditions of population imbalance or wealth imbalance between different groups rapidly involve a redistribution of the "valuables" and, hypothetically at least, a correction of the imbalances (as Pouwer has shown for the Ajamaroe). The exchanges also regulate productive systems, not only directly, through the synchronization of horticultural activities with phases of ceremonial, but indirectly, by training political entrepreneurs who have organizational skills (Salisbury, 1964).

Unfortunately again, most anthropologists' functional analyses rely on qualitative descriptions based on single time periods, and, as such, they remain highly speculative. What is needed if any "regulative function" is to be demonstrated is a series of studies

over time, using quantification. The changes in some outside variable must be described; the way in which these changes affected the activities of ceremonial exchanging must then be considered; and, finally, the "feedback," or way in which changes in ceremonial exchanging "regulated" (corrected or strengthened) the initial changes in the outside variable, needs to be specified. Numerical data can be most easily compared at different time intervals.

Perhaps the best-documented and most often quantified studies of ceremonial exchanging to date concern the inflation of bride-prices as wealth has increased, both in relatively undeveloped areas such as the highlands and in areas such as Port Moresby. This dramatic increase is often interpreted in nonanthropological writings as reflecting a breakdown in social life and implying the "buying of women." In terms of anthropological theory, it would be expected that the changes in rates would show closer relationships with demographic changes, changes in wealth (both overall and in its distribution between areal and age groupings), or changes in the political relationships (between local groupings and between the married and the unmarried). To what extent, for example, has the increase in bride-price affected or followed lowering of the age of marriage? To what extent has it maintained, reduced, or increased the power position of older men? To what extent do even apparently culturally fixed bride-prices fluctuate between communities within the same cultural area, but with different demographic composition?

A similar series of questions could be asked regarding all the other types of exchange that I have loosely called "ceremonial." In all the cases the economic question to be answered is the question of how rates are fixed for the exchange of valuables against services, both in the short term and in the long term. Paradoxically, the question can be answered only by historical studies of how they have changed.

This question may, at first sight, be considered an esoteric one for anthropologists only. It is, in fact, an extremely significant question for both policy makers and economists. If it is true that these exchanges are regulatory institutions, it would be expected that they would be highly sensitive to other social changes, and, vice versa, changes in them would result in dramatic social changes. It would be expected that they would behave as interest rates or stock market prices do in capitalist economies. Their abolition by well-meaning people who are "against slavery" (or "against taking usury," etc.) could have far-reaching consequences; their manipulation could prove as useful in effecting desired social changes as

do manipulations of the interest rate; the ceremonial exchange rates would provide easily obtainable indices of rates of social activity; the understanding of the mechanics of ceremonial exchanges might well lead to the development of unorthodox models of economic and political regulation by economists, of an importance comparable with the Keynesian model of economic regulation via the interest rate.

ECONOMIC DEVELOPMENT

New Guinea has been the object of relatively few of the studies of economists that, typically, have been made on most of the low-income countries. The series of government reports on both New Guinea and the Territory of Papua, stretching back to the 1880's, provide materials that are useful in the grossest way, but, except for the German Reports of 1901-1912, and the post-1950 documents that can be supplemented by official figures available in Port Moresby, they prove to be of little value for detailed analysis. All detailed records for the Territory of New Guinea from 1914 to 1941 were lost during the Japanese occupation of Rabaul.

The studies of specific industries by the Bureau of Agricultural Economics in Canberra, Australia (1951, 1958, and others) stand out as exceptions and give more readily available information on these industries than is obtainable for, say, industries in Ghana. So, too, the International Bank of Reconstruction and Development Report (1965) is an outstanding study of the feasibility of other new industries (e.g., forestry), of the current and projected needs for communication networks in Papua - New Guinea, and of the problems of providing capital for both the economic and social-service needs of the Territory. The attempt by White (1964) to compile the first national income accounts for the Territory of New Guinea is also highly informative. It shows clearly the difficulties of having to derive figures for the value of subsistence production where no figures exist, and of trying to aggregate estimates and impute labor cost inputs when the cash economy of Papua - New Guinea is greatly skewed by the dependence of its wage structure on that of the developed country of Australia. All these studies show the need for further studies of the same kind and would stress the interesting problems of methodology that arise in New Guinea, where the field is virtually a virgin one.

New Guinea is of interest for much more than its methodological problems. It is a small economy, involving only some 2,000,000 people with quite low cash incomes, and as such has a characteristic "shape." Theoretical studies of the shape of small economies have been based largely on data from Caribbean islands, where even the subsistence sectors are largely monetized, and where the export income based on sugar, oil, or bauxite forms a much larger portion of the gross national product. It is highly desirable that New Guinea, together with other Pacific islands, be studied in this way as the possibility of self-sufficiency seems more feasible there. (It may be noted parenthetically that the studies of the smaller eastern Caribbean islands, which are proving important in this field, are being carried out by a worker whose major previous experience was in a study of Fiji, Dr. Carleen O'Laughlin.)

The distinctive feature of New Guinea noted above—its large subsistence sector—is associated with another important distinctive feature—its comparative affluence—especially with respect to land. Land shortages in New Guinea are confined to four small localities: areas in Chimbu and among the Enga peoples where population growth in the recent past has combined with the development of cash-cropping of coffee, and areas near Madang and Rabaul where there was massive alienation of the most productive land during the German administration. Even here, the land shortage is caused not by the population increasing to the carrying capacity of the land but by an immense increase in the desire for land with the increase of cash-cropping. Under these conditions, the pattern of economic development expectable differs dramatically from that in overpopulated areas. The expectable pattern for New Guinea has been sketched in anthropological terms by Geertz (1963) and by Salisbury (1962). Geertz contrasts it with the pattern found in Central Java, where population pressure forced extremely specialized agricultural techniques, the development of labor-intensive procedures that persist as wage rates are depressed and that prevent the adoption of capital-intensive techniques that would throw workers out of work and would not be immediately competitive with labor-intensive techniques. It is the latter process that he describes as "agricultural involution." Most economists have dealt with societies fitting the latter anthropological model (e.g., Libenstein, 1957), but Fisk (1962) has taken over the anthropological model and has begun to spell out the economic implications of the sort of affluence found in New Guinea. In a society with an assured subsistence, the way in which a large influx of wealth created by exporting a staple crop can create a diversified development of other economic insti-

tutions is also a theme that has been treated in a Canadian context by the followers of Innes (1930). New Guinea (in common with some other areas of Southeast Asia and with areas in South America and Africa) provides an excellent field for the proliferation of economic studies of this pattern of economic growth, to complement those already begun by Fisk and his students.

