

N E W G U I N E A R E S E A R C H

B U L L E T I N



1. There is a European Patrol Officer with a native coconut planter.
2. They were discussing a way how the native planter will sell his copra.
3. They want to find out a way so that the copra will go overseas.
4. The planter will be a very rich man in the territory.

PLATE 1

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WOULD-BE ENTREPRENEURS?

A study of motivation in New Guinea

Ruth S. Finney

May 1971

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Preface

'What will you do when you go home after studying our minds?' a New Guinean student asked me during my first visit to his school. 'I want to write a report which I hope might help others to better understand New Guineans, what they want for themselves and their country', I replied.

If this Bulletin even begins to meet this aim it will be primarily because of the interest and co-operation of many people.

Professor R.G. Crocombe first invited me to plan a motivation study for New Guinea and then suggested to the Research School of Pacific Studies at the Australian National University in Canberra that I be appointed as a Visiting Research Fellow in its New Guinea Research Unit to conduct it. Without his interest and the financial support of the Unit of which he was then Field Director, I could not have undertaken the research.

Mr N.T. Gooch and the late Mr J.A. Lee extended the permission of the Department of Education in Papua-New Guinea for me to conduct research in its schools, and Miss M.A. Linskey and Mr G.S. Harrington gave advice valuable for my arrangement of the research. Headmasters Mr N. Blackburn, Mr C. Brooks, Mr K.C. Ferris, Mr N.G. Hatton, Mr J.W. Keast, Mr J.B. Madden, Mr M.R. Power, Mr N.H. Wells and headmistress Miss J. Sargent gave me their full co-operation and deserve special thanks. The following teachers either assisted in data collection or extended their hospitality: Mrs E.M. Ferguson, Mrs B. Graham, Mrs C. Hendricksen, Mr D.A. Keating, Mrs K.S. McKillop, Miss G.M. McVicar, Miss J.I. Meaker, Miss K.D. Murphy, Miss M.A. Powell, Mr G. Ross, Mr I. Stanton, Miss S. Thomas, Mr V. Winken and Mr I. Willis.

Of all the people in Papua-New Guinea who helped me, however, it was the New Guinean students who contributed most to the research by giving so much of their time, care and thought to the tasks I set for them. Perhaps their most unique contribution was a series of 'picture-stories' which presents their views of Europeans and New Guineans together. A selection was featured in various exhibitions in Australia and New Guinea. Some are reproduced in this Bulletin, both as illustrations in their own right and as examples of points made in Chapter 6 where their relevance is discussed in detail. Although it would have been ideal to reproduce all in colour, finances did not permit this; consequently, in a few plates printed in black and white it is difficult for one to see at a glance which figure is the New Guinean and which

the European. However, the story in the student's own writing shown with the picture clarifies the identity of the figures. The plates which are reproduced in colour are ones in which important details were especially difficult to see in black and white or ones in which colour usage was particularly vivid.

Dr Dianne Barwick, Dr N. Day, Professor A.L. Epstein, Dr B.R. Finney, Dr R. Gallimore, Professor D.C. McClelland, Professor D.L. Oliver, Professor O.H.K. Spate, and Professor J.W.M. Whiting all offered useful comments on the draft at various stages. Miss M. Rose and Dr D. Terrell assisted by making available computer programmes to aid in the analysis of data. Dr Terrell also gave valuable advice about some statistical analyses.

However, the design and conduct of the research, the analysis and interpretation of the data, and the presentation of the research results remain my own work and responsibility. Although the research was conducted in 1967 - and conditions in New Guinea can change rapidly - I believe that the data and interpretations are highly relevant today.

Chapter 1

Introduction

The experiences of developing countries throughout the world suggest that natural resources, capital and manpower cannot guarantee economic development if people lack motivation to adopt modern economic roles. The Australian Administration of the Territory of Papua and New Guinea¹ recently issued a five-year development plan (Territory of Papua and New Guinea 1968) which, in recognising the urgent need for economic development, outlined programmes to develop natural resources, attract capital and train local manpower. The plan also indicated the need for the fullest possible indigenous participation in the developing economy. However, because the motivation of the indigenous people to assume modern economic roles is largely unknown, the Administration has been unable to spell out in any way satisfactory to New Guineans the nature and extent of their participation or their role relative to that of overseas interests. Information is particularly needed on what alternatives to paid employment attract New Guineans: how interested they are in maintaining their traditional subsistence economy or, at the other extreme, in becoming self-employed entrepreneurs in the modern economy.

Recent studies of New Guinean cash cropping and other commercial ventures (Crocombe 1964, T.S. Epstein 1968, Fairbairn 1969, B.R. Finney 1969, Wilson and Garnaut 1968) offer insight into factors affecting indigenous participation in the market economy. In particular, the case studies of T.S. Epstein and B.R. Finney examine the ways in which New Guineans move rapidly from a subsistence to a market economy, experimenting with and initiating large-scale production of cash crops, and using capital amassed from these and other activities for crop processing organisations; tradestores, trucking and other commercial enterprises.

¹ The Territory of Papua and New Guinea, which comprises the eastern half of the island of New Guinea (plus smaller surrounding islands), is made up of two separate parts - the United Nations Trust Territory of New Guinea in the north, and the Territory of Papua in the south - which are administered as one unit by Australia. In this study I follow the common practice of referring to the entire Territory as 'New Guinea' and to its indigenous inhabitants as 'New Guineans'. Since my research was carried out only in the Trust Territory, the use of 'New Guinea' and 'New Guineans' is particularly appropriate.

Still, there is no systematic comparative study of indigenous motivation from which to draw more general conclusions.

The research reported here will begin to fill this gap: it focuses on indigenous motivation to adopt the role of entrepreneur and includes data drawn from samples representing six New Guinea districts. To reach at least a partial understanding of the interplay between motivation, traditional society, and situational factors in the economic development of New Guinea, the data on motivation relevant to becoming an entrepreneur are related to both traditional society and to certain conditions external to it (such as, for instance, roads, cash crops and European attitudes to New Guineans). The central thesis of the study is that whatever differences there may be in the business accomplishments and reputations of New Guineans from the six districts discussed, these are better explained by inequalities in their local economic opportunities than by differences in their psychological potential to become entrepreneurs or their interest in modern economic roles.

The term 'entrepreneur' in this study refers to persons who are innovative and risk-taking as they enter the market economy: those at the forefront of change who start large-scale cash cropping ventures and organise other modern commercial enterprises. Although their enterprises are still smaller in scale than those of most Europeans,¹ they are beginning to contribute significantly to local economic development in some areas.

New Guineans living in different districts have shown markedly different responses to the market economy, ranging from enthusiastic participation to apparent disinterest, outright rejection, and a resort to cargo cult activities. Stereotypes have resulted for the psychological make-up of peoples from areas known to be advancing rapidly or to be backward: people successful in cash cropping and commerce have the reputation of being 'go-ahead' or pragmatic, while those less successful are characterised as lazy, irrational or cultist.

To increase the possibility of isolating factors important to entrepreneurial motivation in New Guinea, people from both 'advanced' and 'backward' areas were chosen as subjects. The 'advanced' districts represented were Chimbu, Eastern Highlands and Western Highlands Districts, where rapid development has taken place in the last ten to fifteen years, and East New Britain District, home of the most prosperous New Guineans, the Tolai. 'Backward' districts included were Madang District, where cargo cults have been common and participation

¹ As is common practice in New Guinea, I use the term 'European' to denote all persons of European ancestry, be they from Australia, North America or Europe. If, in the text, a point involves only one group, then I use its name to make it clear that I am not speaking in general terms.

in cash cropping minimal, and Manus District, which has experienced both secular and cargo cult movements for economic progress, but has remained economically stagnant. The development characteristics of the districts and the economic opportunities they offer were assessed according to indices presented in Chapter 2.

In general and common sense language, 'motivation' refers to the 'why' of human behaviour. In this study, where the main interest is why New Guineans do or do not assume entrepreneurial roles, 'motivation' means why New Guineans should or should not be innovative and risk-taking in the context of the market economy. Only a few of the possible kinds of determinants of entrepreneurial behaviour could be studied: those learned or acquired through the social experience of subjects rather than any physiological determinants (including genetic ones) and specific cues which could initiate behaviour sequences, both of which are best studied under laboratory conditions.

The first possible determinant examined was the unconscious predisposition of subjects to achieve for its own sake. This characteristic is known in psychological literature as 'need for Achievement'. It estimates the suitability of persons to become entrepreneurs and is investigated indirectly, leaving its validity unaffected by any efforts of subjects to represent themselves in a particular way. Specific hypotheses regarding it in the New Guinea context are found in Chapter 4.

The second kind of learned determinant of entrepreneurial behaviour examined was one at the subjects' conscious or reportable level: their interest in starting businesses or their preferences for other kinds of modern roles. These data and the specific hypotheses involving them are discussed in Chapter 5.

In addition, an effort was made to discover the extent to which New Guineans' propensity to become entrepreneurs may be determined by the kind of perception they have of the colonial situation, including their treatment by European administrators, businessmen, missionaries and others. This inquiry was based on the premise that motivation in a colonial context, where power over resources and opportunities rests largely in foreign hands, is a special case. Chapter 6 reports the data collected on New Guinean views of expatriate attitudes which might affect motivation. Again, specific hypotheses are presented with the data they utilise. Chapter 6 also discusses the implications of New Guineans' entrepreneurial motivation for the Australian Administration.

Before the three possible determinants - New Guineans' need for Achievement, conscious interest in modern economic roles, and view of the colonial situation - are discussed, data on subjects in the study and their districts of origin are given. Chapter 2 outlines the physical features of the six districts, the economic opportunities and accomplishments of their people, and the measures of development and economic opportunity involved in testing later hypotheses concerning motivation. Chapter 3 describes the characteristics of samples from each of the districts and sets out the research conditions.

Chapter 2

The setting

The contrast between 'advanced' and 'backward' districts clearly emerges in the following outline of each district's history of contact, cash cropping, climate for local economic development and inhabitants' reactions to any economic opportunities. It does not pretend to be a complete account, for detailed data on history and indigenous economic development are only available for portions of the East New Britain District (T.S. Epstein 1968) and the Eastern Highlands District (B.R. Finney 1969).

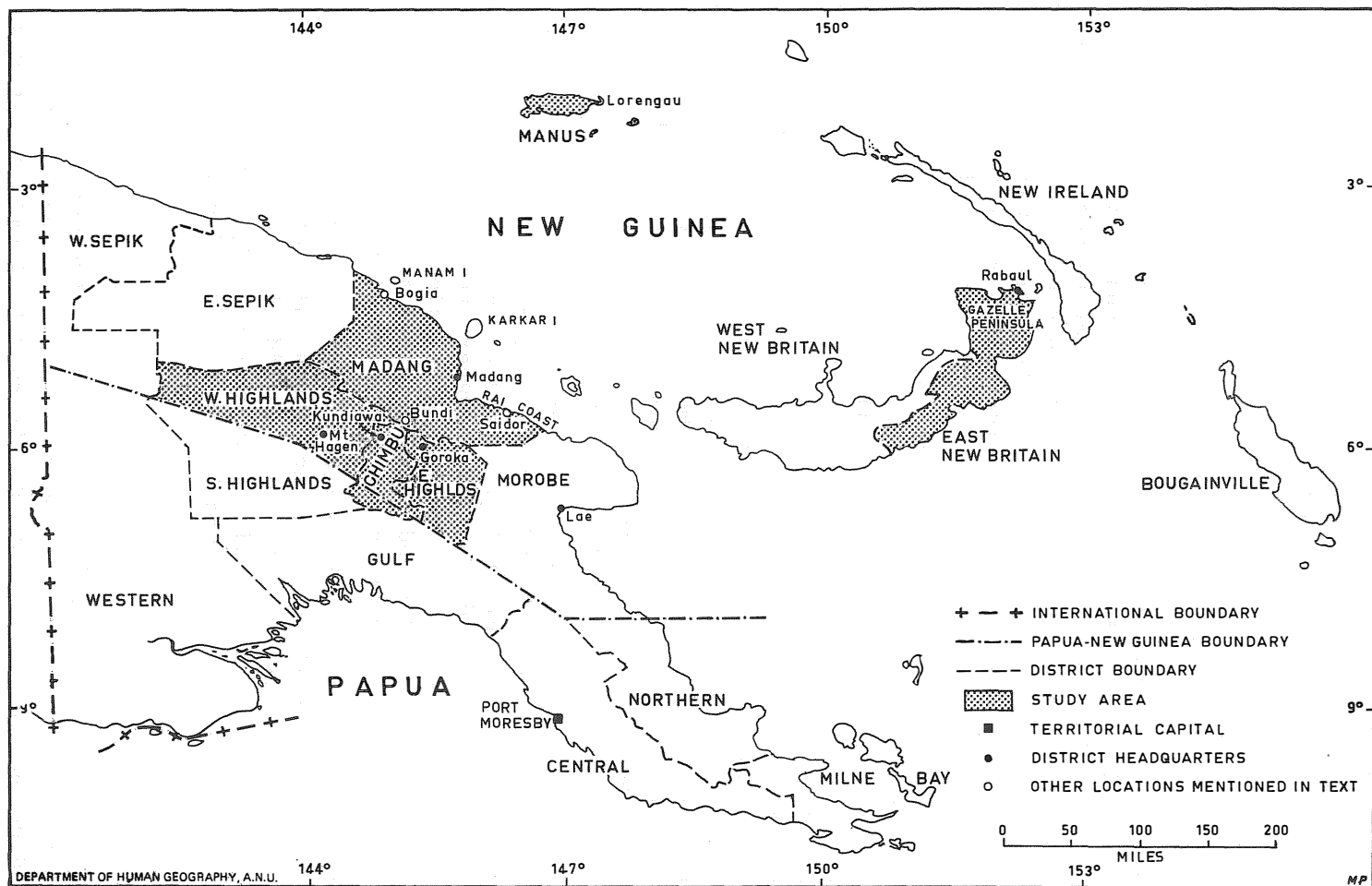
Map 1 shows the location of the districts discussed throughout this study.

East New Britain District

New Britain, a narrow mountainous island 370 miles in length, lies off the northern coast of New Guinea. The East New Britain District comprises the northeastern half of the island and has an area of about 7,000 square miles. Its mountainous character is relieved by some low-lying areas along the coast, including the Gazelle Peninsula, a comparatively level, volcanic area forming the northeastern tip of the island. In 1967 over half the district's indigenous population of almost 92,000 lived there,¹ including some 60,000 Tolai people, the group from which all students in the East New Britain sample were drawn. Overall population density in the district was only 13.1 persons per square mile, but on the Gazelle Peninsula densities exceeded 100 persons per square mile. The Tolai population density was probably about 200 per square mile.

Although the rugged and sparsely populated mountain region of East New Britain has been comparatively neglected by European administrative and commercial interests, the Gazelle Peninsula has been a focus of

¹ Area and population figures for this and other districts are from Territory of Papua and New Guinea, Department of Information and Extension Services (1969) and Territory of Papua and New Guinea (1967:193-4) respectively.



Map 1. Districts represented in the study

European interest since the late 1800s. European traders were active there in the 1870s, coconut plantations were established in the 1880s, and in 1889 the German government established its capital at Kokopo on the Gazelle Peninsula. In 1910 the capital was moved a few miles north to Rabaul, which has been a major port town ever since (T.S. Epstein 1968:8-13).

Extensive coconut plantations were established on the Gazelle Peninsula during German rule, and by 1914 economic prospects for the area were buoyant. The plantations were bearing well, there were good wharfage, warehousing and transport services in Rabaul, and an excellent road system covered the coast and the main population centres inland. The plantations and other facilities were taken over by Australian interests at the onset of World War I. Although the capital was moved from Rabaul in 1941, Rabaul and its hinterland are still a major commercial centre and the road and transport systems remain unparalleled in the country.

At first European activities on the Gazelle Peninsula, particularly extensive land alienation for plantations, uncontrolled labour recruiting, and sale of arms to hostile tribal groups, brought great hardships for the Tolai people. Later, however, after the appointment in 1896 of Dr Albert Hahl as Imperial Judge and then as Governor, the Tolai began to enjoy some of the economic advantages of the copra industry and extensive road system.¹ At first, Tolai subsistence farmers sold their surplus coconuts to European plantation owners waiting for their new trees to bear; but later, with government encouragement, they sold processed copra and set out their own commercial coconut plantations.² By 1914, when the Australian military forces took over German New Guinea, the Tolai were already experiencing the beginnings of economic expansion.

The pace of Tolai economic expansion slowed considerably under Australian rule between the two world wars, with little government encouragement and the severe fall in copra prices. Seeking to augment their income during the depression, however, the Tolai began to experiment with copra driers, tradestores and trucking ventures. World War II cut this development short and Tolai holdings suffered considerably during the Japanese occupation and extensive Allied bombing.

After the war the Tolai benefited greatly from an active agricultural extension programme which encouraged cocoa cultivation and the replanting of destroyed Tolai plantations. In addition to having land with rich volcanic soil, an extensive road system, and, with the redevelopment of Rabaul, an accessible marketing centre and port, the Tolai had

¹ Cf. Jacobs (n.d.).

² To promote indigenous cash crop development the German Administration decreed that European traders could only buy cut copra, not coconuts, from indigenous producers, and instituted a poll tax to accelerate their entry into the cash economy (T.S. Epstein 1968:10).

a confidence in the market economy born of their previous experiences. They responded to these opportunities by becoming the major indigenous copra- and cocoa-producing group in New Guinea. Furthermore, the Tolai used a considerable portion of their cash crop receipts to invest in copra driers, trucks, tradestores and other small businesses. They are now the wealthiest indigenous group in New Guinea, and are anxious to expand into larger enterprises.

The highlands districts

Because of similarities in their environment, history of European contact, introduction of cash crops, and inhabitants' responses to market conditions, the three highlands districts are discussed together.

The Eastern Highlands, Chimbu and Western Highlands are all inland districts located in the mountainous centre of the New Guinea mainland. The most distinctive environmental feature for human settlement is the series of valleys between 4,000 and 6,000 feet above seal level which runs between rugged mountain chains, with many peaks over 8,000 feet in height. These well-watered and fertile valleys, and the lower slopes of the mountain ranges, support relatively dense populations which make the districts the major population centre for New Guinea. In 1967 the approximately 4,600 square miles in the Eastern Highlands District supported over 213,000 people with an overall density of 46.3 persons per square mile; the 9,600 square miles of the Western Highlands District supported approximately 308,000 people with a density of 32.1 and the 2,300 square miles of the Chimbu District supported 175,000 people with a density of 76.1, making it the most densely populated district of New Guinea. As large portions of the districts are mountainous and inhospitable to human habitation, these overall densities were exceeded many times in the fertile and densely populated valleys.¹

The existence of highlands populations was unknown to the outside world until the late 1920s and early 1930s when missionaries, gold prospectors and Administration patrol officers penetrated the upland valleys. After incidents between prospectors and highlanders, the Administration closed the area in 1938 to all but missionary and Administration personnel. The imposition of government control was carried out in a relatively enlightened manner. During World War II the highlanders were on the fringe of the fighting zones, and apart from the introduction of dysentery, suffered very little compared to coastal peoples.

Civil administration was re-established in the highlands in 1947, and the area was opened to private European interests. Gold, which

¹ For example, Brookfield (1962:245) listed nine regions in the three districts with population densities ranging from 100 to 500 persons per square mile of cultivated land.

never was found in large quantities, was no longer the lure, but land in the fertile valleys was. During the 1940s and 1950s there was a minor land boom as settlers staked out coffee plantations on land leased from the Administration which had purchased it from local groups. However contrary to indigenous interests this brief episode of white colonisation must seem - particularly in the light of indigenous Kenyan reaction to white settlers in Kenya at the same time - it actually promoted indigenous entry into the market economy. European holdings were relatively small and scattered so that no one group lost too much land. These plantations demonstrated to the local people how money could be earned through coffee growing, and some settlers helped their indigenous neighbours to set out their own coffee plantations and processing facilities. This new style of plantation development, plus the pioneering efforts of these settlers to develop coffee commercially and to organise transport and marketing services, stimulated the highlanders to grow coffee and helped them to realise quickly significant cash returns from its sale.

In 1953 the Administration followed this private initiative with an extremely successful extension programme to introduce coffee throughout the highlands. It also built airfields, organised an extensive local road system in each district, and completed a road link in the mid 1960s from the highlands to the coastal port of Lae. The people of the highlands are thus more closely linked with the market economy than are many coastal New Guineans in long-contacted areas where roads have yet to penetrate.

All these factors gave highlanders the opportunity to shift quickly from their subsistence economy to one based on the production and sale of a high-value cash crop. The highlanders are now the major coffee producers of New Guinea, marketing well over half the total tonnage.¹

Development has not, however, been uniform in the three districts. The Eastern Highlands, where coffee plantations were first developed, had a headstart over Chimbu and the Western Highlands, although the latter districts are now only a few years behind the Eastern Highlands in commercial development.

The highlanders, led again by the Eastern highlanders because of their greater cash incomes, began to invest in small businesses within five years of the introduction of coffee. Highlanders now own most of the trucks operating within their districts, and most of the rural tradestores. They are beginning to start their own restaurants and other service enterprises, and sometimes invest in large cattle herds.

¹ Although there have been numerous cargo cult outbreaks in the highlands, none has lasted long. Cash cropping is generally considered by highlanders to be a demonstrably superior alternative for gaining wealth (B.R. Finney 1968:407).