This characteristic of New Guinea implies that other practical strategies of economic development might well be followed, rather than copying a pattern of "import-substitution" industries. The absence of land shortage has been accompanied by a relatively high (for the low-income countries) wage rate. Except in areas in which no cash crops have been developed (the Sepik in the 1930's, the Waghi valley in the 1950's, and the western highlands in the 1960's), few workers have been attracted by plantation wages. Peasant production, involving capital accumulation through tree planting using spare-time labor, has become an accepted pattern for most indigenes. In addition, there are many fields for indigenous entrepreneurship that offer a potential for indigenous capital accumulation in enterprises that promise rates of return of 20 percent or more, or that promise to employ the owner's labor at rates well above those provided by unskilled work for European employers. These potential reserves of capital and labor (currently employed in local political activities) could well be used to set up industries geared to export markets, employing relatively skilled labor to be trained on the job; transistor-radio production in such a densely populated area as Chimbu might be suggested. It would be anticipated that the consumption-oriented indigenous population would respond quickly to any increase in wage income by creating a local demand for products of this type. This in turn would provide the base for a viable export industry.

At present, development economists are coming to recognize that import substitution, although the simplest immediate step to conserve foreign-exchange losses in developing countries, is a self-limiting strategy that cannot provide the massive impetus required for self-sustaining growth. New Guinea apparently provides an excellent laboratory for the testing of other strategies, and as such would be of immense interest to the theoretical economist.

INTERMEDIATE INSTITUTIONS

In the foregoing sections, a distinction has been made between anthropological studies of indigenous economic systems and economists' studies of the cash sector of a developing economy. In practice these two fields are by no means clearly distinguishable. In every part of New Guinea indigenes are involving themselves in activities involving the use of cash, in trade, crop-processing, or the provision of services, activities that also involve the use of traditional (or modified traditional) forms of grouping, methods of obtaining labor or capital supplies, or claims on land. The work of the Australian National University (ANU) New Guinea Research Unit (Crocombe and Hogbin, 1963; Crocombe, 1965) is the clearest published demonstration of this. Salisbury (1963, NDa, NDc) provides other examples of clan associations operating copra driers and trucks, of local government councils sponsoring corvee labor in establishing large cocoa plantations, and of political entrepreneurs manipulating clan ties and stocks of shell money to obtain support for large public works projects. Lawrence (personal communication) has described how the use of indigenous trade-partner relationships managed to persuade Rai coast inhabitants to involve themselves in the manual transport of crops to the coast, where an organization in cooperatives or wage labor was ineffective for the purpose. I have personally seen the success of such traditional methods in establishing long-distance manual transport of coffee for growers living far from the Highlands Road.

The important fact is not that people wish to do things in the old ways, but that the two mechanisms advised by government officials as the ways to organize modern enterprises of production, marketing, or distribution—the cooperative or the individual private business—are often inappropriate under local conditions. To take a specific example, a partnership of some six or seven individuals may be a unit of appropriate size for a business such as operating a fishing boat or a copra drier. The capital needed can be subscribed by that number of individuals required to provide a sufficient work force and so avoid the problems of recruiting and supervising paid laborers uncommitted to the goals of the enterprise. An organization of this size is not suited to the formal organization of a cooperative (which in New Guinea involves registration with the government department, supervision of accounting procedures, and maintenance of such things as statutory reserves), nor is an individual able to support such a venture alone. In a Western society, a

group of individuals wishing to set up such a venture would constitute themselves a partnership, through either a formal or an unwritten contract. If any dispute arose over the working of the partnership, an appeal to law courts could be made, based on the contractual arrangements. In New Guinea, such partnerships frequently occur under some title such as a clan or village kivung. The use of a clan name serves the partners as a means of indicating the implicit contractual assumptions, for example, that only members of the clan are entitled to partnership on payment of equal contributions, that partnership gives the same usufructuary rights over kivung property as are held over clan land, but that the property is not subject to division if any partner leaves the kivung, remaining as a permanent estate of the kivung. The specific understandings involved may vary for each society and may be modeled on any variety of interpersonal relationships present in traditional society—clan relationships, age-mate relationships, father-son relationships, trade-friend relationships, and others.

Unfortunately the government legal system of New Guinea gives virtually no recognition to the need for adjudication of civil law cases among the indigenous inhabitants of the country, or 95 percent of the population. The Derham Report, insofar as its provisions have been released, appears to be an entirely backward document in this respect, stressing the need for developing only a cadre of officials able to administer an Australian code of criminal law. The result is that organizations such as the kivung operate virtually with no legal sanctions. If a partner absconds with kivung property, and the other partners use force to regain possession of it, magistrates (or Administrative District Officers) are likely to punish them for using force and condone the removal of kivung property on the grounds that the remover partly owned it in any case. If the defrauded partners try to regain their property via a magistrate's court they are likely to be told that it is a family matter that they should settle themselves "in the fashion of their ancestors" through the mediation of a village councillor or luluai (even a traditional settlement using force would be considered a criminal offense). Informally, they may be told that they should learn to take better care of themselves and never trust their relatives to be honest; European observers then comment on how dishonest indigenes are, and how impossible it is for them to combine for larger enterprises. Yet the fault lies with the inflexible imposed legal system, which offers virtually no protection for contracts between indigenes except those phrased in terms of cooperatives or similar governmentally regulated organizations.