Although European plantations and firms overshadow indigenous holdings in size, the extent of local cash cropping and business enterprise in the highlands, and the speed with which highlanders have responded to commercial opportunities, make indigenous economic expansion there one of the most outstanding features in the development of post-war New Guinea.¹

Manus District

Manus, the smallest district in New Guinea, includes some 160 islands that lie off the north coast of New Guinea just south of the equator. The main island, Manus, is much larger than any other in the district, and in 1967 contained most of its 23,000 people and 800 square miles of land. Total population density was 28.7 persons per square mile. Although there are some low-lying coralline islands, Manus is a high, continental island. It is heavily timbered, and because of the broken nature of the land and the leaching action of the heavy rains, Manus is considered to be of low agricultural potential.²

Although Manus was sighted by Schouten in 1616, there was apparently little European contact until the nineteenth century, when whalers, blackbirders and traders visited, and German planters established coconut plantations along the coast. The German government did not assume full administrative control until 1912, by which time punitive expeditions had been undertaken by German warships with the intention of destroying many villages of islanders suspected of killing or injuring Europeans (Neverman 1934:1-16, Schwartz 1962:223).

Australian forces assumed control of Manus in 1914 and pacification was completed by 1921. Most of the Manus were converted to Christianity during the 1920s and 1930s. The pre-war plantations, taken over by Australian interests, continued to operate, but little was done to promote indigenous economic development. The Manus themselves had few cash crops and participated in the market economy mainly through working on local European plantations and through employment with plantations, the Administration, and business firms on other islands and on the New Guinea mainland (Mead 1956:73-4, Schwartz 1962:223-4).

In 1942 Japanese forces occupied Manus, only to be ousted in 1944 by American troops. Manus then developed into a major staging base for the invasion of the Philippines. Extensive shore facilities were developed, and thousands of aircraft and ships, as well as reputedly over one million men, moved through the island. This military build-up had a dramatic impact on the Manus people. They saw undreamed-of material wealth, and through high wages, gifts and disposal of surplus property, gained access to goods previously unknown. They were very

¹ Cf. B.R. Finney (1969).

² Districts of Papua and New Guinea 1966:40.

impressed also by the fact that Negro troops in the American forces, black men like themselves, appeared to share the goods and skills of white Americans. As a result of these experiences, the Manus looked forward to a new era of progress after the war (Mead 1956:145-64).

Soon after the war a number of Manus leaders started movements designed to modernise their society and increase their participation in the outside world and economy. The Paliau Movement reorganised many traditional features of Manus life and encouraged planting of cash crops, but its effectiveness was severely limited by cargo cult elements (Schwartz 1962).

Secular reformists seem to have been in the ascendancy since the early 1950s, but economic progress on Manus has not been impressive. Some of the littoral has been planted in coconuts, and a small European plantation purchased by a Manus co-operative society (Crocombe 1965), but these provide only limited income which is not shared by inland-dwelling peoples. The Manus realise they are in an economic backwater, and want new crops, roads, and aid in developing a fishing industry, but so far their ambitions have been frustrated (United Nations 1968:27-8).

Madang District

The Madang District extends eastwards along the northern coast of New Guinea from near the mouth of the Sepik River for about 220 miles, and includes a number of offshore islands. A narrow coastal strip has areas of rich volcanic soil but the interior consists largely of swamps, grasslands and extremely mountainous terrain, particularly along the southern border with the highlands districts. Madang is the largest district in this study, but has the most scattered population. In 1967 some 155,000 people were spread over 10,800 square miles with an over-all density of 14.3 persons per square mile. There were no dense concentrations of people as on the Gazelle Peninsula or in the valleys of the highlands.

Although explorers sighted the Madang coast in the seventeenth century, direct contact did not begin until 1871, when Baron Miklouho-Maclay settled briefly on the Rai Coast. After Germany assumed political control of New Guinea in 1884, attempts were made to explore the interior and to settle on the coast. The initial focus of European commercial interest was around Stephansort (now Bogadjim) on Astrolabe Bay. Here, in the 1890s, the Neuguinea-Kompanie undertook the first large-scale cash crop experiment in New Guinea by cultivating tobacco. The large plantations depended mainly on Chinese and Javanese labour, but health hazards and labour troubles caused the experiment to be abandoned in 1903. Relations between the German colonisers and local people were poor from the start, apparently because of forced land alienation and the people's unwillingness to work on European plantations, and seem to have set the style for later years.¹

¹ Cf. Jacobs (n.d.).

European activity then centred around Madang township, which was briefly the capital between 1897 and 1899. From the start indigenous interests were ignored as large acreages were alienated to form rubber and coconut plantations. Few efforts were made to bring the local people into the cash economy as producers. In 1904 the people around Madang rebelled and were suppressed. In 1912 plans for another revolt were discovered, and those involved were exiled and had more of their land confiscated for plantations (Flierl 1927:113-14, Lawrence 1964: 34-43, 68-72). The bitterness born of German land alienation and suppression of indigenous opposition remains alive today among the Madang people, who look to the Australian government to redress their old grievances.

Australian rule stopped the worst excesses of the German administration, but during the 1920s and 1930s the European planter community in Madang remained dominant and indigenous economic development was insignificant. During World War II the Madang people experienced Japanese occupation and Allied campaigns of reconquest. The Administration became concerned with indigenous development after the war, but apparently because of its limited resources, rugged terrain and scattered population, progress in the district has been negligible. Although war-destroyed Madang township was rebuilt to become one of the major ports of the country, it mainly serves European importers and exporters. Few roads penetrate the hinterland, and thus most indigenous people remain isolated from the port and modern economic developments.

Given these circumstances, it is not surprising that of all the districts of New Guinea, Madang has seen some of the most extensive and enduring cargo cult movements known (Burridge 1960, Lawrence 1964). Although these movements have generally been suppressed, the conditions which contributed to them have yet to be completely alleviated. Despite some progress in opening up new areas and promoting indigenous cash cropping and marketing, the Madang people still rank far below the relatively affluent Tolai and prosperous highlands coffee growers. They are acutely aware of their comparative lack of economic growth.

Accomplishments and opportunities

As obvious as the differences in economic accomplishments of people in the 'advanced' and 'backward' districts are the differences in their opportunities for development. This can be illustrated by comparing data on cash crop production and income, and the proportion of people served by roads in each district.

Cash crop income. Cash crop income provides the best indication of indigenous economic development within a district. New Guinean workers have been essential to the growth of the European plantation and trading economy, but because of their low wages (the minimum plantation wage in 1968 was \$4.00 per month plus accommodation and rations) and often short-term commitment to their jobs, wage labour has had little

direct impact on indigenous economic growth at the district level. In fact, as soon as people begin to develop their own cash crops they usually withdraw from the labour market. In addition, receipts from cash crops are typically used by New Guineans to finance their own businesses which, however small, represent important steps towards local economic growth. Table 2.1 lists indigenous production of the main cash crops in each district.

Table 2.1

Estimated production from indigenous-owned cash crops,
year ending 30 June 1967, by district
(tons)

Districts	Cocoa (dry bean)	Copra	Coffee (green bean)	Pyrethrum (dried flowers)
Chimbu	0	0	1,750	121
East New Britain	3,720	11,054	0	0
Eastern Highlands	0	0	3,813	21
Madang	167	1,730	7	0
Manus	17	831	0	0
Western Highlands	0	0	2,850	377

Sources. Figures for cocoa, copra and coffee: Territory of Papua and New Guinea, Bureau of Statistics (1967:32); for pyrethrum: Territory of Papua and New Guinea, Directorate of Transport (1968).

Table 2.2 lists cash crop income per capita and also in terms of the length of European control. The per capita income figures indicate that East New Britain and the highlands districts are more advanced economically than Manus and Madang. However, they tend to over-rate the position of East New Britain, and to under-rate the differences between the highlands districts and Manus and Madang, because they give no indication of the comparative rate of economic growth. By dividing the income figures of each district by years under European control (and, therefore, exposure to the market economy), a per capita income figure per years of control is derived which provides the basis for a more realistic ranking of the districts. This ranking indicates the great gap between the 'advanced' and 'backward' districts, and also lessens the gap between East New Britain and the rapidly developing highlands districts.

Proportion of people served by roads. An estimate of the proportion of a district's population served by roads provides one index of the economic opportunities available to local people, for without roads, the establishment of cash crops, extension services, and markets is almost impossible. New Guineans themselves see roads as one of the

Table 2.2

Per capita cash crop income: district rankings

District	Total cash crop income* (\$)	Indigenous population 1967**	Per capita cash crop income (\$)	Years of European control***	Per capita income per years of control (\$)	Combined rank order
East New Britain	2,655,031	91,309	29.07	68	.43	1.5
Eastern Highlands	1,816,764	213,098	8.52	20	.43	1.5
Chimbu	870,741	175,669	4.96	20	.25	3
Western Highlands	1,474,053	308,338	4.78	20	.24	4
Manus	99,546	23,126	4.30	55	.08	5
Madang	260,350	155,175	1.68	55	.03	6

* Total income figures were derived from production figures in Table 2.1 and estimates made of prices paid to producers by H. Brookfield (personal communication: 7 January 1968).

** Figures from Territory of Papua and New Guinea (1967:193-4).

*** Dating from 1899 for East New Britain when the German government established its capital at Kokopo (T.S. Epstein 1968:9); from 1947 for the highlands districts when the Uncontrolled Areas Ordinance was rescinded for most areas (Howlett 1962:222); from 1912 for Manus when German local government was established (Schwartz 1962:223); and from 1912 for Madang when control was established along the coast of this and adjacent districts (Lawrence 1964:42). Some inaccessible portions of these districts remained uncontrolled for a considerable time after these dates.

main, if not the key element, in starting local economic development. Plates 2 and 3, by students in the sample, illustrate this.¹

Estimates of the proportion of people served by roads within each district were made by comparing maps showing road networks with those showing population distribution and density. The results are given in rank order by district in Table 2.3. This ranking represents not only an index of infrastructure improvements, but also gives some idea of the way New Guineans perceive Administration efforts to facilitate development. This should be kept in mind particularly when the motivation of people in the 'backward' districts is considered, for these people tend to ignore environmental conditions which can inhibit development and focus instead on the presumed Administration and European failure generally to provide them with opportunities for local economic development.²

Table 2.3

Proportion of population served by roads: district rankings

District	Estimated percentage of people living near roads*	Rank order
East New Britain**	70	1
Eastern Highlands	50	2
Chimbu	40	3
Western Highlands	35	4
Madang	20	5
Manus	10	6

* Estimates made by comparing district road maps (Territory of Papua and New Guinea, Department of Public Works 1968) and population density maps (Ford 1965).

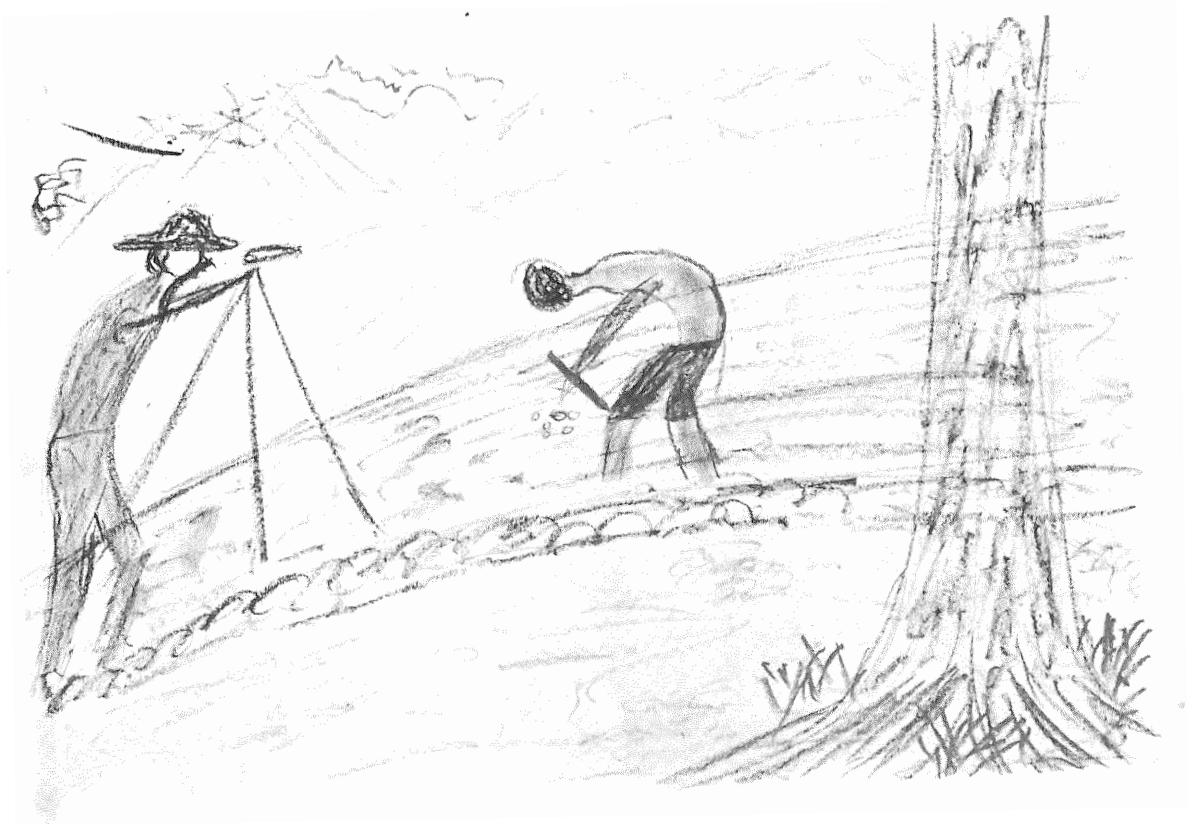
** Includes whole district. If only the Gazelle Peninsula were considered, the percentage would be much higher.

Comparison of cash crop income and
road data

The rank order of the districts on the proportion of population served by roads is virtually identical to that on cash crop income. When the information on development in each district is also taken into

¹ See pp.129-36 for a discussion of the relevance to this study of these and other picture-stories.

² See, for example, Kiki's (1968:163-4) comparison of Administration practices and economic development programmes between the highlands and his home area, the Gulf District, located on New Guinea's south coast.



- (1) The people in the picture are one surveyor and a ~~lab~~ worker working on the new road. The European ~~surveyor~~ ^{was} surveying the new road while the New Guineans was picking up the pegs to be used on the road.
- (2) They were ~~returning~~ ^{going coming} from home to start their work on this road.
- (3) They are thinking about having this new road to be completed as soon as possible so that this road will be used then.
- (4) The road will be completely ~~and~~ ^{it} and the road be ready for use. It will be a ~~better~~ ^{along} economic development.



The picture shows a Patrol Officer and a villagerman.
They were discussing about the road to the village.
They are wanting to make a ^{big} nice road.
The road is going to be nice and big for the Patrol Officer
and village people to walk on.

consideration, the data suggest a direct relationship between economic accomplishments and opportunities. It is very clear that the 'climate' for indigenous development created by contact experiences, Administration aid, and European-indigenous relations has been far more favourable in the 'advanced' districts of East New Britain and the highlands¹ than in the 'backward' districts of Manus and Madang. Except for the very early contact period, the Tolai of East New Britain have had excellent opportunities for development because of transport, marketing and, more recently, agricultural extension services. The highlanders have also been highly favoured: pacification was undertaken without too severe a disruption of local life, European economic interests were checked and co-ordinated with indigenous interests, and the whole complex of cash crops, transport, marketing services, and agricultural aid was made available within a generation of contact. For Manus and Madang, however, there was little that could be construed as favourable in their contact situation, the provision of infrastructure improvements, or the promotion of cash crops.

¹ Among the three highlands districts, development has been slowest in the Western Highlands. In terms of rank order on population served by roads and cash crop income, the Western Highlands stands third from the bottom of all the districts (even though the values on these measures are closer to those of districts above than below it). In some contexts where it is discussed strictly in terms of these two indices, the Western Highlands is referred to as being among the three least developed districts (see pp.135, 165 and 171); but this is not to say that so far as a general picture of change - one including the people's reputations and responses - is concerned, the Western Highlands is a backward district.

Chapter 3

The sample and research conditions

Characteristics of the sample

High school students rather than adults who might already be entrepreneurs were chosen as research subjects because the psychological tests and forms through which data were gathered are best used by literate subjects familiar with illustrated stories and the completion of forms. Moreover, students can work with limited supervision, which permits group testing and saves considerable research time. Had there been enough time, I could have worked with illiterate adults by translating tests and forms into Pidgin English, a widely spoken lingua franca, or local vernaculars when knowledge of Pidgin English was slight. Time-consuming individual sessions would then have been required to record verbal responses.

One might argue that students are not the best choice as subjects for an investigation of cultural differences: that despite coming from districts with very different responses to the market economy, they might have had common attitudes because of similar education. However, almost all the students had rural backgrounds and were reared, at least until they started school, in a more or less traditional manner. Thus, I assume that they manifested basic personality characteristics substantially the same as those prevailing in their home communities. Although many of their conscious attitudes probably were greatly influenced by education, their work for this research displayed such knowledge of and concern with economic conditions in their home districts that their attitudes to economic matters appeared to be influenced more by their backgrounds than by their schooling. This point will be explored further in Chapter 5.

The sample for the study consisted of 298 boys, with between 40 and 60 from each district. All the boys were second- or third-form students at Administration high schools. Mission schools were not included although they operated in all the districts involved except Manus. For comparative research, Administration schools offered the advantage of having similar educational philosophy and staff qualifications, whereas mission schools varied widely in standards and aims. By using only Administration schools I could treat school atmosphere as a constant. I do not believe that any results showing differences between district samples reflect differences between schools.

Second- and third-form students were chosen for the research after consultations with staff of the Department of Education. In New Guinea, high schools have four forms rather than the five or six customary for Australian schools.¹ Final-form students, preoccupied with School Certificate examinations which decide their future education or employment, would have found the research too disruptive. First-form students also seemed unsuitable because they often had problems adjusting to the high school environment (coming as they did from primary schools of uneven quality). It was therefore thought that second- and third-form students who had settled down to the school routine but were not overly anxious about their post-high school careers, would be least disturbed by the research.

Characteristics of the six district samples

The distribution of students by district was Chimbu, 43; Eastern Highlands, 43; East New Britain, 56; Madang, 61; Manus, 53; and Western Highlands, 42. Students in the Chimbu and Eastern Highlands samples attended Goroka high school in the Eastern Highlands. Those in the East New Britain sample were all at Malabunga high school outside Rabaul. The Madang students attended Tusbab high school in Madang township and the Manus students Manus high school on Manus Island. The Western Highlands students came from Mt Hagen (in the Western Highlands) and Tusbab high schools.

It would have been ideal for the six sample groups to have come from distinct cultural or linguistic groups representing the characteristic responses to market opportunities shown by district populations. However, because of the small number of high school students from any single group (the result of the limited number of high school places and the small size of most cultural groups), I could only achieve the ideal for one district, East New Britain. A sample of Kuanua-speaking Tolai students could be used because the Tolai are both numerically dominant in East New Britain and well served with high schools. They are also noted for their high level of response to market opportunities. Although I could not draw samples for other districts to represent individual cultural or linguistic groups, I was able to select students from groups which appeared to typify - in terms of their response to market opportunities - the general reputation of the people in their districts.

The Madang sample represented many cultural and linguistic groups along the coastal area where cargo cults centred: from beyond Bogia in the north through the Rai Coast to Saidor in the south. I originally tried to limit the Madang sample to students from the Rai Coast - the area perhaps best known for cargo cults - but found only five students

¹ Since this research was carried out, fifth and sixth forms have been started at Sogeri high school in the Central District.

in second and third form from this area. Consequently I included the entire coastal area known to be involved in cargo cults. Contact history among these groups was more similar than that of a coastal group and an inland group from the Ramu or Bundi areas.

Three groups, distinguished primarily by physical habitat and language - the sea Manus or 'Manus', the coastal Manus or 'Matankors', and the inland Manus or 'Usiais' - were represented by the students in the Manus sample. Most were coastal Manus from the Binai-Baluan area which was the centre of the Paliau Movement, but some were inland Manus whose people moved to the coast to join Paliau.¹ Only a very few students were island Manus. Most people in the district shared similar economic opportunities.

For the Chimbu, Eastern Highlands and Western Highlands District samples I did not try to delimit the areas from which students came to particular sub-districts or local areas. Indeed, given the small number of highlands high school students, such a delimitation would have been difficult if not impossible. As it was, I had to visit two high schools, including one outside the highlands, to obtain enough students for the Western Highlands sample. Fortunately, because contact experiences, exposure to market opportunities and people's reactions to these have been roughly similar within each district, any delimitation of the sample below the district level was not necessary.

The reason for the small number of students available for the study and the consequent limitations on sampling becomes clear in the following historical outline of the introduction of high school education by the Administration in the six districts.

The Administration has only recently sponsored high school education on any scale in New Guinea. Although there was one Administration high school at Rabaul before World War II, high school education did not generally begin until well after World War II. Manus high school began in the 1950s but did not have a fourth form until the mid-1960s. The same is true of Tusbab high school in Madang. Highlands high schools were established even later. Goroka high school had a fourth form only in 1967. At that time, Mt Hagen high school was in its second year of operation, with only first and second forms. Older students from the Western Highlands attended Tusbab high school or mission schools elsewhere. There was no Administration high school in the Chimbu District in 1967 and Chimbu students in the study were mainly at Goroka high school. In East New Britain there were three Administration high schools - Rabaul, Kerevat and Malabunga. Malabunga was chosen for the study because it had more in common with the other schools than Rabaul, which was multi-racial, and Kerevat, which had previously been a school with a reputation that attracted students from throughout New Guinea.