Research is urgently needed, therefore, into the virtually infinite variety of mechanisms adopted on their own initiative by indigenes to promote cash enterprises of all kinds. Particular attention should be paid to the nature of implicit understandings involved in the creation of the new enterprises, as these are likely to relate directly to the problems to be encountered by the specific enterprise. Where enterprises fail, attention should be paid not only to the immediate cause (e.g., abscondment with funds) but also to the extent to which this cause was ruled out under the implicit understandings of the organization but could not be prevented within the present defective legal system.

This research would be of practical utility, for it would permit support to be given to indigenous enterprises at the point at which they are currently most vulnerable. Without the development of local enterprise, New Guinea may proceed further in the direction of a stagnant, pluralistic, colonial economy unable to develop its own internal momentum.

Important theoretical issues of interest to the developmental economist are also involved. To date, most developmental economists have considered the social infrastructure needed for "takeoff into sustained growth" merely in terms of the financial expenditures needed for roads, communications, and schools, for example. It is now clear that, although these expenditures are necessary, they are not by themselves sufficient conditions for takeoff. Other social institutions are required—especially political, legal, and organizational ones—not all of which can be stated in financial terms and not all of which are necessarily extant in modern, fully monetized economies. The analysis of how the large variety of institutional forms emerging in New Guinea relate to such specific problems as capital accumulation, training of entrepreneurs, introduction of wage-labor commitment, organization of groups of workers, marketing of products, and spreading of knowledge of new standards of consumer demand, under the specific conditions, both local and technical, could well lead to a much fuller understanding of the social institutional conditions that constitute the prerequisites for takeoff. The fact that the emerging New Guinea forms occur in ignorance of (and often in opposition to) more orthodox Western organizational forms and occasionally survive where Western forms do not (e.g., after initial successes cooperatives have often been superseded by smaller partnership stores, because the latter are more geared to the provision of credit, as they can evaluate risks on an individual basis) makes it possible to analyze the New Guinea forms as independent inventions. They can then be interpreted

directly as reactions to the functional problems involved, rather than merely as imperfect copies of Western institutions. The study of them could thus provide a valuable comparative basis for examining the social institutions necessary for economic takeoff.

Yet another school of thought regarding economic development considers the psychological characteristics necessary for the occurrence of entrepreneurship. Both E. E. Hagen and D. McClelland see these characteristics as lacking in traditional society. This is demonstrably untrue for New Guinea, where individual entrepreneurship occurs commonly in all areas and (albeit in different forms) in societies ranging from the most uncontacted to the most monetized and sophisticated ones. Yet this very prevalence of entrepreneurship in New Guinea means that the more general theory could be amply tested there, relating the variations in the occurrence of entrepreneurship to variations in character structure, and to the occurrence of such features as "status deprivation," a master concept in Hagen's schema. The fact that entrepreneurship occurs without economic growth also offers scope for evaluating the relative contributions made to producing economic growth of entrepreneurship, psychological characteristics, and institutional conditions.

The list of theoretical formulations that it would be possible to test in New Guinea could be extended ad infinitum. It is hoped that this brief listing may bring to the attention of economists as well as anthropologists the importance of New Guinea as a laboratory situation for the testing of theoretical propositions.

REFERENCES

Australia, Government of

1951 An Economic and Cost Survey of the Copra Industry in the T.P.N.G. Canberra, Australia, Department of Commerce and Agriculture, Bureau of Agricultural Economics.

1958 Cocoa in Papua and New Guinea. Canberra, Australia, Bureau of Agricultural Economics, for Dept. of Territories.

Barrau, J.

1958 Subsistence Agriculture in Melanesia. Honolulu, Hawaii. B. P. Bishop Museum Bulletin No. 219.

Bateson, G.

1936 Naven, Cambridge, England, Cambridge University Press.

Bulmer, R. N. H.
1962 "Chimbu Plume Traders," Australian Natural History, March 1962, 15-19.
Crocombe, R. G.
1965 The M'Buke Co-operative Plantation. New Guinea Research Unit Bulletin No. 7., Canberra, Australia.
Crocombe, R. G., and G. R. Hogbin
1963 The Erap Mechanized Farming Project. New Guinea Research Bulletin No. 1, Canberra, Australia.
Fisk, E. K.
1962 "The Economy of Papua-New Guinea," in The Independence of P.N.G., D.G. Bettison, ed., Sydney, Australia.
Geertz, C. S.
1963 Agricultural Involution
Hogbin, H. I.
1938 Tillage and Collection: A New Guinea Economy, Oceania, 9, 127-152; 286-326.
1951 Transformation Scene; The Changing Culture of a N.G. Village. London, Routledge and Kegan Paul.
Innes, H. A.
1930 The Fur Trade in Canada. New Haven, Yale University Press.
International Bank for Reconstruction and Development
1965 The Economic Development of the T.P.N.G. Baltimore, Maryland, The Johns Hopkins University Press.
Leach, E. R.
1957 "Some Economic Advantages of Shifting Cultivation," Proceedings of the Ninth Pacific Science Congress, Bangkok, 7, 64-65.
Leibenstein, H.
1957 Economic Backwardness and Economic Growth. New York, John Wiley & Sons.
Mead, M.
1938 The Mountain Arapesh: an Importing Culture. American Museum of Natural History, Anthropological Papers Vol. 36, part 3.
Polanyi, K., C. M. Arsenberg, and H. W. Pearson
1957 Trade and Markets in the Early Empires. Glencoe, Illinois. The Free Press.
Pospisil, L.
1963 The Kapauku Papuans of West New Guinea. New York, Holt, Rinehart and Winston.
Sahlins, M. D.
ND On the Diplomacy of Primitive Exchange (forthcoming).
Salisbury, R. F.
1960 "Ceremonial Exchange and Political Equilibrium," in Proceedings 6th International Congress of Anthropological and Ethnological Societies. Vol. 2, Paris, Musée de l'Homme.
1962 From Stone to Steel: Economic Consequences of a Technological Change in New Guinea. Cambridge, England and Melbourne, Australia, The University Presses.

1964 "Politics and Shell Money Finance in New Britain," paper presented to American Anthropological Association meeting, Detroit. [to appear in Political Anthropology (Tuden and Schwartz, eds.), in press.]

NDa Vunamami: A Traditional Society in Economic Take-off (forthcoming).

NDb "Trade and Markets," in Encyclopedia of the Social Sciences, second ed. (in press).

NDc "Toniri Buys a House," in Foundations for a Theory of Consumer Behavior, W. T. Tucker, ed., Holt, Rinehart and Winston, New York.

1962 "Matriliny and Economic Development in New Britain," paper presented to the American Anthropology Association meeting, Chicago.

Thurnwald, R.

1932 Economics of Primitive Communities. London, Oxford University Press.

Uberoi, J. P. S.

1961 Politics of the Kula Ring, Manchester, England, Manchester University Press.

Vayda, A. P., A. Leeds, and D. B. Smith

1961 "The Place of Pigs in Melanesian Subsistence," Proceedings of the American Ethnological Society Spring Meeting, pp. 69-77.

White, R. C.

1964 Social Accounts of the Monetary Sector of the Territory of Papua and New Guinea 1956/7 to 1960/1. New Guinea Research Unit Bulletin No. 3., Canberra, Australia, New Guinea Research Unit, Australian National University.

Whiting, J. W. M.

Becoming a Kwoma: Teaching and Learning in a New Guinea Tribe. New Haven, Yale University Press.

New Forms of Organization

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Associations with specific and specialized objectives are being formed under both government and private auspices. Many show signs of permanence or at least of long-term existence. Those under government or legal auspices include local government councils, cooperative societies, progress societies, workers' associations, women's clubs, and social welfare or recreational provisions. With the exception of the last mentioned, these associations have more or less uniform constitutions and are subject to regulation and inspection.

Among those of a private character, sporting and religious clubs predominate. Some private companies, often of an extralegal kind, exist. The Papua Ekelesia Church is now an indigenous organization. In urban areas, tribal clubs, parents' and citizens' associations, as well as recreational associations, are evident. In rural areas, there are such establishments as settlers' associations and lorry-owning enterprises. The Reserve Bank of Australia has been successful in promoting savings and loan societies. Such associations vary widely in the formality of their arrangements, in their endurance, and in their vigor.

Apart from the current conspicuous absence of political associations, interest in association seems to be greater than in most areas of activity. The association idea appears to have caught on. Bearing in mind the network nature of indigenous traditional organization, it would not be surprising if the specialized association

came to be a most favored instrument of organization. It is capable of small- and large-scale operation; it is self-limiting or expanding in its membership; and it is capable of recognition and identification as a corporate body. The subject has considerable theoretical importance, and is given attention in the work of Tonnies, Durkheim, Firth, K. Davis, and the modern studies in the theory of organization.

Research into associations has been limited. Local government councils were examined comparatively with those of the British Solomon Islands Protectorate by Alan Healey of the Australian National University (ANU). Periodically, the Tolai Cocoa Fermentaries have been scrutinized from various points of view, but no thorough study of them has been published. Associations in the urban areas of Port Moresby, Lae, Rabaul, Goroka, and Mt. Hagen were surveyed and recorded by David Morowitz of the New Guinea Research Unit. R. G. Crocombe and G. Hogbin have worked individually and jointly on economic associations in various places, and the New Guinea Research Unit is currently advertising for staff to inquire more fully into such associations. Several anthropologists, notably Ian Hogbin, Paula Brown, and Marie Reay have been interested in the problems surrounding newly established associations in the tribal areas in their more general studies.

The formulation of research problems might include, among others, the following:

1. What are the roles of leaders of the new associations, both in the associations themselves and in the communities they are serving?
2. What is the nature of the network of contacts among association leaders and leaders of government and village communities?
3. Why is leadership and the network of contact taking these forms? What is the implication for theory?
4. What are the problems of organization of associations under a variety of conditions? For example, what influence do urban and rural environments, matrilineality and patrilineality, and uxor- and viri-locality of marriage have on associational organization?
5. Do the scales of tribal organization or common language influence organizational problems?
6. What structural framework in an association is preferred by indigenous people, and why? Does the preferred structure correspond to that of Western systems; is it predictable in terms of Western organizational theory?
7. Can membership of an association successfully transcend traditional groups; if so, under what conditions?

8. Is specialization of function inherently in conflict with the multiplex functions of traditional groups?

9. To what extent are government- or mission-assisted associations acting as models for private associations or providing experience for office-holders?

10. What is the effect of government regulation and inspection of, and financial assistance to associations?

11. To what extent is there need for training in bookkeeping, secretarial, and other clerical duties to maintain associations at reasonable efficiency?

12. What amendments of existing law and what forms of new legal provision are required to support associations?

13. What is the extent and nature of conflict and cooperation between associations already set up by expatriates and those of indigenous people? What are the problems of racial cooperation in associational membership?

Political Research

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These remarks refer only to the Australian-controlled portion of New Guinea (North-East New Guinea and the Territory of Papua).

A theoretical approach to political processes in stateless societies exists for Africa through the work of Middleton and Tait and of Lucy Mair. No corresponding studies have been made in New Guinea, although the wide diffusion of power over adult males and the particular processes of decision-making in New Guinea's traditional societies have enabled many anthropologists to become familiar with aspects of indigenous politics.