¹ See Mead (1956), Paliau (1970) and Schwartz (1962) for information on the Paliau Movements.

High schools in New Guinea have generally first served students from several districts, and only gradually become exclusively district schools. Students came from other districts either because there were not enough qualified primary school leavers produced locally, or because there were insufficient high schools in nearby districts. Such school populations offer difficulties for studies planned to sample by cultural or linguistic groups, or even by limited geographical areas where people have had similar contact experiences and economic opportunities.

Although it would have been ideal to match the district samples by age, form, ability, and socio-economic background, the number of students from each area was too small to permit proportional sampling. Data on relevant personal and socio-economic background variables were simply recorded so that psychological data could be analysed in relation to them. However, it seemed most important that the samples were as evenly matched as possible in English ability as this could affect their handling of the tests and forms used in the research. In the absence of current and standardised tests in English for the students,¹ the best way to ensure this was to take those classes of second- and third-form students which headmasters recommended as being 'best in English'.² Where a headmaster felt that second-form students were generally better than those in third form,³ I included at least one group of third- and one of second-form boys in the sample. If extra students were needed, I took them from recommended classes regardless of form level. This procedure resulted in a slight imbalance of second- and third-form students from district to district.⁴

Research conditions

The field work was undertaken in three phases: (i) pre-testing with students not in the samples, (ii) an initial visit to the five schools from which samples were drawn, and (iii) a final visit when the bulk of the data was collected. The field work was spread over seven months and covered two school terms in 1967.

Pre-testing. Pre-testing was primarily carried out at the Goroka teachers' training college and the Goroka high school with classes not involved in the final research. Some was also done at Tusbab high

¹ New Guinea-wide performance tests in English come only after standard 6 and third and fourth forms. There were no general abilities tests.

² Data from students in the classes who came from areas outside the sample ones were not included in the analysis.

³ This was not unusual in areas where primary education was being greatly improved each year.

⁴ Other differences in personal and socio-economic background variables are described on pp.25-8.

school in Madang. These sessions enabled me to discover what form I should give my inquiries, what tasks students could do, and the length of time they required. During pre-testing, students characteristically took great pains about the neatness of their work and their grammar and spelling. If they did not understand something I had said or written, they would sit looking down until I noticed them: it seemed very difficult for them to ask questions. Because of this, they required more time for the research tasks than had the Nigerians or Hawaiians I had worked with previously. In an effort to lessen their anxiety and thereby speed up their work, I tried to make the research atmosphere as non-authoritarian as possible. I set up a short question period when students could ask me about anything. At first they asked only personal questions and ones about America, but eventually they came to ask questions about the research and about directions they did not understand. Their questions not only showed me how to better phrase my own queries, but also revealed the things about my work which were of particular interest to them and which, if I emphasised them, might contribute to rapport.¹

Initial visits. In April and early May 1967, I paid initial visits lasting from one to three days to each of the five schools. During this time I discussed my project with the headmaster, consulted his records on student background for sampling purposes,² and arranged a final visit schedule with the headmaster and teachers that would not conflict with school exams or special events. I also was introduced to the prospective student sample with my husband. I had learned that I gained additional respect and co-operation from students both because I was married and because of my husband's anthropological work. I described something of my husband's and my own background, and the general nature and purpose of my work. Then, in our first working session (with my husband absent), I asked students to write about their dreams.³ I included this task in the initial visit because pre-testing had shown it to be something in which students became readily involved and about which they were likely to ask questions freely.

Final visit. My final visit to each school lasted up to ten days while I boarded at or near the school with the headmaster's or a teacher's household. Most of the research data was collected during these visits which took place in late June and early July 1967, after mid-year examinations. Some class teachers were still grading exams, while second-term work had scarcely begun; consequently, headmasters

¹ See pp.22-4 for a description of factors influencing rapport.

² Records on student background were kept at each school rather than in the Department of Education headquarters at Port Moresby.

³ The purpose of this is made clear on p.45.

generally preferred that I work with students during the school day rather than in evening sessions. Some headmasters gave me six class periods (which averaged forty minutes each) all in a row and others gave me six individual class periods spread over several days. The various types of data I recorded are reported and discussed in subsequent chapters, together with the specific instructions I gave for each testing session.

General conditions. There were certain general conditions that applied to the entire research project. I wanted to conduct the project with the full understanding of the education authorities and the students and with minimal disruption of school programmes, while yet meeting specific conditions necessary for research validity.

Approval for the project was obtained from Department of Education officials in Port Moresby and from individual headmasters. As long as the visits were not near examination times, headmasters generally welcomed the project and tried to ensure optimum conditions for its success. Yet ultimate success depended on how accurately the data represented the real thoughts and attitudes of the students, which in turn depended (assuming one's instruments were valid) on students' honesty, involvement and verbal frankness.

To ensure valid data, I tried to establish three conditions: student understanding of and interest in the project; dissociation of the research from routine class work supervised by staff members; and student-investigator rapport.

School authorities could do little to ensure the first or third conditions, but they were extremely co-operative in the second. Headmasters and teachers understood readily that students might be inhibited in responses by their presence, and headmasters permitted all work to be conducted in complete privacy. They did not tell students anything about the research in advance other than where and when to meet, and to answer questions truthfully.

To encourage student understanding of, and interest in, the project, I explained the kind of work I was doing, why it might be important, and how students could help. I stressed the following points.

- (i) The research was to find out what New Guinean students from different areas were thinking about, what they wanted for themselves and their country, and what some of the reasons might be that made them think about and want different kinds of things.
- (ii) The research results would go into a report that would be read in New Guinea and in other parts of the world. In New Guinea it could show teachers why students thought as they did, so that teachers might be able to understand and help students more. It could be useful outside New Guinea since many people lived far away yet wanted to learn more about

the country. Some people knew things about the old days, but very few knew about the young people and their ideas.

- (iii) The research was separate from normal school work: it had no right or wrong answers and no effect on school grades; it did not require that dictionaries be used or that work be copied over when words were crossed out. All the students needed to do was to put their ideas down quickly and as best they could. They were also assured that teachers and headmasters would not read what they wrote while their names were on their papers. Eventually officials and outsiders would read descriptions of the kinds of things students from different districts said, together with anonymous quotations.
- (iv) The research had been approved by the Department of Education in Port Moresby and by headmasters so that students should feel free to answer all the questions even if some of them were about things that were seldom discussed in school.

As far as was possible (exceptions are mentioned in the text) I collected all the data for the study myself, for I wished to minimise any influence which researcher attributes - such as sex, age, national or racial group membership - might have on responses of different groups.

Rapport between myself and the students was vital, particularly because the research required long testing sessions. No doubt I had attributes which could have discouraged rapport and consequent data validity. Not the least of these may have been my being a woman, for some women teachers felt that our sex enjoyed less status and respect than men did and faced more discipline problems. Whether this is true or not, the research was not generally of a testing nature, and did not need to be conducted in an authoritarian atmosphere. Any disadvantage in my being a woman, even in a relaxed situation, seemed to be overshadowed by other personal attributes which pre-testing had revealed as important advantages for a positive working relationship with the students: I was an American, I had worked in Africa and the Pacific and had close relatives who had lived in the Pacific, and I was a former university teacher.

It is often embarrassing for Americans to discover that they are generally well thought of in New Guinea, where their wartime role and relations with Negroes have been idealised - sometimes to the extent that New Guineans made unsolicited complaints about the Australian Administration and asked for American aid to help them. This seems as true in the highlands as on the coast and may stem from stories about Americans heard from coastal people or from experience with Americans in highlands rest camps during the war.¹ Naturally this attitude of

¹ My husband and I travelled from Goroka to Chimbu along the Highlands Highway with our New Guinean employee riding between us in the front seat of a utility truck. Some highlanders working on the road looked

New Guineans can be very embarrassing and can make one most uncomfortable, as it did when my husband and I were asked by a neighbour in the highlands if what he had heard elsewhere was really true - the American marines were going to march up the Highlands Highway and take things over. Goodwill towards Americans may make it easier for them than for other Europeans to gain the confidence of New Guineans. Of course, an American is also an outsider and, in itself, this can be a considerable advantage in research. An outsider who has no control over subjects' lives may not seem as threatening as a person permanently there, and this may be taken to mean that one is in New Guinea because of considerable interest in the country. Students always wanted to know how far I had come and whose money I had spent to travel to New Guinea. That I had come a long way and had not spent money from the Australian subsidy to New Guinea to do so was interpreted by them to mean that I was there to learn about their country, and since I would be going away to tell others what I had learnt, they tried to be careful in their responses.

Perhaps the most important point about me for the students was that I and close relatives had visited or worked in the Pacific or in Africa. Students were very interested in the possible relationship between themselves and peoples in the rest of the Pacific so I interrupted long testing sessions with periods in which they could ask me questions about the Pacific, or in which I gave brief discussions on the settlement of the Pacific or demonstrated the relationship between different languages spoken in the Pacific. I told coastal students about the ways in which their languages were related to Polynesian ones, and taught highlands students phrases in Tahitian or Hawaiian. On the initial visit with my husband, students inquired about his work in New Guinea and Polynesia, particularly his work on Hawaiian canoes related to the settlement of the Pacific. The enthusiasm engendered by the discussion of his canoe studies, especially on the coast and in the islands, was considerable and no doubt helped me establish rapport. An additional point of interest to students was the fact that my father had served in New Guinea during World War II and had told me stories of the country during my childhood. Many of the students' fathers had served at the same time as my father, of course, and they clearly saw this as a common bond.

1 (continued)

up, waved, looked again, then cried out, 'American! American!' and ran after us. I wondered how they knew we were American. Then our companion pointed out that were we Australian, he would have been in the back with the luggage, not sitting between 'masta' and 'missus' in the front. He himself was too young to remember Americans from the war, but based his evaluation of Americans on wartime stories. A few New Guineans have learned of white-black relations in present-day America and may have very different opinions about Americans (see Chapter 6). To me it seemed that one sign of New Guinea's backwardness was the general popularity Americans enjoyed.

In New Guinea, where there is great pride in the new university, teaching or having taught at a university carries considerable prestige. Students frequently inquired into my education (as well as its cost), and were impressed that a woman, like a man, could secure advanced education. When they learned I had taught about Africa and 'about the way people in different countries think' (psychological anthropology), they seemed to take this as indicating a genuine interest in non-Europeans. This was an important point, for students tended to divide Europeans into two stereotyped categories: those who visited New Guinea to exploit it, and those who visited to learn about or help the people.

Any adult doing research in the school setting, especially in a colonial context, faces a constant problem: that students will be so accustomed to trying to give the 'right' answer that they continue trying to do so for him. I followed the example of Ausubel in his study of young Maoris (1961:184) and told the New Guinea students that I knew they might want to work out what I wanted to hear and tell me that. I added that, as an outsider, I had no set ideas about New Guinea so I could not be made happy or unhappy by anything they said: I simply wanted to learn what they thought.

Although it is perhaps a subjective evaluation, I consider that the New Guinean students worked very hard on the tasks for the research project, and had a highly sophisticated attitude towards them. For the most part they seemed to accept and understand the work as being separate from school, and did not hesitate, after the initial session, to admit any failure to understand a point. Teachers often remarked that this was not done in classes where performance was evaluated.

A summary of the personal and socio-economic characteristics of the samples and a comparison on selected variables conclude this chapter. The questionnaire used to elicit this data was given to students in the final visit sessions.¹ Approximately 90 per cent of the total sample completed this questionnaire, the remainder having left school, been ill or engaged in other work that had priority, or misunderstood where and when to meet. The number of students responding to different items varied slightly as some had more information on certain topics than others. The figures in tables both in the text and in the appendices reflect proportions of students answering an item. To ensure that omissions of information represented student ignorance rather than hesitancy to give information, I told students that they should not feel ashamed if they replied 'none' to some questions such as, 'how much education, if any, has your father had?', since there had been different opportunities in different parts of New Guinea. Consequently, if a father had no education, this was no criticism of his abilities or character and need not be hidden any more than a reply that he had education.

¹ See Appendix H for the questionnaire.

Here I should make clear what the students understood by the term 'father'. Most of the societies represented in the samples have patrilineal descent systems (in which inheritance is through one's father), although the Tolai have a matrilineal descent system (in which inheritance is through one's mother's brother), and a few students belonged to societies with cognatic descent systems (in which inheritance can be through both one's mother or father and their various kin). For Tolai students, one's father's socio-economic standing might not seem as relevant to economic motivation as a mother's brother's standing. However, considerable efforts are made by many Tolai fathers nowadays to manipulate their business activities to benefit their own sons rather than their sisters' sons during the father's lifetime (T.S. Epstein 1968:126-33). They are assisted by the fact that residence is generally patrilocal, not avunculocal, so that even for the matrilineal Tolai, data on father's socio-economic standing are relevant. To allow for cases where a male relative other than the father bore the primary economic responsibility for a student and could influence his own economic ventures, the questions about father's socio-economic standing were asked with reference to 'the male relative who looks after you'. For verbal economy, however, 'father' is used throughout discussions of socio-economic background.

Personal and socio-economic background variables

The following categories of personal and socio-economic background data were recorded because I wished to evaluate their possible influence, along with that of district of origin, on student motivation. The two types of socio-economic variables were those that referred to the subject himself, and those that referred to his father or the male relative who bore primary economic responsibility for him. The specific variables covered were: (i) personal variables, which included form standing, age, English ability, birth order, personal travel, and religion; and (ii) socio-economic background variables, which includes father's education, his language attainments, travel, type of house, business holdings, and personal possessions.

Personal variables compared by district. A comparison of students on personal variables by district reveals that there were no significant differences concerning English ability (as measured by percentile standing on mid-year examinations within schools), age or birth order, although there were significant differences in form standing, religion and personal travel.¹ Comparisons were evaluated using chi-square.² Table 3.1 gives the chi-square value (χ^2) for each comparison, degrees of freedom (df),

¹ Tables showing the distribution of data for each variable by district appear in Appendix A.

² For a discussion of chi-square, see Maxwell (1961).

the probability (p) of its data being distributed as they are by chance, and the significance of the probability.

Table 3.1

Chi-square values of students' personal variables, by district

Variable	Chi-square	df	Probability	Significance
Form standing	12.627	5	<.05	Significant
Age	25.177	20	>.10	Not significant
English ability	2.783	5	>.70	Not significant
Birth order	9.371	10	>.30	Not significant
Personal travel	55.981	5	<.001	Significant
Religion	66.475	5	<.001	Significant

Socio-economic background variables compared by district. The comparative educational and business achievements of 'fathers' from different districts may influence a son's business interests in these ways: his education and language attainments could give his son an advantage in business skills and contacts, as could his business holdings, personal possessions and type of house; and his travel could influence a son's interest in particular types of enterprises through his reports of these and his evaluation of his son's prospects for success.

For an overall view of the comparative socio-economic standing of students' fathers, rank comparisons for each variable by district are given in Table 3.2, and chi-square values for the comparisons are in Table 3.3. Categories used in Table 3.2 for ranking father's business and personal possessions by district represent individual categories from among those pooled when the variables were compared by district using chi-square. Consequently, the chi-square values in Table 3.3 are not applicable to the distributions in Table 3.2. The rankings in Table 3.2 show more fully the relative position of sample fathers than is readily apparent from tables summarised in Table 3.3 and appearing in Appendix A.

From Table 3.2 the outstanding socio-economic attainments of Tolai fathers are clear: more of them than other fathers had had some formal education, spoke Pidgin English or English as a second language, grew cash crops, owned trucks, watches or radios and lived in houses made partly or wholly of European materials. These attainments coincide with the general European stereotype that the Tolai are advanced and 'go-ahead'. Fathers from the other 'go-ahead' area, the highlands, had more business holdings and personal possessions than those in the nominally 'backward' but longer contacted areas of Manus and Madang. As a result of longer contact, however, fathers in these latter areas were ahead of highlanders in education and language attainments. Highlanders were slightly behind Manus fathers in their ownership of improved

Table 3.2

Socio-economic background variables: district rankings

	Chimbu		Eastern Highlands		East New Britain		Madang		Manus		Western Highlands	
	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
Father's education (has some)	3.5	25	5	14	1	63	2	60	3.5	25	6	5
Father's language attainments (other than <u>tok ples</u> *)	5	56	4	61	1.5	96	3	91	1.5	96	6	35
Father's business holdings												
cash crops	2	66	3	63	1	90	5	40	6	33	4	50
tradesstores	2	31	1	34	4	27	5	17	6	13	3	28
trucks	2	14	4.5	5	1	19	4.5	5	6	0	3	13
Father's personal possessions												
watches	6	17	4	22	1	35	5	21	3	27	2	28
radios	2	34	5	24	1	42	3	26	4	25	6	16
Father's type of house (European materials used)	3	58	6	34	1	92	5	43	2	69	4	48
Father's travel (beyond onwn district)	2	72	5	55	4	58	1	84	3	69	6	35

* Tok ples is a Pidgin English term for 'local language', e.g. the Kuanua language of the Tolai people.

houses but ahead of Madang fathers. Considering that effective contact in the highlands dates only from World War II, while in Madang and Manus contact began in the 1900s, the attainments of highlanders are considerable, and in line with their 'go-ahead' reputation.

Table 3.3

Chi-square values of socio-economic background variables,
by district

Variable	Chi-square	df	Probability	Significance
Father's education	58.447	5	<.001	Significant
Father's language attainments	76.942	5	<.001	Significant
Father's travel	27.024	5	<.001	Significant
Father's type of house	40.671	5	<.001	Significant
Father's business holdings	37.867	10	<.001	Significant
Father's personal possessions	32.620	5	<.001	Significant

That all the variables on father's socio-economic standing show significantly different distributions by district means they should be looked at carefully in relationship to the psychological data bearing on motivation reported in later chapters.

Additional data on father's work
experience and income

Additional data on father's work experience and income would also seem relevant to the psychological data concerning motivation. However, because data on these variables are subject to more error than the variables summarised in Table 3.3, they were not considered systematically in relation to the psychological data in later chapters. Still, they do add to the picture of the relative socio-economic positions of the sample students' fathers.

The kind of errors that the data on work experience and income may contain is illustrated by A.L. Epstein's (1967) observation for the Tolai, which is probably true for most New Guineans, that men may simultaneously be paid employees and self-employed businessmen. This poses certain problems for one investigating, through students, the employment of New Guineans. On a questionnaire - particularly one administered by a European - about father's current work and past work, a student is apt to report a father's wage employment before his self-employment. Also, a father may have worked at several different kinds of jobs, yet a son may not know of them all, or may feel that only particular kinds of work are worth reporting on a formal questionnaire. Thus it seems that errors on the variable 'father's work experience' would result primarily from the failure of students to mention their father's self-employment. However, the data on father's business holdings permits one to correct most of these omissions.

Data on a father's income as estimated by his son was subject to even more error as many students left this question blank. From the data on father's work which I had, I could estimate a wage typical of current earnings in these cases. Where the father was a 'farmer' with only minimal holdings, I assigned him a low income, using the district cash cropping income figures given in Table 2.2. Where a student himself estimated income, it might have only been a part of it if his father had a job and was also self-employed. Also, a student giving income for a father solely self-employed might quote either gross income or net income.

It is with all these pitfalls in mind that one should consider the work experience and income data in Tables 3.4, 3.5 and 3.6. Table 3.4 shows the districts ranked by father's present wage employment, Table 3.5 sets out data on father's present type of work, by district, and Table 3.6 shows father's mean income, by district.

Table 3.4

Fathers with present wage employment: district rankings

District	Ranking on fathers with present wage employment
Manus	1
East New Britain	2
Eastern Highlands	3
Madang	4
Chimbu	5
Western Highlands	6

Although the Manus and Tolai samples are very close in the percentage of fathers employed, Table 3.5 shows how different the kinds of employment were. Twenty-three per cent of the Manus fathers worked as plantation labourers or domestics. Only one father in the Tolai sample fits in this category, a Tolai working as a domestic. So far as the percentage of fathers employed at other than unskilled or semi-skilled work is concerned, again the Tolai fathers showed an advantage with 32.7 per cent in this category. Given that the Tolai fathers had more business holdings and better paid jobs when employed, one can see how much better off they were than fathers of other groups. Their advantage is even more apparent if one considers the mean incomes for fathers calculated by district, along with the range of income for each group (Table 3.6).