Nationwide institutions have received some attention. The legislative councils have been studied by Colin Hughes, now at the University of Queensland, and the 1964 general election was the subject of two publications (published in 1965). Robert Parker and Bernard Schaeffer have inquired into aspects of public administration and the civil service. Parker intends to continue fieldwork on these subjects. Paul van der Veur intends to continue a detailed analysis of the working of the House of Assembly. He and Colin Hughes may make a further election study in 1968. Nigel Oram is working on local government as part of a wider study of Port Moresby. A field of institutional research still untouched is public utilities such as copra, cocoa, and electricity.

The continued absence of an organized opposition to the metropolitan authority both in the House of Assembly and in the country as a whole is a feature of Papua - New Guinea worthy of intensive

study. Among the factors to be considered are the nature of traditional indigenous politics, the retarded development of education, the interest of Australia in economic development, Australia's policy toward the political advancement of the country, and events in other countries including the Congo and West Irian (West New Guinea). The present situation is complicating the evolution of national symbols, such as a flag and an anthem, and may also be removing the conditions necessary for the development of a national charismatic leader. It is possible that the postindependent Papua - New Guinea will be without the conflict of interest between traditional political leaders and leaders of new political parties. In such an event an important area of study will be the process whereby traditional political values, means of compromise, and methods of doing political business become adjusted to the institutions necessary to control the larger national unit. In Parsonian terms, it will not be the "routinization of charism" but the institutionalization of hitherto established but largely noninstitutionalized political processes that poses the practical academic problems.

Of the variety of introduced institutions, two that appear to be readily acceptable to indigenous people are election to office and membership on a committee. There is ample evidence to suggest that indigenous people use the mechanism of preselection as a defense against the pressure of expatriate introductions they do not fully understand, but these defense mechanisms should not be confused with an apparent readiness to accept the principle of election as a means of filling an office. The legitimacy of any authority that might rest in such an office is founded on an expressed agreement of the electorate. This appears to be an acceptable ground of legitimacy within certain limits. These limits may be narrowly prescribed, but the matter has not been given the research attention that it warrants. The committee appears to be a common means of reaching decisions, though the role of executive committees, or committees of very small numbers of persons, in any role other than an exploratory nonauthoritarian one, is unacceptable. So far as a committee can be seen to be a useful means of obtaining the representation of diverse interests in arriving at decisions, it appears to be an acceptable institution. The theoretical importance of such studies as Frankenberg's Village on the Border, Simmel's The Stranger, Griefer's Attitudes to the Stranger, and studies in community power by Polsby, Dahl, and Floyd Hunter seems clear.

Nationwide government machinery currently includes only a preponderantly elected House of Assembly and a twofold (indigenous and expatriate) civil service. The nativization of the civil service

has had an unusually difficult record owing to the absence of well-qualified indigenous people and the policy of the Australian government to relate salary scales for indigenous civil servants to an arbitrarily assessed ability of the country to pay. The continued unity of the country as it approaches independence and thereafter is threatened by the apparent weakness of the civil service and the absence of any traditional unifying factors such as common language and chiefly tribal organization or common religion. The prospect of national unity having to be maintained through the coercion of the militia or through "guided democracy" apparatus is evident. Little attention is being given to the possibility of creating a series of elected councils from the local council, through a subdistrict and district council national apex. The division of national funds over such a tiered system of government might be a practical means of encouraging national unity, particularly if foreign funds are to be maintained at current or increased rates to facilitate economic development. Fiscal policy may become an important issue in national unity. Further, the apparent absence of an elite so organized over the country that it constitutes a ruling class suggests the necessity for institutions of a tiered, elected character.

The existing official legal machinery appears to be courts of appeal rather than an intrinsic system of adjudication, settlement, or punishment. Very little recent research, if any, has been done on the actual processes of settlement of disputes at the village level. Current observation indicates that policemen, indigenous clerks, local government councillors, or respected individuals are more frequently used legal agents or judicial instruments than the officially recognized authorities. The absence of trained lay magistrates or even of officially recognized and community-respected justices of the peace has contributed to the present situation.

Pressing problems of marriage payments, the inheritance of property, the care of neglected children, and similar matters are largely being neglected by the central authority in the belief that cases of injustice will be brought to the responsible government officer for adjudication and settlement. There is, however, no national system of law that the people themselves have helped to make that is applicable. The question of the future will be whether to encourage local option over such matters or to attempt enforcement of national codes. The apparent increase in the incidence of intertribal marriage and the greatly increased spatial mobility of the people suggest that the issue cannot long remain unresolved.

These and other matters suggest the need for research into the level of "we" identification in various parts of the country and over various classes. The high school pupils and better-educated people generally have a fairly clear awareness and concept of Papua - New Guinea. In remote areas, the local patrol post or subdistrict office has a "we" connotation, and elsewhere it is expanded to the district office. Preliminary inquiries into the role of wireless broadcasts suggested that they are a powerful means of communicating with all sections of the country. Wireless sets are found in working order in some of the remotest areas. The vernacular is an important and impressive means of contact, for it enables both sexes to participate in listening. Similarly the "we" identification among better-educated people is arousing their interest in countries elsewhere. There exists awareness of a "Pan New Guinea," which includes various relationships with countries in the Pacific and economic arrangements with Australia, Japan, and other financially and militarily powerful neighbors.

Notes on Political Development

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Government-sponsored indigenous political development in the post-1945 period commenced with the establishment of cooperative-type societies (1948) and native local government councils (1949-1950). The simplified forms of cooperative societies registered under the Native Economic Development Ordinance warrant some mention in the context of political development, not because they were envisaged as political organizations, but simply because they inevitably tended to acquire interests and characteristics that extended well beyond the economic sphere. The tendency for newly introduced Western concepts to undergo changes in the course of "nativization," and the disinclination of New Guinea communities to differentiate clearly between the political, economic, and social aspects of daily life are as characteristic of the local environment as is the inability of bureaucratic planners to take such factors into account. Particularly during the first few vigorous years of cooperative promotion, and especially in the Gulf and northern districts of Papua and in New Ireland, cooperative societies became focal points for local political and social aspirations. The subsequent advent of native village councils (as those bodies were originally called) to such areas was frequently regarded by cooperative society leaders as the injection of rival organizations.