For East New Britain, the Eastern Highlands and the Western Highlands it was possible to check independently if the highest reported income was exaggerated. In each of these cases, the father with the highest income was a businessman whose assets would justify the estimates. If the estimates erred, they would seem to have erred on the low side. It

Table 3.5

Father's present type of work, by district

Type of work	Chimbu		Eastern Highlands		East New Britain		Madang		Manus		Western Highlands		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Self-employed*	26	72.2	26	66.7	30	61.2	43	74.1	27	56.3	34	85.0	186	68.9
Wage-employed**														
Unskilled and semi-skilled***	3	8.3	2	5.1	3	6.1	3	5.2	12	25.0	1	2.5	24	8.9
Tradesmen	1	2.8	1	2.6	5	10.2	2	3.4	0	0	0	0	9	3.3
Police and interpreters	4	11.1	3	7.7	0	0	2	3.4	1	2.1	1	2.5	11	4.1
Teachers	0	0	0	0	2	4.1	0	0	1	2.1	0	0	3	1.1
Church-affiliated	2	5.6	2	5.1	5	10.2	5	8.6	2	4.2	3	7.5	19	7.0
Political	0	0	2	5.1	4	8.2	3	5.2	5	10.4	1	2.5	15	5.6
Other	0	0	3	7.7	0	0	0	0	0	0	0	0	3	1.1
Total wage-employed	10	27.8	13	33.3	19	38.8	15	25.8	21	43.8	6	15.0	84	31.1
Total	36	100.0	39	100.0	49	100.0	58	99.9	48	100.1	40	100.0	270	100.0

* This includes all 'farmers', subsistence or cash crop, plus men with non-agricultural business assets. Not included are men who might have been employed while also responsible for their own commercial holdings. For an account of father's business holdings regardless of their employment, consult Table 3.2 and Table A.11.

** Some of the persons with paid positions also had business holdings.

*** Although this category includes domestics, labourers, drivers, clerks, storemen, and various assistants, entries - excepting those for Manus - mostly represent other than labourers or domestics.

was not possible to check through independent sources the top incomes of fathers in Chimbu, Manus and Madang. The ones in Chimbu and Madang were also the incomes of businessmen and did not seem beyond the realm of possibility. The top wage reported for Manus was that of a teacher and accurately reflected current wages for teachers.

Table 3.6

Father's mean income, by district
($\$$)

District	Mean income	Income range
East New Britain	526	30-7,000
Chimbu	423	5-2,000
Western Highlands	352	4-3,000
Eastern Highlands	347	6-3,100
Madang	227	10-2,600
Manus	129	6-1,440

If one looks at the income data and the work data in relation to data on business holdings, one finds again that the reputedly 'go-ahead' areas were in fact better off.

If economic development had proceeded evenly throughout New Guinea, one would expect students from the same type of educational institution to have similar socio-economic backgrounds. Instead, one finds that socio-economic attainments vary by district, and that this variance is congruent with European stereotypes of the psychological character of people in each district.

The original problem remains: do the stereotypes of people from the various districts represent not only their varying business accomplishments, but also their psychological potential for business achievement?

To set about answering this question, Chapter 4 discusses the topic of 'need for Achievement'.

Chapter 4

The need for Achievement

The need for Achievement was proposed as a human motive by McClelland and his associates (McClelland, Atkinson, Clark and Lowell 1953). It refers to man's need to improve and do well for its own sake and has been found to manifest itself in concern with an achievement goal, or, as expressed more precisely in McClelland's terms, 'in concern with success in competition with a standard of excellence'. This concern can, if not directly evident, be inferred from a person's having long-term goals, affective involvement with goals, or concern with unique accomplishments. The relationship of the motive to the entrepreneurial behaviour of individuals and the economic growth of societies has been studied in considerable detail, and this relationship makes the need for Achievement of particular interest here.

McClelland provided a means to identify and quantify the need for Achievement as a motive in a man's makeup and thus to relate it to his behaviour. He was committed to Freud's dictum that many important human motives are inhabitants of the unconscious, and he looked for their expression in fantasy productions rather than in direct answers to direct questions. Through practical experiments he was able to identify differences in concern with doing well which varied systematically with experimental conditions. It was a short step for McClelland to set up a scoring system to identify and quantify the expression of need for Achievement in fantasy behaviour. When the behaviour as well as the motive can be expressed specifically enough to permit quantification, one can readily use statistics to evaluate any supposed relationship between behaviour and need for Achievement.

To distinguish the need for Achievement as a motive derived from experimental work and subject to quantification from its common-sense meaning, it is often referred to in psychological literature as 'n Ach', and this practice is followed in this Bulletin.

The need for Achievement: relation to economic behaviour

McClelland (1961) stressed the importance of n Ach as an indicator of society's economic growth and offered evidence that regardless of the nature of society - be it one of antiquity, a contemporary 'primitive'

one, or a modern industrialised one - if its people had high n Ach, their society would demonstrate greater economic growth and productivity than would societies whose people had low n Ach. McClelland assumed that the occupational role most likely to suit a person with high n Ach was that of the entrepreneur, and that the entrepreneur in turn generated economic growth for society. The entrepreneur was the link between achievement fantasy and group economic productivity. Indeed, early research¹ had shown that some of the correlates of n Ach were the kind of personality characteristics admirably suited to the entrepreneurial role: an ability to delay gratification, a preference for calculated and moderate risks, a desire to have knowledge of the results of one's efforts, and an ability to innovate. And studies since conducted in many parts of the world indicate that people with high n Ach become entrepreneurs more often than other people do, and that they make better entrepreneurs than others.² The evidence contained in such studies makes it difficult to deny that McClelland's n Ach actually does measure a human motive of vital importance to entrepreneurial behaviour and economic growth. As McClelland himself said (McClelland and Winter 1969:10):

Research data have accumulated on it [need for Achievement] for more than 20 years - in the laboratory, in the field, in history, and in many different countries. Thus when one uses such a measure, he is not talking about some vague psychological quality; rather the quality has been quantitatively measured in a variety of contexts and has been carefully interpreted in terms of a general theory of human motivation....

Antecedents of need for Achievement

The search for the reasons for the apparent connection between the need for Achievement and a society's economic growth prompted interest in the realm of child-rearing since the need for Achievement is a motive grounded in social learning. Winterbottom (1958) discovered that mothers of boys with high n Ach scores expected more of their sons earlier; and, on the basis of experiments, Rosen and D'Andrade (1959) suggested that fathers of high scoring boys also stressed achievement and independence training in child-rearing. Winterbottom (1958) also found that high scoring children had more rewards than punishments in their training and fewer restrictions on behaviour between seven and ten years of age.

Yet the work on child-rearing antecedents to n Ach yielded few clues on what levels of need for Achievement to expect from the various New

¹ See McClelland (1958) and Mischel (1961).

² See McClelland (1965:390) and Andrews (1967) for a study of executives in Mexico, Kock (1965) for a study of executives in Finland, and Rogers and Neill (1966) for a study of Columbian and Indian farming communities.

Guinea societies in the present study. Although some early anthropological works on New Guinea dealt exclusively with child-rearing practices (Hogbin 1942-43 and 1945-46, Mead 1931, Whiting 1941), there were no comparative materials on either the highlands or East New Britain, and only limited information on a few societies in Madang.

LeVine (1966), however, pointed to an antecedent variable for n Ach which could provide the basis for an hypothesis concerning the comparative n Ach levels of the New Guinea sample groups.

LeVine hypothesised and tested a relationship between the type of a society's status mobility system and the level of need for Achievement manifested by its population. He looked beyond the family to the more general level of society and asked what institutions might give rise to child-rearing techniques which stress independence and achievement and which in turn lead to n Ach.¹ He assumed that in societies where men attain status primarily through their own efforts, independence and achievement would be emphasised in child-rearing more than they would be in societies where status was determined mainly by birth. Accordingly, he predicted that n Ach levels would be higher in the former type of society.

LeVine found in Nigeria the almost perfect situation to permit him to make a specific hypothesis that would be a good test of his theory. At the time of his study, Nigeria was divided into three major regions, each dominated by a different traditional group with its own type of status mobility system (which LeVine reconstructed for the nineteenth century). At one extreme were the Northern and Islamic Hausa, who were grouped in kingdoms with hereditary rulers at the top and hereditary slaves at the bottom. A freeman tended to follow an hereditary occupation and could only achieve higher status through clientage that demanded obedience and compliance rather than independent behaviour. At the other extreme were the Ibo people who had politically decentralised, dispersed settlements characterised by fairly fluid leadership and featuring 'title societies' into which anyone could enter and advance through the payment of fees. Although one might have an advantage in attaining high title if one's father were wealthy, anyone who took the initiative and worked hard to amass wealth might enter the 'title societies'. Midway between the extremes of the Hausa's ascribed status mobility system and the Ibo's highly achieved system, LeVine placed the Yoruba. Although the Yoruba, like the Hausa, had pre-contact kingdoms

¹ As did McClelland (1961) who suggested that religious ideology influenced adult values which were then reflected in child training. To him it seemed the Protestant Ethic had indeed given rise to the Industrial Revolution, as Weber had suggested - but by causing adults to emphasise achievement and independence in the upbringing of their children, so engendering high levels of need for Achievement that led on to entrepreneurial activities and economic expansion.

with hereditary rulers, the authority of Yoruba rulers was limited by various councils and societies, as well as by endemic internal warfare and slaving activities. In the Yoruba status mobility system, a few were born to divine status but had little influence over worldly affairs, while most could raise their status considerably through amassing wealth or entering secret societies, whose membership depended greatly on personal achievement.¹

Having characterised the status mobility systems of the Hausa, Yoruba and Ibo, LeVine hypothesised as a test of his general theory connecting status mobility systems and n Ach, that the Ibo would have the highest n Ach, followed by the Yoruba and the Hausa. He collected fantasy materials from groups of students drawn from each population, and compared their n Ach scores. These bore out his prediction perfectly, and showed particularly significant differences between the Hausa and Ibo scores.

His results emphasise the importance of the status mobility system as an antecedent for n Ach.

For New Guinea there is no dearth of information on the status mobility systems of traditional societies relevant to this study. After examining the data on these systems we will be able to hypothesise how the New Guinea sample groups might compare on a n Ach measure.

Status mobility in New Guinea

The cultural and social diversity of New Guinea is well known, and is evident in the societies of the six districts in this study. In terms of descent systems, for example, the matrilineal Tolai of East New Britain (T.S. Epstein 1968), the bilateral Garia of Madang (Lawrence 1965-66) and the patrilineal Enga of the Western Highlands (Meggitt 1965) represent three main contrasting types. Or, comparing basic modes of livelihood and ecological adaptation, the sedentary horticulturalists of the highlands valleys and the roving 'sea Manus' would seem to have little in common. However, there are similarities throughout New Guinea, particularly concerning status mobility. I refer to the Melanesian 'big man' leadership system which distinguishes the societies of New Guinea and western Melanesia from other island societies in the Pacific.²

New Guinea societies are generally characterised by the lack or relative unimportance of leadership roles solely dependent on heredity, age, or other ascriptive criteria. Leaders are typically 'big men', who show their enterprise and ability in warfare, oratory, or control

¹ Cf. LeVine (1966:23-41).

² Cf. Hogbin (1958:84-5), Meggitt (1967a), Sahlins (1963) and Worsley (1957:13-16).

of supernatural power or economic transactions. They thereby build up their reputations and following so that they have a voice in leading the community. Achievement in the economic sphere is apparently the most common avenue to 'big man' status in many societies. Personal accumulation of wealth, measured mainly in shells and pigs, is the first step; but it is the judicious use or investment of this wealth to finance feasts or bridewealth exchanges, or to promote the financial careers of ambitious young men, which makes a wealthy man important and creates followers obligated to him or eager to gain his favour.

Leadership in New Guinea is generalised and often transitory. Although a 'big man' might be known primarily for his ability to amass and handle wealth, or for some other achievement, his leadership often extends to warfare, ritual and local political and legal affairs. Furthermore, he may be only one of several 'big men' within a society. When his fortune wanes, or his health declines, and he is no longer a vigorous 'doer', his influence also usually diminishes and other ambitious men compete for his position.¹

This model of extreme status mobility is valid for most of New Guinea. Even in the few New Guinea societies with hereditary status, such as the Trobriand Islands, members of an upper class may struggle among themselves to become acknowledged leaders (Powell 1960:118) and may also have to compete with ambitious commoners. This results in a status system marked by considerable mobility.² The following summaries for each district in the present study give the essential details known about status systems in each area.

Highlands districts. Of all the districts, leadership patterns are probably best documented for the highlands.³ The economic context of social mobility is especially apparent. Pigs and seashells of various types traded in from the coast are the main items of wealth and measures of a man's status. Ambitious men start their careers early by breeding pigs, and exchanging these and other goods for shells. They use this wealth in financial transactions designed to bring a return in kind, a rise in status, or both. Successful participation in wealth exchanges between competing clan groups (and leaders) is one of the most salient and dramatic episodes in the achievement and maintenance of status in the highlands, particularly in the Western Highlands District. Although

¹ See Oliver (1955:335-448) for a classic analysis of a 'big man' system.

² Cf. Meggitt (1967a:23).

³ See, for the Eastern Highlands, Newman (1965:44) and Read (1959); for the Chimbu District, Brown (1963) and Salisbury (1964); for the Western Highlands, Bulmer (1960), Meggitt (1967a), Reay (1959:96) and Strathern (1966).

a man can gain renown from being a successful pig breeder or warrior, he is considered a top-ranking leader only when he becomes a principal in the Moka ceremony in which pigs, gold-lip shell and other items of wealth are exchanged (Bulmer 1960:12).

In some highlands societies, warrior leaders appear to have more influence than economically powerful men.¹ Yet both share the basic element in Melanesian status mobility systems: 'big man' status attained through personal achievement.

Where ascribed status exists in the highlands, it appears to be mainly confined to the extended family or lineage level, whereas 'big man' leadership usually transcends these levels and involves clan, tribal and supra-tribal groupings. For the Kuma of the Western Highlands, however, Reay (1959:114-17) distinguished between leaders who have some genealogical claim to leadership, whom she called 'authorised leaders', and upwardly mobile men without genealogical claims to status. It is nonetheless clear that achievement is important in gaining status among the Kuma, and Reay's description (1959:96) of the Kuma 'big man' system could well apply to other highland societies:

The Kuma 'big men' or 'men of strength' (yi ng-gi), who can command much wealth, are entrepreneurs in the sense that they control the flow of valuables between clans by making fresh presentations on their own account and choosing whether or not to contribute to others. Their profit in these transactions is incremental reputation. Intangible as reputation may seem, it is the ultimate end the Kuma seek through the pursuit of secular values.

Manus District. While the highlands horticulturalists and lagoon-dwelling, sea-oriented Manus might seem to have little in common, Schwartz (1963:58) wrote:

In my reading on the Highlands and New Guinea generally, I have been struck by the frequency with which quite detailed statements, particularly where political organization and leadership were concerned, could be applied to the Admiralty Islands [the Manus Group], a small Melanesian archipelago lying about 190 miles north of the mouth of the Sepik River.

Although most, if not all, Manus groups had a two-rank status mobility system in which people were considered to be either of the high-ranking lapan class or the low-ranking lau class, achievement was a significant feature of Manus leadership patterns. Like other New Guineans, Manus men sought to improve their status through economic transactions and other means, and a man could become known as a lapan

¹ See Watson's (1967) description of a Tairora 'big man' from the Eastern Highlands.

on the basis of feasts he had given rather than because of his genealogical position. Mobility between lau and lapan status also appeared on the group level. A lineage or clan with a succession of successful entrepreneurs might lift itself and its members above the commoner status into the lapan class. Even among genealogically secure lapan, men competed for the status of village chief and supra-village leader, so that a lapan still had to be a Melanesian-style 'big man' to gain top status. These features of the status system led both Mead (1934: 204-6) and Schwartz (1963:65-6) to de-emphasise the hereditary component in Manus leadership and to stress its affinities with general Melanesian patterns.

East New Britain District. Among the Tolai of East New Britain, whom T.S. Epstein (1968) characterised as 'primitive capitalists', the Melanesian 'big man' flourished in a highly monetised economy. The Tolai used a type of shell money called tambu, which was made of small shells strung on rattan strips, as a measure of value and a medium of exchange. Specialists were paid for their services in tambu, and a tambu debt could be paid off by labouring in the gardens of the creditor. The division of labour was highly developed among the Tolai, even in the production of foodstuffs which were sold in markets throughout the Gazelle Peninsula. Coastal Tolai, for example, sold lime (for betel nut chewing) and fish to inland Tolai, from whom they purchased taro and other food crops. The use of tambu extended beyond these transactions to influence a man's status: a wealthy man could attract followers and enhance his position by lending small amounts of shell money, paying bridewealth owed by young men of his group, or financing feasts and ceremonies. Sometimes, as in the repayment of a loan with interest, a leader might be interested in purely monetary profits, but most of the time he was primarily interested in increasing his status. By judiciously investing his money, an aspiring leader could gain great renown and become a 'big man' or ngala.

There was ascribed status in Tolai society, but it had little influence. The elders of a matrilineage were the leaders of their descent group, and had a financial advantage in holding the tambu of lineage members, but ambitious and wealthy junior relatives could take over their jobs. Ultimate power rested with those who proved themselves, not merely those with seniority. As a man's wealth was widely dispersed among many relatives upon his death, there was no permanent moneyed class. According to T.S. Epstein (1968:32), in this flexible Tolai social system, with its interdependence of economic and political status, 'drive, thrift, and the managerial ability of potential "big men" accounted for their ultimate recognition as ngala'.

Madang District. Data on status mobility systems in Madang are meagre, but available evidence indicates that 'big man' status systems were widespread. For example, Burridge (1960:75) described a system of 'managers' among the Tangu hill people in northwest Madang, who controlled political and economic affairs and were prominent in warfare

before pacification. Societies around the port of Madang, including Karkar Island (Mager n.d.:19-20, 30), were also marked by achieved status (Inselmann 1944:3-4). In the southern half of the district, Lawrence (1964:11) stated that 'leadership was democratic and limited in scope. Leaders were not hereditary or elected officials: their positions depended on success in war and economic activities, and mastery of ritual'. This observation seems generally valid for coastal groups in Madang District and societies in the mountains immediately behind the coast.¹ The one exception is Manam, a small island off the northwestern coast, where 'there is...a clearly recognised hereditary aristocracy in which primogeniture plays an important part' (Wedgwood 1934:383). Unfortunately, it is not known whether achievement elements modified the hereditary rank system, as in other New Guinea societies with rank systems described here.

The sample for an n Ach test

I return now to the question of the appropriateness of a student sample for testing the n Ach hypothesis. LeVine also faced this problem and it is his thinking on it that I follow here.

LeVine (1966:43) pointed out that most of his students would have four grandparents raised under traditional conditions, since the interior of Nigeria came under British control between 1890 and 1920, and that many would have parents 'who were adults before Western impact was felt'. LeVine (1966:21) assumed a 'psychocultural lag', that is, 'a lapse of several generations between the onset of alterations in the status mobility system and consequent alterations in the frequencies of personality characteristics' (mediated, of course, by the hypothesised changes in child-rearing). He explained:

It may be that a person has to grow up in the new value environment for his parental behavior to be seriously affected by it; if so, it would take about two generations for the structural changes to be manifested in the personality characteristics of the adult population. Although the amount of time required is speculation, it seems highly likely that there will be a substantial - that is, easily perceptible - lag between the social change and the personality change it causes. Thus the level of n Achievement in a population may well reflect the status mobility system of a generation or more before.

LeVine's assumption of a lag of as much as two generations does seem borne out by the results of his test, for despite his use of students

¹ Little is known of the small societies scattered on the mountain slopes along the edge of the highlands, although Rappaport (1967:28-30) described a poorly developed 'big man' system among the Maring. Such groups, however, are not relevant here since the Madang sample was a coastal one.

of equal education as subjects, he found differences in their n Ach levels which are in accordance with the status mobility differences. LeVine's success in testing his hypothesis with a student population is worth emphasising since my prediction calls for n Ach levels that do not differ significantly between the six sample groups: a person unfamiliar with LeVine's theory and example might attribute any such occurrence to the subjects having approximately the same amount of education.

If one accepts LeVine's assumption of psychocultural lag, New Guinea students' n Ach levels should be no more affected by culture change than were those of the Nigerian students. Effective contact in New Guinea was, in most places of concern here, almost contemporaneous with that in Nigeria, where LeVine conducted his research. True, the Gazelle Peninsula had European traders and coconut plantations as early as the 1870s and 1880s but it did not become the seat of the German government until 1889. Manus had scattered coconut plantations established on its coast in the late 1800s but did not come under full administrative control until 1912. Madang, like the Gazelle Peninsula, was the early scene of commercial interests with the Neuguinea-Kompanie having its headquarters there in the 1890s. It became an administrative centre later. The highlands, of course, were contacted much more recently. Highlands students would certainly have had grandparents (and often parents) reared before contact, which began in the 1920s and 1930s with a few missionaries and gold prospectors, and which was not extensive until after World War II.

The relevance of contact for the theory of status mobility lies in the extent to which it might have altered the 'traditional' (meaning at the point of contact) status mobility system, and thus rendered its relationship to n Ach untestable with present populations. In New Guinea, education, local government councils and modern occupational roles were introduced recently, so that any real change from the traditional status mobility system may only now be taking place. Even present-day researchers among the Tolai (the people with the longest contact of all those studied) can see the traditional 'big man' system functioning.¹ There thus seemed to be little danger in New Guinea of finding high school students reared in situations reflecting changed status mobility systems. In any case, LeVine found that whatever change there was had a negligible effect on his results.

Status mobility related to n Ach in New Guinea

In the light of LeVine's hypothesis, the details available on the status mobility systems of the New Guinea societies included in the

¹ See, for instance, T.S. Epstein (1970).

present samples would lead one to predict that the n Ach scores of these groups would not show any significant differences. This prediction would not be expected by those who think of New Guineans' economic potential in terms of prevailing stereotypes. Here it is important to point out that LeVine's work is the only study so far published (as of 1968) relating status mobility systems to n Ach. Even though the differences in n Ach scores he recorded do support his theory, these might be accounted for equally well by another variable not yet identified. His connection of the status mobility system to need for Achievement is weakened by his lack of data on child-rearing. LeVine recognised other possible explanations of the Nigerian n Ach score differences which are specified below¹ and considered in relationship to the New Guinea data. The data presented in this chapter, then, serve as a test case for the validity of LeVine's hypothesis, as opposed to alternative explanations he recognised as plausible.

Collection of the n Ach data

Below are the general directions given to New Guinean students taking the n Ach test.

Now you are going to take a test of your imagination.

Do you know what imagination is? It is your ability to think about new things, to see new ways of looking at them. It can be very important for your future. Depending on how much imagination you have, I can get an idea of how well you are likely to do at certain things later in life.

The test you will take today will also be given to students in the other areas where I have told you I am working. I want to see if some New Guinea people have more imagination than others; I will be comparing your results with the results of students at other schools.

What is the test like? Here is a small booklet [begins passing booklets out]. When you get one, please leave it facing down on your desk. Later I will give a signal for you to turn it over. That way everyone will start at the same time and have the same chance to do well on the test.

Inside the booklet there are six pictures.² Opposite each picture is a blank page. You are asked to write a short story about each picture. There are no 'true' stories - only the

¹ See p.48.

² These pictures are reproduced in reduced form in Appendix K. They are adapted from Merbaum (1961), and an analysis of them has been published in Mingione (1965).

ones each of you sees in the pictures. Whatever the pictures make you think about is what you should write down.

For each story there are four questions for you to answer. These are [writes them on the blackboard]:

1. Who are the people in the picture and what are they doing?
2. What was happening before we see the people in the picture?
3. What are they thinking about or wanting?
4. What will happen?

Do you have any questions about the meaning of the questions I have written on the blackboard?

All right, please turn your booklets over but leave them shut. Please write your name, form and school on the outside cover. When all of you have finished I will tell you to open your booklets. Once they are open you will have five minutes only to tell each story. You can see, that isn't much time. You will have to think fast and write quickly. I will tell you when the time for each story is half over. Then I will tell you when only one minute is left. Try to answer each question for each picture. It will help you to do this if you number each blank page from 1 to 4 to remind yourself. Then look at the picture for a few seconds and decide in your mind what the story is about. If you have not finished writing a story before time is up, leave it and go on.

Is everyone ready? [Looks at watch.] Open your booklets to the first picture and begin.

Because of my experience during pre-testing at two schools, these directions depart somewhat from standard ones given to people taking the n Ach test. They were intended to make clear to students the specific tasks involved in the test and to put them under stress for achievement. Normally, to stress subjects, one gives them a test of ability before the n Ach test, so that there will be a carry-over of test atmosphere - and presumably of concern for achievement - to the story-writing session. The New Guinea school period of forty minutes did not allow time for this. Instead, several standards of excellence - future performance, comparisons of performance with students from other areas, and time limits - were introduced, which, with the administration of the tests by a European, constituted a stressed experimental condition. During the test, I walked around the classroom looking at a hand-held clock, and told students how much time was left for the different stories. Students worked furiously and, for the most part, finished writing answers for all the questions. A few students who were initially slow picked up speed on later stories and used the extra time to finish their first ones.

The pictures in the test were developed by Merbaum (1961) for work with non-Caucasians in the United States, and were also used by

Gallimore (1969) in testing various ethnic groups in Hawaii. They were line drawings of people in ambiguous situations and offered the advantage, for cross-cultural research, of being less detailed than some more standard pictures.

After the stories were typed, put into random order, and masked to prevent identification, I scored them following the manual given in Atkinson (1958:179-204).¹ Prior to scoring them I had obtained a .91 reliability rating with training stories supplied in Atkinson (1958); after a six months' interval, I rescored one-fifth of the stories (selected using a table of random numbers in conjunction with an alphabetic list of the students), and obtained a reliability rating of .89.

According to Atkinson (1958), 'achievement imagery' is scored if one finds any of the following: concern with meeting a standard of excellence; unique accomplishment; or long-term involvement with an achievement goal. Next, one decides which, if any, of the several possible sub-categories used to establish the intensity of achievement concern are present in a story with achievement imagery. The presence of each category earns a point towards the story's total score. Different numerical values are given for 'unrelated' and 'doubtful' imagery.²

The following are examples of 'achievement imagery' and 'unrelated imagery'. The first story³ showed unique achievement and thus was scored for 'achievement imagery':

1. A farmer and his cattle. He is a good farmer. He grows crops and herds cattle.
2. He has bought a new cattle with 100. There he is looking after his cattle.
3. They are thinking he will be a good farmer and will grow good crops to sell and herd good fat cattles.
4. He will be the best farmer and the best herder of that country.⁴

The next story (a reply to the same picture as the first) was scored as having 'unrelated imagery':

¹ I referred questions that arose during scoring to R. Gallimore and his assistant who were then working on comparable material collected in Hawaii. Their assistance is gratefully acknowledged.

² See Atkinson (1958:179-204) for details of the scoring system.

³ About picture no.6, see p.183.

⁴ All quotations from students in this Bulletin repeat any spelling or grammatical errors which appeared in the original essays or stories.

1. This is the father of the killer.
2. He got the message that his son's life is safe but he'll get to prison for some years.
3. The man or father is very happy to hear that and hoping to visit his son some day.
4. The man will go home and tell his wife and they will both go and visit their son.

This story, about a different picture,¹ was scored for 'achievement imagery':

1. In here a teacher and a student of his who are seen sitting.
2. The teachers was greatly appreciated for passing his maths and English class with the credit mark.
3. The teacher is going to give him a prize when the students assembled to hear the results because he passed extremely well in the Exam.
4. When they assembled the smart student was presented by the teacher with school dictionary for passing his examination. The student was proud to become top in the class in exam results.

And the last story, a response to the same picture as the one mentioned immediately above, was scored as having 'unrelated imagery':

The two people are Robin and Thomas. They are sitting in the rest house having conference. They were drinking beer outside the look-out post before we saw them in the picutre. They are drunken and are discussing about the independence of this country without really knowing what they mean and talking about. After that they are going to go into the town and start a big fight where everyone is going to go to join in and put into jail for it.

Test of the New Guinea data

The application of the chi-square test to the n Ach data indicates that no significant differences exist between the scores of the six district samples (Table 4.1).² Although my data are not strictly

¹ Picture no.5, see p.183.

² In research one normally predicts the null hypothesis (no differences) but then sees if it can be refuted. The questions raised when one finds oneself in the position where theory and specific experimental conditions make one not expect to refute the null hypothesis, as is the present case, are discussed on pp.54-6.

comparable with LeVine's n Ach data,¹ this finding agrees with the prediction I made on the basis of his work.

Table 4.1

n Ach scores, by district

	Low*		High*		Total**	
	N	%	N	%	N	%
Chimbu	13	54.2	11	45.8	24	100.0
Eastern Highlands	19	65.5	10	34.5	29	100.0
East New Britain	16	61.5	10	38.5	26	100.0
Madang	25	50.0	25	50.0	50	100.0
Manus	8	40.0	12	60.0	20	100.0
Western Highlands	16	43.2	21	56.8	37	100.0
Total	97	52.2	89	47.9	186	100.1

$\chi^2 = 5.486$ (5 df) $p > .30$

* 'Lows' and 'highs' were established using a median split based on the median for the entire sample.

** Projective tests were administered to students from each district selected by a table of random numbers from numbered, alphabetic lists. Samples were to be limited to approximately twenty-five students each but the numbers for Madang and Western Highlands exceeded this for the following reasons. Originally it was planned to use all the students at each school, but to split them into two randomly determined groups and subject these groups to different experimental conditions. Madang students were the first tested. The two student groups were defined, and students were told to report for testing at different times. Unfortunately, the students did not report precisely as directed, so I subjected both groups to the same conditions that applied throughout the research, and ended with a larger sample than was convenient to work with elsewhere. The total of the Western Highlands sample was raised through the presence of Western Highlanders in the Madang student groups. Since chi-square evaluates relationships on the basis of proportions, the unequal totals of the six district samples did not affect the validity of the statistics.

¹ Whereas I used pictures as a projective technique and the full Atkinson scoring system, LeVine used dream reports and a simplified scoring system. I initially started to gather dream reports in an attempt to follow LeVine, but found them unsuitable for comparison because achievement imagery seemed to vary greatly according to whether they were day dreams or night dreams, which was apparently not the case with the Nigerian dreams. Since students from the different districts wrote day dreams and night dreams in varying proportions, the attempt to use dreams was abandoned.

n Ach related to other factors

Personal and socio-economic background variables. Tables 4.2 and 4.3 summarise the chi-square values for tests of n Ach and personal and socio-economic background variables.¹

Table 4.2

Chi-square values for n Ach scores by personal
variables of students

Variable	Chi-square	df	Probability	Significance
Form standing	.018	1	>.90	Not significant
Age	5.022	4	>.20	Not significant
English ability	.157	1	>.50	Not significant
Birth order	.342	2	>.80	Not significant
Personal travel	1.482	1	>.20	Not significant
Religion	.565	1	>.30	Not significant

Table 4.3

Chi-square values for n Ach scores by socio-economic
background variables

Variable	Chi-square	df	Probability	Significance
Father's education	.005	1	>.90	Not significant
Father's language attainments	.070	1	>.70	Not significant
Father's travel	.988	1	>.30	Not significant
Father's type of house	1.281	1	>.20	Not significant
Father's business holdings	1.044	2	>.50	Not significant
Father's personal possessions	.158	1	>.50	Not significant

As noted in Chapter 3, the six districts differed significantly on student's form standing, travel and religion variables (Table 3.1), so it is unlikely that any of these could have been positively related to n Ach, bound up as they were with the district variable, which was unrelated to n Ach. Indeed, chi-square tests of these variables and n Ach revealed no significant relationships. Of the personal variables which were not significantly different by district, it seemed particularly important to test the possible relationship between ability in English and n Ach as writing stories might have been easier for students with greater English skill. English ability differences, however, were

¹ Original tables for the chi-square analyses are included in Appendix B.

not enough to affect the n Ach scores, for the test of this relationship also failed to reach significance. It might be thought, following McClelland (1961), that religion would show a significant relationship to n Ach, with Protestants scoring significantly higher than Catholics. Again, the chi-square test failed to show a significant relationship; this was also the case for the remaining personal variables - aged and birth order - and n Ach.

One might predict that variables bearing on a student's exposure to, as LeVine (1966:48) put it, 'the achievement values which are emphasised in Western culture' would be positively related to n Ach. New Guinean fathers who had formal education, knowledge of Pidgin English or European languages for employment purposes, or who had travelled - usually in connection with their work - might rear their children with a greater emphasis on achievement than would less sophisticated fathers. Yet, chi-square tests show no significant relationships between father's n Ach and the education, language attainments and travel variables. Of course, these variables may reflect more on a father's n Ach level than on his exposure to Western values. Because no n Ach scores were available for fathers, the possible effect of their own n Ach on their son's n Ach scores cannot be investigated here. However, since n Ach may predispose one to become a successful entrepreneur, it is reasonable to predict that fathers with greater business holdings would indeed have higher n Ach than would fathers with fewer business holdings. It might then follow that the entrepreneur fathers, in rearing their sons, would place greater emphasis on the personality characteristics which had made for success in their own lives; this would result in their sons scoring higher in n Ach than the sons of men less involved in the market economy. But, when the chi-square test was applied to the data on father's business holdings and student's n Ach, no significant relationship between the variables was apparent. Nor were there significant relationships between n Ach and the two other variables - father's personal possessions and father's type of house - which could reflect on a father's economic standing and, perhaps, on his own n Ach.

The fact that none of the relationships between n Ach and the personal and socio-economic background variables reached significance lends support to an argument for the importance of status mobility as an antecedent variable which predicts n Ach.

In LeVine's research, the differences in n Ach scores were in the same direction as differences in population density, contemporary mobility patterns, and withdrawal of status respect, as well as traditional status mobility systems. It was therefore almost impossible for LeVine to assign, conclusively, primary importance to any one of the antecedent variables. Similarly, if this study shows that population density, contemporary mobility patterns, and withdrawal of status respect were constant from district to district, then it would have to be accepted that they, like status mobility, could affect n Ach. However, if these variables show marked differences from district to

district, unlike the n Ach scores which do not, then the possibility that any one of them could affect n Ach would be reduced and the hypothesis that status mobility is the most likely antecedent variable of n Ach would be strengthened.

The reasons why population density, contemporary mobility patterns, and withdrawal of status respect could be related to the Nigerian n Ach scores in particular, and to n Ach scores in general, are each briefly discussed before the possible relationship between these factors and the New Guinea n Ach scores are considered.

Population density. The Ibo people have one of the highest population densities in Africa, with consequent pressure on land and a limit on the standard of living that can be attained through farming. Some observers¹ seek to explain the Ibo's high drive to excel in terms of their rational reaction to population density. They argue that Ibos tend to migrate, take up new occupations, and seek to excel in these because they are blocked from advancement at home. The low population density of the apparently less ambitious Hausa is then often cited to support this argument. LeVine's critique of this argument, which is too long to reproduce here, is convincing. However, LeVine does admit that there is a rough correlation between high population density and economic success among African groups, an admission that would seem to indicate that the possible importance of population density in relation to n Ach needs further investigation.

In New Guinea, population densities in the districts in this study varied greatly, as Table 4.4 shows.

Table 4.4

Population density, by district, 1967*

District	Area (sq. miles)	Population	Density
Chimbu	2,300	175,000	76.1
Eastern Highlands	4,600	213,000	46.3
East New Britain (Gazelle Peninsula only)	300	60,000	200.0
Madang	10,800	155,000	14.3
Manus	800	23,000	28.7
Western Highlands	9,600	308,000	32.1

* Area and population figures are from Territory of Papua and New Guinea, Department of Information and Extension Services (1969) and Territory of Papua and New Guinea (1967:193-4), respectively. For the East New Britain District, only the area of the Gazelle Peninsula is cited (T.S. Epstein 1968:1) and the population figure refers only to the Tolai of the Gazelle Peninsula (T.S. Epstein: personal communication, 22 November 1969).

¹ See, for example, Horton (1963:10-11).

These population density figures would lead one to predict that people in the more densely populated East New Britain and Chimbu Districts would have significantly greater $\bar{n}$ Ach than those in the less densely populated areas. But the differences in $\bar{n}$ Ach scores between the districts were not significant. Also unexpected was the ranking of districts by high-scoring students (Table 4.5), for the Manus, Western Highlands and Madang Districts were highest. This is the opposite of what would be expected if population density predicted $\bar{n}$ Ach. As expected, a rank order correlation for standing by population density and standing by high $\bar{n}$ Ach shows a fairly strong negative relationship (Table 4.6).

Table 4.5

District rankings of students' high $\bar{n}$ Ach scores

District	% of students with high $\bar{n}$ Ach	District ranking
Manus	60.0	1
Western Highlands	56.8	2
Madang	50.0	3
Chimbu	45.8	4
East New Britain	38.5	5
Eastern Highlands	34.5	6

Table 4.6

Rank order comparison of population density and high $\bar{n}$ Ach scores, by district

District	High $\bar{n}$ Ach rank	Population density rank
Manus	1	5
Western Highlands	2	4
Madang	3	6
Chimbu	4	2
East New Britain	5	1
Eastern Highlands	6	3

$\rho = -.68$

Contemporary mobility patterns. LeVine pointed out (1966:89-92) the influence that perceived opportunities for economic advancement may have on the achievement behaviour of individuals: when the opportunities are great, men will try to advance economically; but, when opportunities

are few, men will tend not to engage in achievement behaviour for they perceive the risks to be too great. For Nigeria, LeVine showed that the Ibos would have had the greatest knowledge of economic opportunities, and the Hausa the least, and noted that contemporary economic mobility patterns could be plausibly related to n Ach.

The contemporary mobility patterns characteristic of the six districts in this study can be compared by examining for each district the proportion of the population in high schools, tertiary institutions, and apprenticeship training programmes - the three most important routes to 'modern' occupational roles. Participation rates in particular occupations cannot be given because Administration reports generally did not give breakdowns of occupations by employee's district of origin. Only the employee's district of residence was recorded, and this, for my purposes, was unsatisfactory because of extensive inter-district migration. However, I was able to consult the individual personnel cards held by the Department of Education for all indigenous teachers employed in 1967 and to abstract from them each teacher's district of origin.

Tables 4.7, 4.8 and 4.9 all show the ascendancy of the Tolai and Manus people in formal routes to modern occupations. Because of the

Table 4.7

Places available in high schools, by district

District	Pupil places*	Population**	Places per 100,000 population
East New Britain	1,510	60,000	2,517
Madang	821	155,000	529
Manus	403	23,000	1,725
Highlands	1,198	696,000	172

* Figures from Territory of Papua and New Guinea (1967:379-83). Pupil places for mission and Administration high schools were totalled for this estimate, but places in technical schools and teacher training colleges were excluded since both typically had many pupils from other districts. For this reason, the figures must be viewed as estimates only. The number of outsiders would tend to be fairly low at Manus and in the highlands, and higher at Madang - although this is changing - and in East New Britain. The East New Britain estimate was adjusted according to the participation rate of Tolai in the Administrative College and the University of Papua and New Guinea for all of the New Britain (Table 4.8, note ***); thus it may (despite the presence of perhaps more outsiders of the East New Britain schools than elsewhere) be a conservative estimate.

** Figures from Territory of Papua and New Guinea (1967:193-4), and T.S. Epstein (personal communication: 22 November 1969) for East New Britain figure which refers only to Tolai.

Table 4.8

Enrolment of students in the Administrative College and
the University of Papua and New Guinea, by district
of origin, 1967

District of origin	Enrolment*	Population**	Students per 100,000 population
East New Britain	17***	60,000	28
Madang	9	155,000	6
Manus	10	23,000	43
Highlands	11	696,000	2

* Enrolments were abstracted from lists of students showing their home backgrounds supplied by the registrars of the respective institutions for 1967. The Administrative College lists did not include background information on those enrolled in courses for clerks, secretaries, typists or magistrates, so figures on these are not included in the table.

** Figures from Territory of Papua and New Guinea (1967:193-4), and T.S. Epstein (personal communication: 22 November 1969) for East New Britain figure which refers only to Tolai.

*** All 17 students were known to be Tolai, and represent 80 per cent of all the students from East New Britain and West New Britain at both institutions. This 80 per cent participation rate was used in other tables as a basis for the percentage of people from East New Britain who were Tolai when data were only available on East New Britain as a whole or New Britain as a whole.

Table 4.9

Apprentices, by district of origin, 1967

District of origin	Apprentices*	Population**	Apprentices per 100,000 population
East New Britain	143***	60,000	238
Madang	20	155,000	13
Manus	69	23,000	300
Highlands	22	696,000	3

* Information kindly compiled by the Department of Labour in Port Moresby.

** Figures from Territory of Papua and New Guinea (1967:193-4), and T.S. Epstein (personal communication: 22 November 1969) for East New Britain figure which refers only to Tolai.

*** Department of Labour figures showed 179 trainees for all of New Britain, most of whom were Tolai, but I used the 80 per cent participation rate outlined in Table 4.8, note ***.

small figures involved (as well as their similar history of education), the three highland districts have been grouped together.

Table 4.10 on school teachers also shows the domination by Tolai and Manus of one of the few skilled occupations for which many New Guineans have been trained. If contemporary mobility patterns were a predictor of n Ach, one would expect the Tolai and Manus to have the highest incidence of high n Ach scores and the Madang and Western Highlands students the lowest.

Table 4.10

Primary school teachers, by district of origin, 1967

District	Number of teachers*	Population**	Teachers per 100,000 population
East New Britain	283	60,000	472
Highlands:			
Chimbu	12	175,000	7
Eastern Highlands	19	213,000	9
Western Highlands	5	308,000	2
Madang	67	155,000	43
Manus	109	23,000	474

* Figures taken from personnel record cards held in the Primary Division of the Department of Education, Port Moresby, in 1967.

** Population figures taken from Territory of Papua and New Guinea (1967:193-4), and T.S. Epstein (personal communication: 22 November 1969) for East New Britain figure which refers only to Tolai.

In Table 4.11 the rankings of the districts on the three contemporary mobility indices -enrolment in high schools, enrolment in tertiary institutions, and participation in apprenticeship programmes - are averaged. In Table 4.12 these average rankings are compared with the rankings of the districts on high n Ach scores. In both these tables the highlands districts are treated as one unit to facilitate comparison. The comparison shows a slight positive relationship between the rankings, but one which is far from statistically significant. It is clear, then, that the data do not support the hypothesis that contemporary mobility patterns predict n Ach.¹

¹ If one wanted to evaluate contemporary mobility patterns in terms of modern agricultural accomplishments, rather than participation in or training for 'modern' occupations, one might use cash crop income data reported in Chapter 2 as a rough guide to ranking the districts. This would indicate that the Tolai and the Eastern Highlanders should show the greatest incidence of high n Ach, and the Manus and Madang the least. However, the data on high n Ach rankings do not support this hypothesis.