As of 1965, one could state as a fairly valid generalization that the importance of cooperative societies as political forces had waned, just as the cooperative movement itself, no longer glamor-

ous, starved of adequate supervisory staff, and bedeviled by peculation, had waned. Nevertheless it should be borne in mind that in areas such as the scattered islands of southeast Papua the cooperative society may well be the most significant politico-economic institution available to local communities.

LOCAL GOVERNMENT

The local government system, first established in 1950, was initially regarded by the headquarters of what was then called the Department of District Services and Native Affairs as political window dressing, designed primarily to placate the United Nations Trusteeship Council and possibly to be useful as a sop to relatively advanced communities exhibiting some signs of restlessness. The reluctance of many senior administrative officers, the religious missions, the expatriate community generally, and some important elements of the indigenous community to appreciate that the new-fangled system was not only a change from single-village to local-area administration, but also a major new policy development, complicated life for its early practitioners.

While the local government system, which now covers about 40 percent of the indigenous population, is still rapidly expanding, many of its political and administrative implications, including its future relationship with central government, have been studied little so far. By and large, the answers to such important questions as the continuation of the voluntary-participation approach to local government, the role of councils in area, economic development, the optimum local government, central government financial relationship, the dovetailing of council rules with territorial legislation remain as obscure to central government planners as to the hierarchy of the bureaucracy.

The following spot examples may serve to illustrate the extent to which the status of area councils in the administrative structure is still blurred.

1. A few years ago, the Minister for Territories, following receipt of some awkward queries put forth at a combined councils conference held at Madang, decreed that henceforth local government councils would confine their activities and celebrations strictly to local matters. Shortly afterward, he saw fit to use the same councils as electoral colleges for territorial elections.

2. A council taxpayer who does not pay territorial income tax is wholly exempt from paying capitation tax to the central government, as long as the amount of council tax is not less than the rate of central government tax declared for the particular area. This arrangement, coupled with the increasing tendency of administration departments to subsidize councils for particular projects, has inhibited promotion at the village level of the highly important concept that the payment of taxation to the central government is, in essence, a pooling of community resources for the common weal and that, in the long run, the progress of New Guinea society will be regulated by its ability to pay taxes at an increasing rate.

3. Most of the council executives, anxious to bolster their revenues by wheedling council taxes from former residents now working in other districts, subscribe to the somewhat outrageous principle that a man's liability for taxes is determined by the place in which he was born, not by his present income and present place of residence. This oddity is liable to be a major obstacle in the development of urban local government.

The following generalizations on the workings of the local government system may have some significance in appraising probable patterns of political evolution and possible research projects.

1. The ministerial policy decisions, reinforced by the Derham Report, not to establish a local court system based on local lay magistrates and ceasing to utilize councils as agencies in fostering agricultural development has tended to make the councils veer progressively toward becoming little more than agencies for minor public works and welfare. As such, they are failing to fulfill local aspirations and are in danger of losing their popular appeal.

2. The levels of council supervision and stimulation provided by administration officers vary widely. Quite apart from training, much still depends on the individual philosophy, the interest, and the personality of the particular advisory officer concerned. At the present stage of indigenous awareness, the somewhat difficult art of successful council supervision depends largely upon an officer's ability to steer carefully a tortuous course between paternalistic authoritarianism and reckless laissez faire attitudes.

3. Even in old established council areas such as the Tolai, the councils still have little appreciation of their own potential political strength. Under the legislation, most council activities are subject to administrative approval. In fact, it is open to any well-organized unit determined to achieve some legitimate objectives (e.g., a role in land settlement), which might not be favorably regarded by the local administration, to mount almost irresistible

pressures. Except perhaps in the case of the Vunamami - Warangoi land-settlement scheme, no council has yet exerted pressures of this sort.

4. The levels of executive competence of the older established councils fluctuate markedly with changes in personnel. There is a fairly constant tendency for experienced councillors to revert to private life after having done their stint. It is fallacious to believe that any particular unit must inevitably develop increasing expertise as it goes along. In 1962 the executive competence of the Rabaul Council was in several respects less than it had been in 1956.

5. The current moves for interracial councils and for extending the system to urban areas carry some implications that do not seem to have been studied by any of the communities liable to be affected.

I believe there is an urgent need for research by independent fieldworkers into such local government matters as: (a) the evolving relationships between elected council leadership and customary authorities and (b) the significance of local government to the villagers, including indigenous views on the optimum pattern of local government functions in the political, economic, social, and law-maintenance fields.

CENTRAL POLITICAL ORGANIZATION

The direct involvement of the indigenous community in the post-1945 re-establishment of a central legislature began with the nomination of three members to the first reconstituted legislative council (circa 1952). The number of indigenous members was increased to five indirectly elected plus five nominated (out of a total council membership of 37) in the legislative council that immediately preceded the establishment of the House of Assembly.

As early as 1957, and prior to the Foot Report (United Nations Visiting Mission of 1962), some officials within the administration had advocated the strategy of establishing an elected legislature based on a common role franchise. Their basic argument was simply that, in the interests of orderly political evolution, it was safer to be bold and to open the door for possible indigenous domination of the legislature before any popular clamor for such arrangements arose. This argument apparently made little impact at Canberra.

In 1962, following a ministerial statement of over-all policy intentions, a Port Moresby interdepartmental committee on political development advocated, inter alia, establishing a freely elected legislature, to include nominated officials but not having any provision for automatic ethnic-group representation. It further recommended the adoption of specialized procedures designed to meet the needs of largely illiterate electorates (identification panels and voter-registration cards, for example). This committee also stressed the need for radically simplified parliamentary procedures and advocated innovations such as an additional reading stage for bills during which rules on debate would be suspended to facilitate explanation. It was also suggested that the Territory budget be split into two sections separating the Australian grant-in-aid (about 70 percent of the total budget) from locally raised revenue, with the House of Assembly having complete authority over the disbursement of local funds.