Table 4.11

Average rankings of representation in various routes to
modern occupations, by district, 1967
(per 100,000)

District	Places in high school	Enrolment in Administrative College and University	Apprentices	Average ranking
East New Britain	1	2	2	1.66
Manus	2	1	1	1.33
Madang	3	3	3	3
Highlands	4	4	4	4

Table 4.12

Rank order comparison of representation in various routes
to modern occupations and high $\bar{n}$ Ach scores, by district

District	Average ranking for mobility indices	Ranking on high $\bar{n}$ Ach
East New Britain	1.66	4
Manus	1.33	1
Madang	3	2
Highlands	4	3

rho = .25

Withdrawal of status respect. Hagen (1962:185) proposed that 'the basic cause' of achievement behaviour was 'the perception on the part of the members of some social group that their purposes and values in life are not respected by groups in the society whom they respect and whose esteem they value'. In his view, members of a social group therefore seek to gain respect by striving to attain a position of excellence in the larger society and to thereby redress the grievance caused by 'withdrawal of status respect'. For Nigeria, as LeVine (1966: 87-9) admitted, a plausible argument could be made that status derogation could account for high $\bar{n}$ Ach scores: the high-scoring Ibo come from a society that had apparently experienced much greater withdrawal of status respect in recent centuries than had the low-scoring Hausa whose religion, kingdoms, and traditional rulers had been left virtually intact under colonial rule. Hagen's theory is, of course, a general one and deserves attention in a wider context than Nigeria alone.

In terms of the 'lack of status respect' which New Guineans might have perceived as a result of events during the colonial period, it

seems that the highlands groups would differ considerably from the Manus and Madang peoples. The highlanders have been able to bridge the gap between the Stone Age and modern life in a single generation: men who formerly measured their wealth (and status) in pigs, shell valuables and wives now measure it in coffee, money and trucks. The Manus and Madang have not been so fortunate, for while contact began earlier, it was much more disruptive to their local social organisation, and, in general, failed to bring the rapid material gains that the highlanders have experienced during their brief exposure to Europeans. The Tolai had an early history of disruptive contact with Europeans, and might therefore be considered to rank with the Manus and Madang peoples. However, subsequent to initial contact, the Tolai have enjoyed favourable opportunities for growing and marketing cash crops and are among the most affluent and 'modern' New Guineans.¹

Thus the highlanders have probably experienced the least withdrawal of status respect, followed closely by the Tolai, while the Manus and Madang have experienced the most withdrawal. As there is no objective way to measure changes in status respect, this ranking cannot be taken as a precise listing. However, although the decision to consider the highlanders as being better off than the Tolai on this variable might be disputed, as could any attempt to differentiate between the Manus and the Madang, the generalisation that highlanders and Tolai have fared better than Manus and Madang people would appear sound, and this contrast is used in the following analysis.

Table 4.13

Chi-square values of tests evaluating withdrawal of status respect as an antecedent of $\bar{n}$ Ach

Distribution tested	Chi-square	df	Probability	Significance
Highlands and Manus	1.1103	1	>.20	Not significant
Highlands and Madang	1.4213	1	>.20	Not significant
Tolai and Manus	2.09	1	>.10	Not significant
Tolai and Madang	.91	1	>.30	Not significant

If withdrawal of status respect does affect $\bar{n}$ Ach, one would expect that the Manus and Madang $\bar{n}$ Ach scores would be higher than those of the Tolai. Although this is the case, the difference in the distribution of scores is not statistically significant, the chi-square value

¹ Recently, as educational opportunities and investment in roads, marketing systems and other improvements are extended throughout New Guinea, the Tolai may have begun to feel that their favoured position is being threatened. This tendency, if it exists, is, however, probably too recent to have affected the thinking of students in the Tolai sample.

being 1.13 (with 1 df), which has a probability of greater than .20 and therefore fails to reach an acceptable level of significance. Individual comparisons of scores from Manus and Madang with those from the highlands and the Tolai also fail to reach significance (see Table 4.13). Again, the evidence is against accepting an alternative to status mobility as an antecedent for the $\bar{n}$ Ach scores.

Summary. The New Guinea data, with that of LeVine, seem to indicate that the status mobility system is the most likely antecedent variable of $\bar{n}$ Ach of those LeVine hypothesised as possible alternatives. Yet one cannot claim conclusive statistical evidence for a general theory of status mobility in relation to $\bar{n}$ Ach: far more data drawn from many different societies and representing wide variation in numerous cases would be required for this. Apart from involving relatively few cases, both the New Guinea and Nigeria studies have peculiar disadvantages: all the variables co-vary in LeVine's study, weakening any argument for the status mobility system; the evidence in the New Guinea study is based on support rather than rejection of the null hypothesis, and thus is indirect evidence (customarily one seeks to reject the null hypothesis that there are no significant differences in one's populations). However, it is emphasised that the New Guinea data result from a study specifically designed to test a theory which had first been formulated and found plausible for a situation involving variation in the status mobility system. On the basis of LeVine's work, it was accepted that the status mobility system was the most likely antecedent of $\bar{n}$ Ach. Because of the nature of status mobility in most New Guinea societies, the application of LeVine's theory in New Guinea led to a specific prediction which happened to take the form of the null hypothesis: if the status mobility system is the most likely antecedent of $\bar{n}$ Ach and the status mobility system is a constant, then $\bar{n}$ Ach levels in different populations tested should also be relatively constant - that is, the New Guinea samples should show no significant variation in $\bar{n}$ Ach. Coming to the null hypothesis as a prediction based on theory applied to a special case is very different indeed from coming upon it in results of an exploratory study, not guided by theory, and interpreted ad hoc. Given this, perhaps the gravest objection to the indirect evidence which the null hypothesis offers is that its use demands arguments which show that the alternatives to the variable hypothesised as antecedent are the less likely ones. One cannot make positive arguments as readily as when one is able to reject the null hypothesis (although, of course, even when one rejects the null hypothesis one is not free of the burden of considering what other factors might account for one's positive results). The data from New Guinea offer less support for various personal and socio-economic background variables or for population density, contemporary mobility patterns, or withdrawal of status respect as antecedents of $\bar{n}$ Ach than they do for the status mobility system. However, two further topics are now explored in order to present this indirect evidence in its strongest form: first, a more stringent statistical analysis of the personal and socio-economic factors is presented

to ensure that no significant relationships between them and n Ach could be revealed; and second, the question of data validity is discussed more thoroughly, for there is always the possibility that the condition of 'no significant differences', even when predicted by theory, stems from invalid data.

Within-groups analysis

If the status mobility system is the most likely antecedent of n Ach, one would expect that a within-groups analysis of the New Guinea data would fail to reveal significant relationships between personal or socio-economic variables and n Ach scores.

Both Minturn et al (1964) and Whiting (1969) emphasised the importance of 'intra-cultural analysis' for a thorough investigation of cultural differences. In a between-groups comparison a significant relationship between two variables within groups could be obscured, particularly if in different cultures the relationship took opposite directions. Alternatively, what appears to be a significant overall relationship might in fact be caused by a very strong relationship in only one of the groups from which data were pooled for a between-groups comparison.

When conducting a within-groups analysis one tries to maximise the variation in each sample's data. In the present case, medians for each variable were set up so that 'high' and 'low' were relevant to the distribution of scores within each sample, rather than within the total sample as in the between-groups analysis. For variables that represented categorised rather than equal-interval data, dividing points were used which yielded distributions as close as possible to being dichotomous while retaining meaningful categories.¹

Minturn et al (1964:255-7) summarised the issues involved when hypotheses first tested at the society level are shifted to that of the individual. Perhaps the biggest drawback of conducting a within-groups analysis on the New Guinea data is that even with variables redefined to maximise the variation within each sample's data, one finds in many cases that the variation is still slight. In contrast to the six culture data analysed by Minturn et al (1964:257) in which 'the major portion of the variance of all our factors is variation...in the same community', the New Guinea data have most of their variation between

¹ Of course, redefining variables has an effect on the comparability of totals in tables showing distributions for within-group analyses and those showing distributions for between-groups analyses: although the total N in two tables dealing with the same tested relationship will be the same no matter which technique has been used, N for columns will not be equal if the variable breaks have been redefined for the within-groups analysis.

groups rather than within them. This makes the within-groups analysis a less powerful tool than it might otherwise be.

After the variables were redefined, six chi-square tests, one for each of the six New Guinea samples, were conducted on each relationship. The resulting chi-squares were pooled for each of the variables,¹ yielding a second way to evaluate statistically the relationships tested in the between-groups analysis, but one maximising within-groups differences. Because the cases in each comparison were smaller than those in the original within-groups tests, expected frequencies in cells were sometimes less than 5. When this was so, the standard procedure of using Yates correction in conjunction with the chi-square test was followed.²

One advantage of the within-groups analysis is that it enables one to see quickly if there is a consistent pattern to trends revealed in a relationship tested separately in several groups. Even if the pooled chi-squares do not reach statistical significance, the trends in the data comparisons can offer insights unavailable through the between-groups analysis.³

General findings. In a comparison of data on n Ach with data on personal and socio-economic background variables, a within-groups analysis failed to yield any statistically significant chi-squares for either the individual comparisons or the pooled ones.⁴

¹ The chi-square statistics can be added as long as the distributions on which it was used to test the same relationship can be reasonably assumed to be independent, and as long as the degrees of freedom are adjusted.

² This is also true for the within-groups analyses conducted in later chapters. For a discussion of the use of Yates correction with the chi-square test, see Maxwell (1961:21-3).

³ One might be tempted to apply the sign test (see Siegel 1956:68-75), particularly since Whiting (1969) pointed out that if 5 of 6 samples show trends in the same direction, the trends would be judged statistically significant through its use. However, in the present case, unlike Whiting's, two requirements which should be satisfied before one applies the sign test - that measurements are continuous and that extraneous variables have been matched on subjects in different samples - cannot be met. Anyway, with an N of only 5 rather than 6, 1 case having other than the predicted sign is enough to eliminate the possibility of statistical significance.

⁴ Some interesting tendencies were revealed by the trends and by the location of the chi-square values which came the closest to attaining statistical significance. These are discussed in Appendix E which also presents the tables showing results of the within-groups analysis.

The tables in Appendix E, covering socio-economic background variables, emphasise that the pooled chi-squares are low in statistical significance and that individual chi-squares scarcely approach significance. Of the thirty-five individual comparisons summarised, one could expect through chance alone to find some that showed statistically significant relationships or ones close to it. Likewise, of the six pooled chi-squares one would expect to find a spread of probability levels represented. But this is not the case. The distribution for the probabilities of the pooled chi-squares - $>.90$, $>.99$, $>.80$, $>.70$, $>.70$, $>.30$ - is particularly striking, so sharply is it skewed towards very high probabilities. These facts could be interpreted as evidence that another variable with a stronger relationship to $\bar{n}$ Ach than any of those tested was operating and preventing them from showing the range of strength in relationships to $\bar{n}$ Ach which one would normally expect. Of course, it might be argued that the variables are simply irrelevant to $\bar{n}$ Ach, but no good explanation as to why this should be comes to mind, especially when other work has shown similar ones to be relevant¹ and when McClelland himself acknowledged the importance of socio-economic variables in his latest work (McClelland and Winter 1969:312). More likely to be correct is an argument that the variable operating is that which has already been hypothesised as predictive of $\bar{n}$ Ach and which, of several considered, is the most plausible for the New Guinea data - the status mobility system.

The high probability levels of pooled chi-squares in the tables on socio-economic background variables and the surprisingly high proportion of them in the tables in Appendix E on personal variables ($>.10$, $>.50$, $>.80$, $>.95$, $>.20$, $>.80$), together with the infrequency in all tables for individual chi-squares to approach statistical significance, can best be considered, then, as further indirect evidence for the importance of the status mobility system to $\bar{n}$ Ach levels.

Validity of the New Guinea data

Several points might be raised to challenge the validity of the present data. Although I have discussed the appropriateness of the sample, the research conditions, and scoring reliability, I have not yet considered the validity of the test instrument itself or the data's congruence with what is already 'known' about New Guinea from other studies. One might also ask whether the interpretation of the data, although compatible with LeVine's theory and data, is compatible with McClelland's.²

Instrument validity. Although the test instrument used - the Merbaum picture series - was not the one normally used by McClelland and his

¹ Cf Atkinson (1958), Gallimore (1969), LeVine (1966).

² See p.62.

colleagues, it has been used on the United States mainland and in Hawaii. There is evidence in favour of its validity in Gallimore's (1969) discussion of the proportions of various samples writing achievement themes (only one is possible per story) to 0, 1, 2, 3, 4, 5, or 6 pictures in the Merbaum series. The figures shown in Table 4.14 clearly indicate that the Merbaum pictures do pick up variation. In view of this, the absence of significant variation between the responses of the six New Guinea samples cannot be explained by an argument that the test instrument used does not elicit variation.

Table 4.14

Percentage of boys writing various numbers of n Ach themes

Ethnic group	Number of themes (%)						
	0	1	2	3	4	5	6
Rural Caucasian	18	24	6	29	18	0	6
Rural Japanese	31	15	54	0	0	0	0
Rural Afro-American	33	40	7	7	0	13	0
Rural Filipino	33	33	20	13	0	0	0
Urban Hawaiian	54	31	13	2	0	0	0
Rural Hawaiian	56	41	3	0	0	0	0

Source. Gallimore (1969:12).

The mean percentages for the six samples of New Guineans writing various numbers of n Ach themes are: 0, 34 per cent; 1, 20 per cent; 2, 23 per cent; 3, 13 per cent; 4, 4 per cent; 5, 4 per cent; 6, 3 per cent. This pattern follows closely that for the mean percentages for the groups listed in Table 4.14: 0, 38 per cent; 1, 31 per cent; 2, 17 per cent; 3, 9 per cent; 4, 3 per cent; 5, 2 per cent; 6, 1 per cent. However, the New Guineans wrote slightly more achievement themes on the average and more often wrote more than one story.

There would be an even stronger case for the validity of the test instrument if I had independent measures of n Ach and had found that their results followed those of the Merbaum pictures. I had planned to use several independent measures but discovered during pre-testing that the particular ones I had in mind were inappropriate for use with New Guinean students. Later studies will have to take up this problem. The fact remains, however, that the New Guinea data fit in well with those of LeVine (who did have independent measures of n Ach), and this strengthens the likelihood of their validity.

'Ritualism' and 'pragmatism'. The conclusion that the groups represented in this study are equal in their psychological potential for entrepreneurship may be objected to on the basis that it is at variance with well-known 'facts' about the character of these New Guinea populations. For instance, Lawrence and Meggitt (1965) argued that there was

a basic contrast between the 'styles of thought' of the 'seaboard' or coastal people of New Guinea and the highlanders: coastal peoples are more given to 'ritualism' in their approach to obtaining goods and wealth than are the 'pragmatic' highlanders. If this were so, one could posit that the two groups might indeed be basically different in psychological make-up, and that the 'pragmatic' highlanders would be far better adapted to becoming entrepreneurs than the ritual-oriented coastal peoples. Accordingly, the highlanders would be expected to have significantly higher n Ach scores than the coastal people if valid data on entrepreneurial potential were used.

Lawrence and Meggitt (1965) first presented this argument in a tentative manner, but little data were offered to support it other than references to 'ritualism' in the religious thinking of coastal peoples and the relative lack or unimportance of cargo cults in the highlands.¹ Since sufficient comparative studies have not been carried out in New Guinea to permit a full analysis of the extent of 'ritualism' in highlands and coastal groups, and since the existence of numerous cargo cults in the highlands has been amply documented, the Lawrence-Meggitt characterisation appears to be extremely tenuous at best. As Chowning (1967:40) stated:

the assumption that people develop or accept cargo cults simply because they share the religious orientation and world view of seaboard Melanesians, and reject them because they are pragmatic Highlanders, seems to me to be unjustified by the facts, and likely to add little to our understanding of a complex phenomenon.

Recently, Meggitt (1967b) presented data on the letter-writing styles of Western Highlanders to support the contention that highlanders are more 'pragmatic' and less susceptible to cargo cult thinking than coastal peoples. While a full study of this question, if it is to be approached through an examination of the writings of the peoples concerned, would require comparative material from both coastal groups

¹ Although the cargo cults of the highlands have not been as fully described as those of Madang and Manus - see Burridge (1960), Lawrence (1964, 1967), and Schwartz (1962) - and other coastal areas, some writers - Berndt (1952), B.R. Finney (1969), Reay (1959), and Salisbury (1962) - have discussed cult movements in various highlands areas. Those who would discount this evidence on highlands cults on the basis that many have been short-lived should recall that cults in coastal areas might not have persisted so long had the coastal people in question enjoyed the same opportunities as the highlands people to gain 'cargo' through intensive and highly profitable cash crop activities (cf. B.R. Finney 1968:407). The Tolai, who certainly could be considered as 'pragmatic' as the highlanders, are a coastal people, and some Tolai have been involved in cargo cult activities as recently as the early 1960s (cf. T.S. Epstein, personal communication cited in B.R. Finney 1969:60).

(which Meggitt did not offer) and highlands groups, it is relevant to examine some evidence found in essays written by highlands students which shows the inclination of highlanders towards 'ritualism'. These essays (collected for purposes which are discussed in Chapter 6) tell of views held by highlands villagers which are very similar to those documented for villagers in coastal areas known for cargo cult thinking.

The students described local beliefs that underground caves serve as repositories for goods; that the goods are made elsewhere and sent to the caves for storage, or that the ancestors dwell in the caves and manufacture the goods there; that these goods can be obtained by using secret rituals to pull them directly out of the ground or from rivers that emerge from the ground; and that Europeans - often thought of as spirits of the dead - know these secrets and intercept the goods intended for New Guineans and then bestow them on or withhold them from the latter. One essay, written by a student from the Eastern Highlands, mentioned several of these themes:

and also I heard somebody saying that there was an old European man who was very hungry but did not have anything in the afternoon for supper, but when it was midnight he went to the river and sat by it; and the people said that one native man found him near the river, pulling out from the river loaves of bread, pounds of butter, packets of biscuits, packets of cigars, and all other food stuff. While he was doing that, the old man saw one native coming towards them, the native said the old man was very surprised and at the same time he was ashamed. So the old man ask the native to help him carry the stuff to the house. There in the house, the old man was very sorry for what he had done and he told the lucky native how he had done it. So the old European man gave the native man a valuable substance that the native was very happy to have it. The old man gave the substance to the native gentleman so that he would not tell others what the old man had done. Since the natives wonder a lot about these sorts of things, the native gentleman told it to everybody and the natives who heard these stories are trying their very best to know more about Europeans. Therefore almost all uneducated men in the village think that all Europeans are getting their belongings and other substances from the rivers.

This essay and others which could be cited emphasise the point that the available evidence does not support the alleged dichotomy between coastal and highlands styles of thought. This dichotomy, then, should not be used to argue that the two groups differ basically in their psychological potential for entrepreneurship, or that the validity of their n Ach scores should be dismissed because the scores reveal no significant differences. It is interesting that the only picture-story describing anything that might be called 'cargo-thinking' was a highlands student's work, shown in Plate 4.

Congruence with theory. The samples from six New Guinea districts which differ in their economic development show no significant differences in n Ach scores, yet McClelland (1961) indicated that populations whose societies showed differences in economic development have corresponding differences in levels of n Ach. It might appear, then, that the present data directly challenge McClelland's work. However, in his most recent writing (McClelland and Winter 1969), McClelland acknowledged critics who 'have argued that achievement motivation research neglects social-structural variables',¹ and admitted (McClelland and Winter 1969:311-12) that

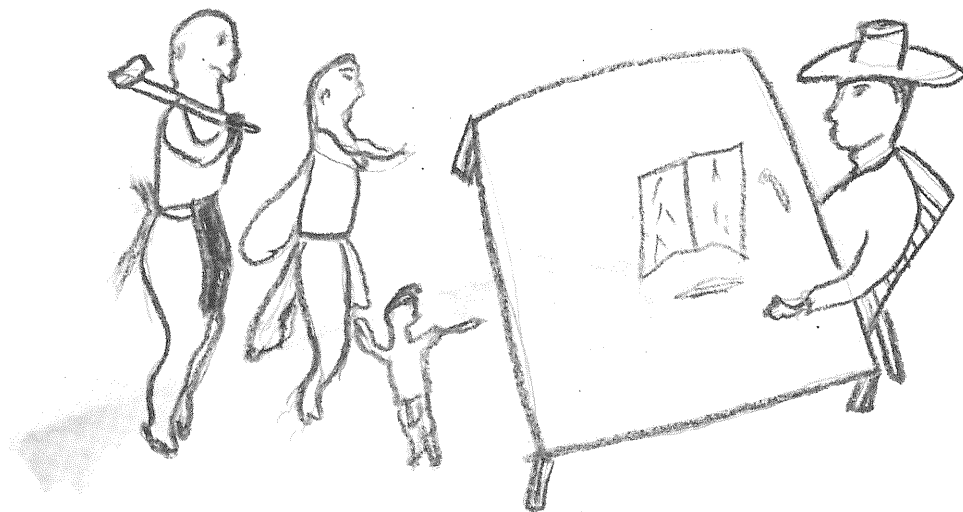
a man cannot convert increased motivation into increased activity unless he has a real opportunity to do so.... The authors were not unaware that opportunities could exert a modifying influence, but as psychologists they were perhaps more optimistic than sociologists or economists would be as to the extent to which a man with increased motivation could make opportunities for himself.²

As a colony operating on a limited budget, New Guinea offers limited opportunities to its indigenes, few of whom are in positions involving authority and decision-making in the new economy. Even though New Guineans living in areas notably lacking economic development come from societies wherein the status mobility system should be as conducive to entrepreneurial potential as elsewhere in New Guinea, and could have n Ach levels similar to those of people in better developed areas, they might not demonstrate comparable entrepreneurial skills if their opportunities differed.

Summary. The present data can be considered strong indirect evidence for the importance of the status mobility system as an antecedent of n Ach. LeVine also considered the problem of data validity for his Nigeria study, and raised questions about the existence of independent measures for the same phenomenon, the likely effect on 'ethnic' results of socio-economic factors, and competing theories. Yet he was only able to answer the first two problems satisfactorily. Concerning the last, the New Guinea data strengthen his case for they both appear to be valid and to lend far less support to competing theories than they do to LeVine's.

¹ See, for instance, Eisenstadt (1963) and Kunkel (1965).

² Of course, the question remains, how great must an increase in n Ach be before an increase in business activity follows. It is not impossible that with a marked increase, even individuals lacking positions of authority might find ways to translate their heightened motivation into action. This must be a question for future research.



- 1/ Patrol Officer is calling the roll in a village
- 2/ They were searching for the roll call and the Patrol Officer was eating.
- 3/ They were were thinking about the Patrol Officer as a spirit and wanting to get a sweet thing to eat or ~~make~~ something good out of him.
- 4/ They will get to know each other and learn each other's language.

Possible implications for the
New Guinea situation

Although indices used in Chapter 2 showed that a direct relationship existed between New Guineans' economic opportunities and accomplishments in the six districts, it was not possible before this chapter, where n Ach data are presented, to use a single statistical procedure to compare the relative strength of relationships between opportunities and business accomplishments, on the one hand, and psychological potential for entrepreneurship and business accomplishments, on the other.

The proportion of population served by roads is the best index of economic opportunities available, and n Ach is the measure of psychological potential which can be pitted against it. Probably the measure most indicative of relative business accomplishments of peoples in the six districts would be the business holdings of fathers of the sample students.¹ Averaged ranks - on holdings of cash crops, tradestores and trucks (data from Table 3.2) - were taken to represent business accomplishments, and are shown in Table 4.15. By comparing district rankings on this index with district rankings on both the roads and n Ach measures, and by comparing the resulting probabilities, one can see more objectively whether economic opportunities or psychological potential has the stronger relationship to business accomplishments.

Table 4.15

Average rank order of father's business holdings, by district

District	Ranking on cash crop holdings	Ranking on tradestore holdings	Ranking on trucks held	Average ranking on business holdings	
Chimbu	2	2	2	(3)	4
Eastern Highlands	3	1	4.5	(3.2)	2
East New Britain	1	4	1	(2)	1
Madang	5	5	4.5	(4.8)	6
Manus	6	6	6	(6)	5
Western Highlands	4	3	3	(3.3)	3

¹ An index based on accomplishments of entire districts rather than sample fathers could obscure socio-economic class differences since the different districts have reached such different levels of development. At least the fathers of sons in high schools can usually be expected to be the most advanced in their respective districts, regardless of general economic development in these. Consequently, an index based on fathers offers some chance for controlling socio-economic class differences.

Table 4.16 shows the rank order comparison between proportion of population served by roads and father's business holdings; Table 4.17 shows the rank order comparison between district samples' standings on high $\bar{n}$ Ach scores and on father's business holdings. The statistic used to evaluate the comparisons was rho.

Table 4.16

Rank order comparison of proportion of population served by roads and father's business holdings, by district

District	Ranking on proportion of population served by roads	Ranking on business holdings of sample fathers
Chimbu	3	2
Eastern Highlands	2	3
East New Britain	1	1
Madang	5	5
Manus	6	6
Western Highlands	4	4

rho = .94

Table 4.17

Rank order comparison of incidence of high $\bar{n}$ Ach scores and father's business holdings, by district

District	Ranking on proportion of students with high $\bar{n}$ Ach	Ranking on business holdings of sample fathers
Chimbu	4	2
Eastern Highlands	6	3
East New Britain	5	1
Madang	3	5
Manus	1	6
Western Highlands	2	4

rho = .37

The relationship shown in Table 4.16 is statistically significant at the .01 probability level, and is stronger by far than the relationship between $\bar{n}$ Ach scores and business accomplishments, which fails markedly to reach a probability level having statistical significance. Again, the importance of opportunities for economic accomplishments in New Guinea is clear.

To further test the point, one would like to be able to infuse huge amounts of capital and personnel into the areas where people have been deemed low in potential, and to watch the results. But, for the social scientist, this kind of test is improbable. It is worth noting, however, the observations of two writers describing the effects of increased economic opportunity in backward areas. Ward (1970) chronicled the economic growth, especially in agriculture (unassisted by government extension efforts), which followed the improvement of a rough track to an all-weather road in an undeveloped area. Lawrence (1967) indicated that the people of Madang turned more to modern economic roles as development proceeded in their area. He pointed out that 'cargo-demagogues' were quick to seize on failures to achieve material progress and consequently he called for the development of motor roads into the Rai Coast area to save a nascent coffee industry from stagnation in what was an isolated cargo cult area.

Apparently the 'road belong cargo' may yield to the 'road belong business'.

Chapter 5

Interest in business

Although the six student samples (and, presumably, the six district populations they represented) may have had equal entrepreneurial potential, this does not mean they needed to have shown comparable amounts of interest in entrepreneurial roles.

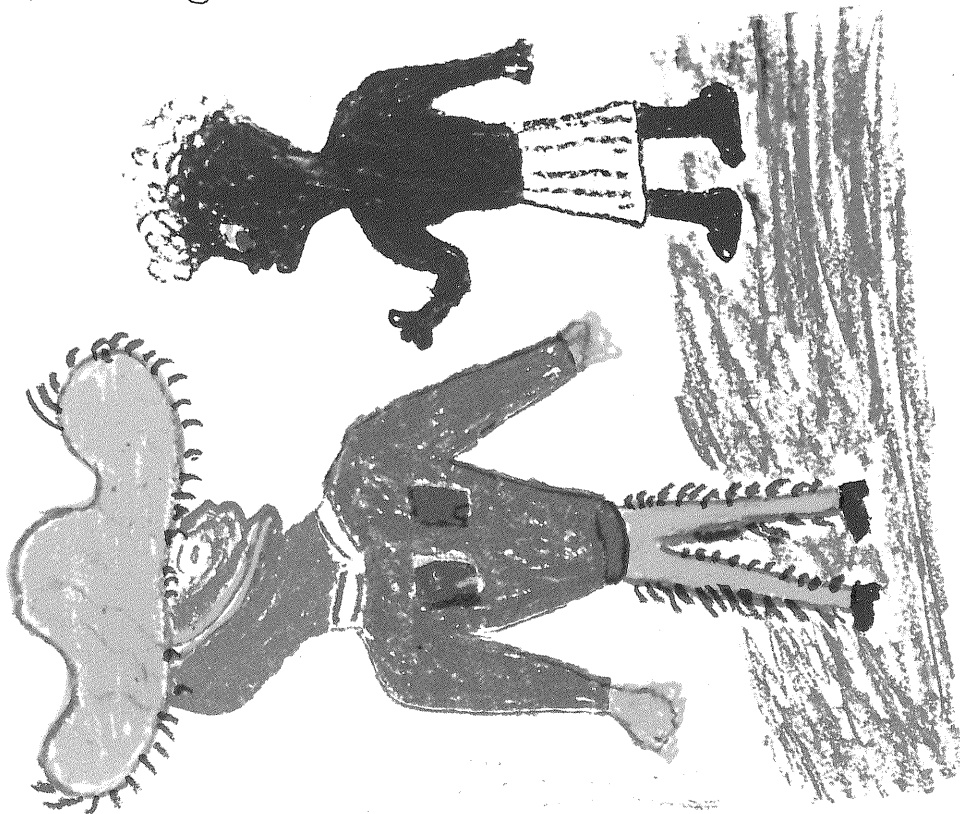
The following data indicate that many students thought an important part of a businessman's role was to contribute to the economic development of his home area. With this point in mind, I predicted that students from less well developed areas would show greater interest in business than would students from better developed areas. Here I assumed that the students, although among the best educated New Guineans with the most employment opportunities, were oriented to their home areas rather than to urban centres, otherwise local conditions could not be expected to influence their interest in being businessmen. That local conditions influenced student interest in business and in job choice generally will become evident.

Two main types of data are reported. Firstly, the responses to an open-ended questionnaire concerning student occupational preferences, reasons for these, and expected future jobs are reported.¹ Student interest in business as opposed to interest in wage employment is considered, although the questionnaire was designed to elicit information on occupational interests generally rather than business interest in particular.

Secondly, data concerning student essays on the topic 'What I would do with £500' are reported.² This topic opened to students reluctant to express business interest (for fear that it would be too unrealistic) the opportunity to do so with some imaginary capital. The detail of the essays permits analysis of the precise business interests of students from different areas and their concepts of business roles.

¹ See Appendix J for the questionnaire

² Decimal currency was introduced into New Guinea only in February 1966, so 'pounds' rather than 'dollars' were used in order to ensure that students had the most accurate conception of value.



(1) They see a white man and a Native ^{man} on the picture. The Native man is asking the master of the cowboy in a plantation at Manager River if he could take him to work on the plantation as a cook boy for them.

(2) The white man was walking along the village suddenly the Native came along behind him. before we saw them taking in the picture.

(3) The Native man is wanting to work on this white man's plantation and the cowboy or white man is thinking if you could take this man to do what he wants.

(4) If the white man finds a person on this man then he'll take him to his farm plantation and he will work as a cook boy.

Additional data on student preferences for job location and views of businessmen are also discussed.

Work preferences

When students were asked, 'If you could do anything at all, what is the one thing you would choose as your kind of work?', only 5.2 per cent replied, 'start my own business' or 'grow cash crops'. Plates 1, 5 and 6 illustrate the very wide range of jobs students may have had in mind. When a student said that he would like to start a business but did not indicate what kind, I assumed that he intended to grow cash crops on a small scale, even if he might later go on to something else, on the basis that this was potentially the least capital intensive business proposition for New Guineans.

In Table 5.1 which summarises student work preferences, 'business' and 'cash crops' are entered together under the 'Agricultural' heading.

There are several reasons why the 5.2 per cent for the amount of student interest in business may be an inadequate representation. First, students may not have thought of starting a business as a 'job', which to them more properly meant 'wage employment'. Hence 'start a business' may not have come to mind as an answer to the open-ended question on work choice, even though the question referred to the more general 'work', and care had been taken to include 'start your own business' with 'jobs' in the section of the questionnaire immediately preceding. Some students may have planned to have both a 'job' and a 'business',¹ yet indicated only their intended wage employment. Second, students may have found it difficult to take seriously the question about doing 'anything at all' when the emphasis at school was on what occupations to follow after first leaving school rather than on what to do eventually. Even though they may have wanted to go into business eventually, the students knew that this needed capital and skills most likely acquired only after many years of work; consequently, the replies they gave to the work choice question were probably conceived in terms of the first kind of work they planned to do.

By taking into account the reasons students gave for their work preferences, one can better gauge their interest in business than by looking at preferences alone. Reasons students gave for some preferences other than 'business' or 'cash crops' reveal that they may have chosen an occupation, apparently unrelated to an interest in business, precisely because the skills thus acquired in training for or working at it provide a basis for starting a business later. This type of

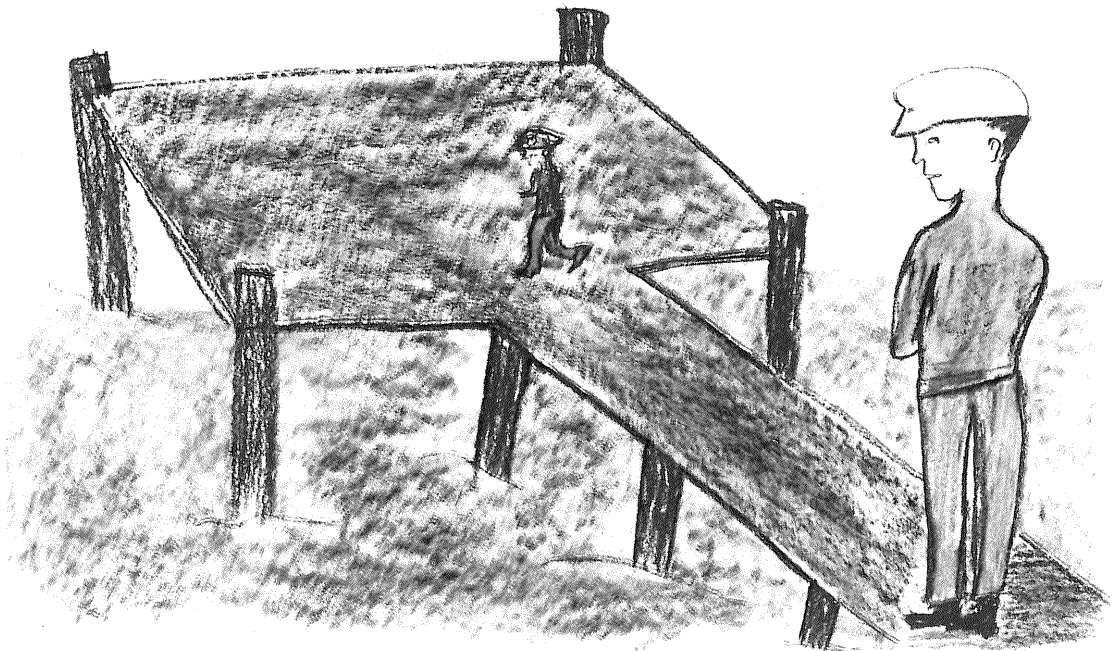
¹ A comparison of the distributions of employed and self-employed fathers (Table 3.5) with the distribution of business assets held by fathers from the same districts (Table A.11) shows that this is not an uncommon pattern in New Guinea.

Table 5.1

Work preferences*

Kind of work	Number preferring	% preferring
Semi-skilled		
electricity assistant	1	0.4
driver	2	0.7
sailor	4	1.5
Total	7	2.6
Clerical		
electoral clerk	1	0.4
bank clerk	1	0.4
Total	2	0.8
Skilled		
mechanic	62	23.0
carpenter	6	2.2
radio technician	6	2.2
electrician	1	0.4
boat builder	3	1.1
Total	78	28.9
Defence and law enforcement		
army	12	4.5
navy	11	4.1
police	4	1.5
patrol officer	15	5.6
Total	42	15.7
Agricultural		
agricultural officer	26	9.7
co-operatives officer	3	1.1
cash crops, business	14	5.2
Total	43	16.0
Teaching	42	15.6
Supervisory - managerial		
company or bank manager	2	0.7
mess supervisor	1	0.4
warder	1	0.4
quarantine officer	1	0.4
customs officer	1	0.4
business advisory officer	1	0.4
postmaster	1	0.4
health inspector	1	0.4
ship captain	2	0.7
welfare officer	1	0.4
Total	12	4.6
Medical		
medical assistant	3	1.1
dentist	3	1.1
doctor	11	4.1
Total	17	6.3
Professional		
lawyer	3	1.1
anthropologist	1	0.4
scientist	3	1.1
Total	7	2.6
Unclassified		
pilot	9	3.3
missionary	2	0.7
forestry officer	1	0.4
whaler	1	0.4
cadet field officer	1	0.4
radio announcer	2	0.7
council officer	1	0.4
local government officer	1	0.4
assistant boat master	1	0.4
Total	19	7.1
Total	269	100.2

* Jobs have been grouped as much as possible according to students' views of them.



1. The picture shows a naval officer chasing the other who was a native a have knock a junior sailor
2. They were discussing about what the native naval officer trouble
3. They were thinking about to expel the native naval officer from the Navy
4. The native naval officer will be expelled from this job.

reason I call 'business-related'. Other reasons are grouped into 'helping' and 'self-interest', which is not to say that an interest in business is incompatible with either of these.

Table 5.2 shows the proportion of students giving each type of reason. When the 8.9 per cent of 'business-related' work preferences is added to the 5.2 per cent of preferences for 'business' or 'cash crops' chosen for other reasons, student interest in business totals 14.1 per cent.

Table 5.2

Students' reasons for choosing jobs

Main type of reason	% giving this
Helping	
help own people, work in own area	22.3
help parents	4.1
help in general, not specified for whom, or where	23.8
Total	50.2
Self-interest	
save expenditures in future	3.1
good salary	3.8
suits interests	16.7
suits abilities	8.5
suits school training	8.9
Total	41.0
Business-related	8.9

Even after examining the reasons students gave for their work preferences, one cannot be certain of the exact amount of interest in business, for students gave their reasons in response to an 'open-ended' question. The primary advantage of this kind of question is that it offers the researcher working in an unfamiliar situation on which there is little background information, the opportunity to draw out attitudes he might not realise pertained. Were he to select 'reasons' for a check-list, he could well leave out some of the more important ones. The disadvantage is that the open-ended question cannot tap all the reasons each student has, but only the first ones that come to mind. Students other than those who gave business-related reasons for their preferences may have planned to start businesses eventually yet did not indicate this in the absence of a check-list.

However, there were particular work preferences for which business-related reasons were given - 'mechanic' and 'agricultural officer' - which I call 'business-related occupations'. Mechanics gain skills which can save them maintenance costs in their own trucking business

or enable them to start their own garage. Agricultural officers learn to recognise and demonstrate the proper conditions for growing cash crops and can grow their own successfully. If one adds together the percentages of students who chose business-related occupations and those who said they wanted to grow cash crops or start a business, one finds a very high figure, 37.9 per cent, for student interest in business, as Table 5.3 shows. Not all students who chose 'mechanic' or 'agricultural officer' necessarily had in mind starting a business, while some who chose other jobs might have had. Student interest in business was probably somewhere between the 5.2 per cent lower limit and the 37.9 per cent upper limit. The essays on 'What I would do with £500' give evidence that it may come close to the upper limit.

Table 5.3

Student interest in business

Type of job	% preferring it
Mechanic	23.0
Agricultural officer	9.7
Business, growing cash crops	5.2
Total	37.9

'What I would do with £500' essays

Student recognition that starting a business required skill and capital probably contributed greatly to the large difference between the number who stated directly that they would start businesses or grow cash crops and the number whose reasons or business-related work choices revealed they might become businessmen. In order to give students the chance to use imaginary business capital, and myself the opportunity to explore their interest in business more thoroughly than I could with the occupations questionnaire, I asked students to write essays on 'What I would do with £500'. I was able to collect responses from 262 students (see Table 5.4).

There was no reason for students to believe the topic was concerned with my assessing their interest in business: I did not give the assignment during the same session as the occupations questionnaire, and I made no qualifications as to how the money was to be used, whether for work or pleasure. The topic was such a popular one that I needed only to write it on the blackboard and say, 'I would like each of you to imagine that you have £500 and to write what you would do with it'.

I scored the student essays using the following three-point scale¹ to evaluate the nature and duration of the return which students hoped to obtain from any expenditure:

¹ The scale was developed in conjunction with R. Gallimore of the Bernice P. Bishop Museum and the University of Hawaii. Before scoring

1. immediate return, pleasure emphasis
2. intermediate return
3. capital return.

At one end of the scale was scored unrestrained spending for oneself or friends: buying drinks or 'sweet food', taking trips for fun, buying consumer goods such as radios, bicycles or motorcycles for pleasure. At the other end of the scale was scored the treatment of £500 as a capital investment to start a business enterprise which would yield a financial gain over time and could lead to the expansion of the business itself rather than solely to expenditure on consumer goods. In between was scored spending that improved the general quality of life over time, but was not related to specific achievement goals. The improvement of houses or purchase of vehicles to be used primarily for transport to work or school, rather than only for pleasure, were scored here, as was the saving of money for unspecified purposes. Essays which indicated that students might spend their money on several types of things were scored for the type of spending emphasised. If one thing was not emphasised, the essay was scored for intermediate return.

Examples of two essays scored for each category follow.

Category 1: immediate return, pleasure emphasis

Well, if I have £500 I would start or make a plan. I think I might spend half of it on clothes, food and something I might use every day. The other half I might spend it on drinks (such as beer) South Pacific Lager. And very strong drink and other things such like cigarettes or (Gold Leaf). I think after all I might end up with nothing in my pocket it is very good to spend money on other things instead of (putting) saving it in the bank we don't know when we might die so it is best to spend money on anythings that will make you comfortable.

If I have £500 right now I would run up to the trade store and spend as much as I could on fresh meat (beef), tinned meat, ice cream, lollies, chocolates and so on. The things need cooking would be cooked. Then I'll have a very big, heavy meal. Exactly, this should not become first: the first thing is I'll book a trip to Australia and see all the towns, states, and especially Sydney Bridge. The second trip would be to the United States of America, but I don't think I have the right amount to pay the fare. I hope I had enough amount of money to do this. The very last thing come in mind is this. If I don't go to the U.S.A. and Australia, I'll go to the Bar and waste

1 (continued)

all the essays, I obtained over .90 reliability with Gallimore on a 30 per cent random sample of the total number of essays.

all my money on any kind of drinks that in the bar. Everyday till I waste all my money.

The second story above illustrates that Category 1 includes spending strictly for pleasure that may continue for some time. Trips, as long as the writer did not say these were for educational purposes, were scored as 1, as was saving for a pleasure goal.

Category 2: intermediate return

If I would have £500 first of all I'll plan what I'm going to do with my £500. If I had planned to buy me a good house so I'll spend my money buying timber, nails, etc. I'll buy good furniture and other thing needed in the house. My house will be like European house. I'll buy clothing and carpet for the floor. My house will have many rooms inside. My house will be a very big house and a permanent one. I'll buy paint to paint my house with it so that it looks nice. Also polish for the floor to make it shine. Flower vase for inside the house and lamps, pictures and carvings.