The arrangements covering elections and House of Assembly procedural matters finally recommended by the Select Committee of the Legislative Council and adopted, generally followed the Australian pattern. One significant innovation was the introduction of a modified preferential voting system. It caused some difficulty during the elections.

The House of Assembly elections demonstrated that much of the arduous work done in compiling the rolls had been a waste of effort; that the liberal provisions for absentee voting were not warranted; and that the seeds of indigenous nationalism, while doubtlessly germinating, were yet to sprout. While most of the indigenous voters had fairly clear ideas regarding whom they wanted to represent them, they had only the haziest ideas of the constitutional significance of the electoral process. This general situation remains. The need for prolonged campaigns of low-level political education is painfully apparent.

As currently constituted, the House of Assembly comprises ten nominated officials; ten nonnatives (special electorates), elected by all the voters; and 44 representatives holding open seats. Of these 44, whites filled 6 seats. The racial composition of the House is thus 26 immigrant and 38 indigenous. There has not yet been a significant line of cleavage along racial lines. The approach made by the administration to this new situation, where the executive has only a minority of seats in the House of Assembly, is perhaps best illustrated by the following points: (It should be noted that many of the administrative decisions outlined hereunder were stringently criticized within the administration as being of dubious political wisdom.)

1. The seven elected members on the Administrator's Council—the Chief Executive Committee of the House of Assembly and a sort of embryo cabinet—were nominated by the Administrator, not appointed by the House.

2. The ten undersecretaries appointed to different government departments (mainly those departments not directly represented in the House of Assembly), were similarly nominated by the Administrator.

3. The Standing Orders of the House, adapted with a few modifications from those of the Australian Federal House of Representatives, are largely incomprehensible to the majority of indigenous members, most of whom are virtually uneducated, and many of whom are completely illiterate.

4. The reading stages involved in the passage of bills through the House of Assembly do not include any special provision for informal explanations.

5. The Speaker of the House, resplendent in robe and wig has thus far achieved little in modifying the party-politics image of himself as an austere, aloof, and more-or-less impartial ringmaster. (At the last sitting, one indigenous member, irked by a ruling by the Speaker privately likened the Speaker to an aged and angry rat peering from under an empty rice bag.) The need for the Speaker to play a very active part in proceedings and to be prepared to explain, and even to exhort, has become clearly apparent in the day-to-day workings of the House of Assembly.

6. While the House can withhold supply, it has no authority to initiate action with regard to money bills.

7. Most of the ten official members lack any background of low-level experience with indigenous communities and are unable to speak Melanesian Pidgin, the most common language of members.

SOME BRIEF OBSERVATIONS ON CERTAIN ASPECTS OF THE HOUSE OF ASSEMBLY

While the 38 indigenous members have the voting strength to dominate affairs, they lack both solidarity and leadership. The elected members' leader has thus far achieved little success in breaking down parochial suspicions and welding the members into a voting block. The elected whites maintain a lively interest in fostering regional loyalties among their indigenous colleagues. The outlook

of members is still essentially local rather than national. These attitudes are being reinforced by the parochialism of villager constituents, who naively expect their members to deliver the goods immediately in the form of roads, schools, hospitals, and the like. Many of the indigenous members are becoming increasingly worried about these pressures, which now are also serving to keep more of the undersecretaries close to home.

Without exception, the present 38 indigenous members are either government or mission protégés. The existing membership includes no radicals aspiring to power through organized opposition.

If present trends continue, it seems not improbable that the next elections (due to be held early in 1968) will result in about an 80-percent change of indigenous membership.

Again, it seems probable that the next elections should throw up a few relatively radical indigenous members who may come from the ranks of school teachers, medical practitioners, or the Administrative College. These are the groups most sourly affected by the September 1964 determination on indigenous salary rates. It is quite possible that the people who will be dominating the political scene in the Territory of Papua - New Guinea 5 years from now are men whose names we do not know at present.

As a generalization, I think it is valid to state that most of the indigenous members of the House of Assembly, in common with most of their constituents, are still a long way from regarding the House as their own institution. In their eyes it is essentially alien—something developed by the white man. The indigenous community is gratified by the publicity now being given its institutions; it is tentatively flexing its muscles, but the paths it takes may well diverge widely from those plotted by the planners.

Perhaps the greatest single risk facing the successful evolution of parliamentary democracy in the Territory of Papua - New Guinea lies in the Westminister-type trappings and rituals surrounding the day-to-day workings of the House of Assembly. It has been frequently adduced that the generally short unhappy life of the impeccably democratic parliamentary systems bequeathed by the British to their Afro-Asian heirs, was not due only to the difficulties inherent in the system itself; an equally potent factor seems to have been the imcomprehensibility of the ritual to the participants. There are ominous signs that the elected members of the House of Assembly, like their African counterparts, are progressing from bemusement through bewilderment to boredom and frustration.

If the roots of viable political parties lie in clear-cut cleavages

in economic interests, no real party system is yet on the horizon of Papua - New Guinea. The newly formed trade unions will probably endeavor to project themselves as an embryonic highlands country party. My personal guess is that the widespread geographic distribution of the worker's associations, their relatively small membership, and the rivalries of their leaders will inhibit their early emergence as a significant political force.

Difficulties in interpretation and translation, in reproduction of Hansard, and in making the legal jargon of bills intelligible to members are additional problems complicating the orderly evolution of a system of parliamentary government functionally appropriate to the Territory's present needs.

At the present time, the most important task for sociological research in the field of central political development is probably simply to find out how both the elected indigenous members and their constituents really regard the existing system as it stands.

NOTE

I regret that these comments have necessarily been compiled in haste and without access to documents. References to those political organizations that have developed since 1945 without government stimulus and, in some instances, despite active government opposition have been omitted. The range of such organizations includes both strictly indigenous cult and trade unions and welfare development institutions sponsored by immigrant agencies. My neglect of these organizations here is not, however, to minimize their potential significance. For example, there are good grounds for suspecting that the so-called Raluana Committee (Kokopo, New Britain) of 1951, in essence an unsophisticated and localized independence movement, has exerted important influences on the philosophies and techniques of such widely separated organizations as the Hahalis welfare society on Bougainville, the Johnson cult on New Hanover, and the mission-sponsored West Nakanai Development Society.

Proposals from Residents at the New Guinea Administrative College

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The New Guinea Administrative College is a new institution that is roughly parallel to the Australian School of Pacific Administration at Sydney. The present students are New Guineans who are officials of the New Guinea Administration. Among them are several experienced men who have been involved in local politics as well as administrative service. I told them that this meeting was planned to look into research priorities for New Guinea and asked them for their views on the subject. They were very interested in the possibilities of additional research, and they put forward a whole range of topics they felt should be studied.

It seemed to me that the proposals fell into two broad categories: first, those dealing with understanding and appreciating traditional New Guinea cultures and traditional principles of organization and behavior; and second, those aimed at acquiring and incorporating modern technology. The emphasis given to traditional cultures seemed to express a reaction to the humiliation they have felt in their relations with Europeans. They seemed to seek an identity of their own, as New Guineans rather than as members of tribes, but based on traditional precedents wherever possible. Their proposals, along with those of New Guinean representatives at the South Pacific Conference, have been grouped and summarized as follows:

1. Recording and preserving indigenous art forms—sculpture, painting, and other forms of creative expression.

2. Research to show the origins of the New Guinea peoples and their history both within New Guinea and wherever their migrations led them.

3. Studies of traditional ways of leadership, organization, and social life. ("Some of the things Europeans make us do are not suited to our way of life.")

4. Studies of customary law. There was a certain feeling that Australian law is not suitable to New Guinea and must be modified much more to meet the needs of local culture. The students expressed a desire to incorporate traditional means for settling disputes, allocating property, and controlling domestic relations into any new system. For this reason they felt it to be important that the traditional systems be recorded.

5. Research into the inadequacies of the present educational system. Work is needed on techniques of getting more information across more quickly and more effectively. The standard of education should be of a level that is fully acceptable in countries with which New Guineans have dealings.

6. Studies of intertribal and intercommunity contact and interaction. Intergroup contact is increasing tremendously, and any way by which it can be facilitated and by which intertribal relations can be improved is seen as good.

7. Economic studies on possibilities of new crops and of the potential for processing export crops. Economics of industries using coconut oil, rubber, cocoa, wood, and other natural products need exploring.

8. Detailed economic studies of small communities.

9. Research into the reasons rural people migrate to towns, how their ways of life change in towns, and how these migrations affect village life.

10. Comparison of various systems of land tenure to indicate what features inhibit or facilitate output. There was a debate as to whether indigenous or foreign precedents should be looked for.

11. Economics of road versus air transportation in New Guinea.

12. Studies of agricultural pests and diseases.

13. Nutritional studies.

Further points that were raised and widely discussed were: (a) the inaccuracy of ethnographic reporting, a fact that is criticized, and (b) the inclusion, as far as possible, of New Guinea people in any research undertaken in New Guinea—something the students advocate strongly.

Personal Observation on the Problems of Modern Medicine in an Indigenous Community

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The island of New Guinea geographically constitutes the second largest island in the world. The island is very diverse as well as large, and therefore presents a wide range of problems for research. The whole island has an estimated 2,096,338 indigenous people.

By necessity, this paper does not deal with the whole of New Guinea or with all subjects. It is primarily about modern medicine in the Territory of Papua - New Guinea, although there are many common occurrences in the whole island.

Prior to the introduction of westernized medicine, the indigenous people explained all sickness, accidents, and death in terms of sorcery and magic. The types of beliefs differed greatly from village to village. To these people, the causes of death, other than tribal warfare, were activities by spirits of long-dead relatives who for some reason had been offended by the living; poisons administered through foods, including betelnuts; or an inflicted offense by a powerful sorcerer.

The idea that germs cause diseases and, eventually, death was unknown. Like any other people, they had to find explanations for things the causes of which were not clear. All accidental deaths, including those resulting from snake bites and attacks by crocodiles, were attributed to supernatural factors.

Sorcery practitioners still exist even within the more-sophisticated communities. They may practice in such contrasting places

as the isolated hamlet and the base hospital located in the middle of the town.

Although the fee paid a sorcerer, when compared with the fee paid a medical specialist, is high, sorcerers are still popular and are respected by their village communities. This seems to be due mainly to fear rather than politeness.

More than half of the health workers in the field still believe and practice traditional remedies based on magic. These formulas are referred to in Pidgin as Maresin Bolong Tubuna. These practices are traditional and form an important part of every culture in New Guinea. Belief in magic and sorcery is drummed into village children from infancy. In late years it is difficult to tell these people or show them that these practices are senseless. They have been brought up in these surroundings from birth, and it does not make any difference whether they are living in Australia or America. When they return to their village communities, they still fear the sorcerer.

In some areas, people are afraid to advance in any field—social, economic, political, or even athletic—for fear that such activities, by displeasing a sorcerer, may lead to their death. For these reasons sorcery and traditional beliefs are the main rivals to modern medicine.

In my opinion, the people of the Territory of Papua - New Guinea must have practical demonstration rather than theory and argument to convince them that there is much to be gained from modern medicine.

What can be done to promote health programs that run counter to sorcery and traditional belief? What kind of approach to sorcery and beliefs will overcome some of the resistance? Would it be better if such matters were left alone?

I feel that research should be undertaken into the cultural and traditional behavior of Papua - New Guinea people. If such research is feasible in the Territory, then it should be done immediately, not put off until the people have become Westernized.

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