If I have £500 in my bank book I would spend the money on some very good things that my family can enjoy themselves. Example good house with iron roof, wooden floor with wooden walls, windows with glass, a good kitchen with stove, good tables, tank to store water, radio to listen to the news. I shouldn't use the money on bad things that make my family unhappy. Here is the following things that will make the family unhappy - going to the hotel, motel, playing cards. So I think is best to spend the money on very good things that I think it is suitable for the family.

Although the second writer above accounted for his choice of a house as something his family could enjoy, his essay was not scored as 1 because his expenditure on housing would improve his standard of living over time and was not simply ephemeral pleasure-spending.

Category 3: capital return

When I have £500 I would spend it on buying some cattle or herds of cows and start a dairy and beef cattle station. When I spend that much money on cattle, well on the other hand I look ahead to get that much money back or more. So what I will do is buy a machine for turning cows milk to butter and cheese and to sell for money. Or sell the fresh milk for money right away when I milked the cows. Further still is kill the cows and sell the meat for money. So in this way I would spend my £500 wisely even though when I do this, I get £500 back and still making money for myself.

If I had £500 I would start my own business. I would buy a coffee plantation and a trade store and later if I make a big profit,

I would buy a truck or two. These trucks will go down to Lae and bring the goods there to here. If this works well, I will buy some more trucks. Later I will make a small coffee factory. When this has been done and if I think I have enough money I will buy a Cessna to carry passengers around. When this has been done I think I will be quite a rich man. Then I will travel around the world as a tourist. And by the time I am old, I will own a very big profit.... And to make people remember me I will give some money to the PWD [Public Works Department] and they will build a small hospital. In this way I think people will remember me and what I do to improve my country.

This last story illustrates well the important point that an essay was scored for the kinds of expenditure emphasised. Although the student planned to travel, this was not the emphasis of his spending, or even the goal of his business development, for he indicated that he expected his company to expand, rather than lapse when he reached some set amount for target spending.

Results. Table 5.4 shows the results of scoring all the essays and attests to the high concern with achievement in the business field: 45.8 per cent of students preferred to spend their imaginary money on a business investment.

Table 5.4

Results of scoring £500 essays

Scoring category	N	%
Immediate return, pleasure emphasis	54	20.6
Intermediate return	88	33.5
Capital return	120	45.8
Total	262	99.9

Of the many forms of investment contemplated, the most popular were tradestores and transport. Other interests included cattle projects, coffee or copra plantations, secondary industries, livestock projects, fishing industries, movie theatres, a hotel, and even airlines. The number of students preferring different projects is shown in Table 5.5.

The total of kinds of investment exceeded the total of students writing capital return essays because very few students chose only one investment focus. They were generally aware of the difficulties of some business enterprises, and of the limitations imposed by £500. They imagined starting with a small investment, making profits, reinvesting, and progressing to a larger venture of the same type or one which supplemented it. Most were interested in capital expansion to reach some final business goal by means of several linked investments. Naturally, students with an interest in starting an airline could not do so with only £500.

Table 5.5

Types of investment interest

Investment type	Number of students choosing it	% choosing
Tradestore	68	32.5
Transport: road	54	25.8
sea	19	9.1
air	2	1.0
Workshop, factories	16	7.6
Plantations	17	8.1
Livestock	15	7.2
Fishing	8	3.8
Hotel	2	1.0
School	1	0.5
Theatre	5	2.4
Contractor	1	0.5
Bookstore	1	0.5
Total	209	100.0

The last essay used above to illustrate scoring for capital return gives a fine example of the way in which a student envisioned turning his small investment into a big business enterprise. Evidence for rapid capital accumulation of this order among highlanders appeared in B.R. Finney (1969). Moreover, in 1966 a group from Morobe, a coastal district much poorer than the highlands, was negotiating to buy a small airline.¹

Students from different areas emphasised specific investment interests which revealed their knowledge of and concern with local conditions. Before taking up district differences in detail, however, it is useful to compare the general business interest of the New Guinea students with that of other groups among whom similar research has been conducted. The comparison shows how remarkable the New Guineans' business interest was.

With R. Gallimore I collected similar essays in 1966-67 in Hawaii from high school students representing several ethnic groups. Of 409 essays collected, only 11 emphasised investment. Three of these were business investments and the other 8 were stock market investments. The costs of starting a business would generally be higher in Hawaii than in New Guinea, but this should not dissuade the truly interested student from imagining a whole series of transactions by which he could turn his imaginary funds into the necessary amount of capital. Of course, in Hawaii there are greater opportunities for tertiary education than in New Guinea: many students in the Hawaii sample would expect to

¹ Personal communication: B.R. Finney, 27 August 1967.

go on to university and might find it difficult to think beyond the financial needs of their university years. Hawaiian high school students who might eventually become businessmen are more likely to imagine using this money as an investment for educational costs than would the New Guinean students who, if they do go on to university, are supported by government scholarships. Yet university education is nowhere a prerequisite to becoming a businessman, so the greater availability of tertiary education is not really a satisfactory explanation of the comparatively low business interest the Hawaiian students showed.¹

More comparable is the situation of Ivory Coast students surveyed by Clignet and Foster (1966). They asked students what they would do with 1,000,000 Ivory Coast francs (approximately \$Aust.3,600), and scored responses for a dominant expenditure interest. Because they classified expenditure goals more specifically than I did, I have combined them for comparison.

Clignet and Foster tallied the following goals (in percentages):

Build a house	41
Invest in land or agriculture	5
Invest in commerce or industry	7
Deposit savings	11
Invest in further education	13
Discharge family obligations	14
Consumer goods, gifts	5
Other	3

The two categories 'invest in land or agriculture' and 'invest in commerce or industry' show 12 per cent as seemingly interested in business ventures; yet it is not clear if all those investing did so for business purposes. To this can be added another 10 per cent, which is the proportion of students wishing to build a house for the stated purpose of renting it out, a goal that might lead to a real business venture. The upper limit for the Ivory Coast students' business interests is therefore 22 per cent, which is still considerably below the 46 per cent rate of New Guineans.

Variation in business investment interest by district

As indicated earlier, students from different districts showed different degrees of interest in business investments, and chose different kinds of investment interests. The differences underline the importance

¹ This data on Hawaiians fits in with a growing body of evidence that Hawaiians are in fact more affiliation than achievement oriented - see Gallimore (1969), Gallimore, Bloch and R.S. Finney (1970) and Sloggett (1969).

of local economic conditions to student attitudes: the poorer the local economic situation, the greater the incidence of students wanting to start businesses. Table 5.6 shows the distribution of essay scores by district of origin, with districts ranked by sample percentage writing capital return essays.

Table 5.6

£500 essay scores, by district*

District	Scoring category						Total	
	Immediate return		Intermediate return		Capital return			
	N	%	N	%	N	%	N	%
Manus	0	0	11	23.4	36	76.5	47	99.9
Madang	14	25.9	11	20.4	29	53.7	54	100.0
Western Highlands	6	16.2	15	40.5	16	43.2	37	99.9
Chimbu	14	42.4	6	18.2	13	39.4	33	100.0
East New Britain	8	14.8	29	53.7	17	31.5	54	100.0
Eastern Highlands	12	32.4	16	43.2	9	24.3	37	99.9
Total	54	20.6	88	33.6	120	45.8	262	100.0

* Districts presented in order of percentage writing capital return essays.

If the rankings of the districts by the proportions of students writing capital return essays are compared to the rankings of the districts on the proportion of population served by roads, the relationship of local economic conditions and student attitudes is clear (see Table 5.7). The statistic used to evaluate the differences in the ranks was rho. The relationship, which reaches significance, is an almost perfect negative one, indicating that the better the local economic development, the less were students interested in business.

Table 5.7

Proportion of population served by roads and business investment interest shown in £500 essays: rank order comparison, by district

District	Ranking on business investment interest	Ranking on proportion of population served by roads
Manus	1	6
Madang	2	5
Western Highlands	3	4
Chimbu	4	3
East New Britain	5	1
Eastern Highlands	6	2

rho = -.94; p < .05

The relationship of district rankings on business investment interest and district rankings on income from major cash crops is in the same direction, and just misses attaining significance (see Table 5.8). That the relationship is in the negative direction at such a high level adds support to the observation that students from the less developed areas had the greatest business interest.

Table 5.8

Income from major cash crops and business investment interest shown in f500 essays: rank order comparison, by district

District	Ranking on business investment interest	Ranking on income from major cash crops
Manus	1	5
Madang	2	6
Western Highlands	3	4
Chimbu	4	3
East New Britain (Gazelle Peninsula)	5	1*
Eastern Highlands	6	2

$\rho = .89$; $p > .05$

* The per capita income per years of control of .43 shown in Table 2.2 for East New Britain was calculated using the entire district's population. Here the relevant population is that of the Gazelle Peninsula, which being less, results in a higher per capita income figure and gives to East New Britain (Gazelle Peninsula) the top ranking rather than a tie with the Eastern Highlands as in Table 2.2.

Between-groups analysis

Do any of the personal and socio-economic background variables show a relationship with essay scores of greater statistical significance than that between essay scores and district of origin?

A chi-square test applied to the distribution of essay scores by district (Table 5.6) yielded a value of 53.508 which, with 10 degrees of freedom, has a probability of less than .001. When the chi-square test is applied to the distribution of essay scores compared with distributions of data on personal and socio-economic background variables, the importance of district of origin to students' essay scores becomes even clearer. Tables 5.9 and 5.10 summarise the results.¹

¹ The original tables showing the distributions to which the chi-square tests were applied are included in Appendix C.

Table 5.9

Chi-square values for £500 essay scores, by personal variables of students

Variable	Chi-square	df	Probability	Significance
Form	8.123	2	<.02	Significant
Age	15.321	8	>.05	Not significant
English ability	1.677	2	>.30	Not significant
Birth order	2.742	4	>.50	Not significant
Personal travel	2.366	2	>.30	Not significant
Religion	3.349	2	>.10	Not significant

Table 5.10

Chi-square values for £500 essay scores, by socio-economic background variables

Variable	Chi-square	df	Probability	Significance
Father's education	3.756	2	>.10	Not significant
Father's language attainments	1.485	2	>.30	Not significant
Father's travel	2.079	2	>.30	Not significant
Father's type of house	3.836	2	>.10	Not significant
Father's business holdings	2.338	4	>.50	Not significant
Father's personal possessions	.523	2	>.70	Not significant

Of the comparisons in Tables 5.9 and 5.10, only that between form standing and essay scores shows a statistically significant relationship ($p < .02$). However, it is weaker than the one between district of origin and essay scores.

The distribution of data for the comparison of form and essay scores (see Table C.1) reveals that students in third form wrote a greater proportion of capital return essays and a lesser proportion of immediate return and intermediate return ones than did second-form students. Because the Manus, Madang and Western Highlands District samples had fewer students in the third than second form - 5.6 per cent, 24.6 per cent, and 9.6 per cent less, respectively (see Table A.1) - one would expect that the tendency for higher-form students to write the greater proportion of capital return essays would work against these districts being high in a ranking of districts according to students' business investment interest as expressed in capital return essays. Yet, as Table 5.7 shows, they lead the rankings. It may be, however, that among the students from these districts writing £500 essays, there were not more second and third formers as there were among those who completed the socio-economic background questionnaires. Even if there were more

second formers among those writing the essays, they need not have written fewer capital return essays merely because second formers in general did.

A within-groups analysis, while providing other information, can show whether form is related, and, if so, in what direction, to the distribution of essay scores for each sample.

Within-groups analysis

For a within-groups analysis of the £500 essay scores by personal and socio-economic background variables,¹ data on each variable were categorised so that their distribution for each sample came as close to being dichotomous as was possible while meaningful categories were retained. For the £500 essays, I tended to combine the capital and intermediate return ones for the district samples writing a lesser proportion of the former, and left the capital return essays as one group for the samples who wrote more of these. It will be recalled that the category 'intermediate return' was scored whenever a student contemplated varied expenditures, perhaps a small investment or savings as well as an expenditure for pleasure and immediate return. By adding this type of essay to the capital return type when the distribution of essay scores made it the most suitable combination, I assumed that students writing intermediate return essays would be more likely than those writing immediate return ones to contemplate a business investment. Whether capital return essays are combined with intermediate return ones or left in a separate category, their presence in a category means that it represents the students within a sample who are most likely to invest. Consequently, I speak of 'high' and 'low' investment interest for the purpose of the within-groups analysis. For the Chimbu and Eastern Highlands samples, the 'high' category includes both intermediate return and capital return essays; for East New Britain, Madang, Manus, and Western Highlands, it includes only the capital return ones.

£500 essay scores and personal variables. With the £500 essay scores redefined so that they are high or low relative to each sample's distribution of scores and not to an absolute standard, one finds that the relationship between form and essay scores is still statistically significant, and at the same level of probability as it was in the between-groups analysis (pooled chi-square in Table 5.11 is 15.869, 6 df; $p < .02$). The data show that there are two trends indicating the same tendency for third-form students to write 'high investment' essays which was noted in the between-groups analysis (the 'high investment' category is virtually the same as the capital return one used in the earlier analysis). The trend for the Western Highlands sample is statistically

¹ For more details of this type of analysis see pp.56-7.

significant ($p < .02$) but that for the Madang sample is not ($p > .30$).¹ There were much closer proportions of second- and third-form students writing f500 essays in these two samples than there were among the total number of students originally worked with in each district. Still, there are more second- than third-form Madang students writing high investment interest essays, so the observation that the tendency for more third- than second-form students to write capital return essays should work against Madang's having a high ranking in Table 5.7 holds. It does not hold, however, for either Manus or the Western Highlands. Obviously, the strong relationship between form and essay scores in the Western Highlands data must contribute greatly to the significant relationship between form and essay scores which the between-groups analysis revealed as a general relationship.

Table 5.11

Investment interest expressed in f500 essays, by form and district

District	Investment interest	Form		χ^2
		2	3	
Chimbu	Low	2	12	.164
	High	5	14	$p > .50$
Eastern Highlands	Low	10	3	3.750
	High	11	14	$p > .05$
East New Britain	Low	20	16	3.167
	High	5	12	$p > .05$
Madang	Low	17	8	.506
	High	17	12	$p > .30$
Manus	Low	8	3	2.722
	High	15	19	$p > .05$
Western Highlands	Low	17	4	5.560*
	High	6	10	$p < .02$
Pooled χ^2				15.869*
				$p < .02$

* Significant beyond the .05 level.

¹ Although the chi-square statistics for the East New Britain and Manus data almost attain statistical significance, the data themselves reveal no trends. The chi-squares, then, cannot be said to reflect even a weak relationship between form and essay scores; rather, they indicate the lopsided number of students from East New Britain and Manus writing certain categories of essays. In these cases, so minimal is the variation that it made little difference to divide the essay scores on the basis of within-group variation.

There is only one other significant relationship in the data for the within-groups analysis: in Table 5.12 'birth order' shows a tendency for first-born Western Highlanders to write more 'high investment' essays than did other sons ($p < .05$). This could mean that in the Western Highlands first-born sons were accustomed to being indulged more than later-born sons, and more than first-born sons in other districts, but one wishes there were a better distribution of the data on birth order, along with some ethnographic descriptions of the treatment of first-born sons in different areas, before hypothesising this as an explanation. For the Madang data, there is a conflicting trend which comes close to being statistically significant ($> .05$).

Table 5.12

Investment interest expressed in £500 essays, by
birth order and district

District	Investment interest	Birth order		χ^2
		First	Other	
Chimbu	Low	3	7	.007
	High	4	13	$p > .90$
Eastern Highlands	Low	2	6	.026
	High	7	16	$p > .80$
East New Britain	Low	12	19	.264
	High	7	8	$p > .50$
Madang	Low	7	16	3.204
	High	11	8	$p > .05$
Manus	Low	3	7	.005
	High	12	22	$p > .90$
Western Highlands	Low	7	14	3.936*
	High	0	14	$p < .05$
Pooled χ^2				7.442
				$p > .20$

* Significant beyond the .05 level.

There are some other notable trends although none are statistically significant.¹

£500 essay scores and socio-economic background variables. None of the pooled chi-squares or individual chi-squares for socio-economic background variables and essay scores are statistically significant.

¹ See Appendix F for a discussion of these trends and the tables showing distributions of statistically insignificant relationships.

Few of the existing trends approach even the .10 probability level. They deserve little comment, both because they are generally weak and because they are not concentrated in individual tables: usually a trend is found in only one of the six samples in a table.¹

The failure of both the within- and between-groups analyses to reveal statistically significant general relationships between student investment interest and socio-economic background variables does not obviate the importance of local economic conditions to student investment interest. What it does indicate is that the students did not respond specifically to their own fathers' economic situations. Nonetheless, students may have been reacting to general economic conditions at home when they contemplate business investments, which would be in keeping with the evidence reported throughout this chapter.

The importance of local economic conditions

At first it might seem strange that the students from those areas where people have reputations as outstanding businessmen, and the accomplishments to back up these reputations, showed in their essays the least interest in business investment. But from another point of view, if indigenous businesses were well-established in a district and were contributing significantly to local development, young people may have expressed less interest in business simply because they took it more or less for granted. This view makes two assumptions that must be examined: first, that students saw business as a means to local development and, second, that students were strongly oriented to local conditions and influenced in their business interests and work choices by them.

The types of business ventures in which students from different districts were interested varied considerably and this variation can be related plausibly to differences in local economic conditions, particularly when one groups the districts by general ecological criteria into highlands and lowlands. Obviously, highlanders planning to work in their home area would not want to start a fishing or sea transport business, nor would they be interested in starting a coconut plantation, any more than lowlanders would be interested in starting an arabica coffee plantation.² The raising of cattle, pigs and poultry on a commercial basis was a more realistic aim for highlanders than lowlanders.³

¹ See Appendix F for these tables.

² Robusta coffee can be grown in the lowlands but is not nearly as profitable as the arabica coffee of the highlands.

³ Although the Department of Agriculture, Stock and Fisheries is currently (1970) pursuing cattle extension programmes in lowlands areas (personal communication: M. Ward, 12 June 1970), this was not the case in 1967 so far as the students or I were aware. The point here is not whether cattle are in fact suited to the lowlands but whether or not the students in 1967 were responding to local conditions as they understood them.

Table 5.13 demonstrates how local conditions affected the types of business ventures in which the students were primarily interested. It also makes it apparent that students from lowlands districts, where the people were more familiar with skilled trades than in the highlands, were more interested in small workshops, factories or other businesses not directly connected with agriculture.

Although students were interested in starting businesses in their general home area, the frequencies and percentages in Table 5.13 do not indicate they had any interest in locating businesses in the immediate home area, i.e. their own village. Yet the essays and questionnaire answers show that this interest did exist, despite much discussion in New Guinea about the urban drift of the country's young people. Perhaps the educated young New Guinean, more so than his uneducated counterpart, felt a particular responsibility to serve his home community, and was accordingly more oriented to the village and its needs. Secondary education is a very recent introduction in New Guinea, and relatively few have gained it. The educated boy had considerable help throughout his schooling from parents and relatives: they may have helped to build his primary school, to supply food for students, or to give land for the building; they may have sent pocket money to a student at high school; and they may have contributed to a parents' and citizens' committee fund. Furthermore, parents undoubtedly realised that their own lives could be improved through the benefits of skills which students gained. It would seem that students appreciated this expectation. One student's essay expressed particularly well the desire to share the benefit of schooling with the people at home:

If I had £500 I would go back home and start my own business. I will buy a big building with £100 for my family and myself to live in. All the rest of the money I will buy a motor for selling our crops in the market and carrying passengers. When I have made profit about £500 I can build a tradestore, a dispensary, and a library store. I will get more dress and money for my parents for helping me. I will make good road and wharf with my own money. I will get a truck, and more men will come and work for me so I will show my people the skill that I get after my long school. All the people will see my work and every man and woman will work hard and help me to buy a big refrigerator for storing fish and meat.

Students' views of the importance of business in local development and service do not mean that they were unconcerned with profits or prestige in their contemplated enterprises. It would be good business to start an enterprise where it was needed as this would make customers and profit more certain. Students with some education would be likely to have realised that a business venture would probably be most successful at home, where they knew the market best. Furthermore if a student hoped to gain prestige through a business enterprise, he would most likely choose to work in his own village or tribal unit where people are most concerned with his social and economic gains.

Table 5.13

Highlands and lowlands students' business choices

Type of business chosen	Highlands students choosing it		Lowlands students choosing it		Total students choosing it	
	N	%	N	%	N	%
Tradestores	23	32.4	47	30.1	70	30.8
Transport						
road	19	26.8	35	22.4	54	23.8
sea	0	0	19	12.2	19	8.4
air	2	2.8	0	0	2	0.9
Plantations						
coffee	7	9.9	1	0.6	8	3.5
tea	1	1.4	0	0	1	0.4
copra or cocoa	0	0	6	3.8	6	2.6
vegetables	2	2.8	1	0.6	3	1.3
'fruit' or 'crops'	0	0	3	1.9	3	1.3
Workshops						
joinery	0	0	4	2.6	4	1.8
garage	3	4.2	1	0.6	4	1.8
Factories						
sawmill	0	0	2	1.3	2	0.9
fish-processing	0	0	1	0.6	1	0.4
cocoa-processing	0	0	1	0.6	1	0.4
coffee- or tea-processing	2	2.8	0	0	2	0.9
brick-making	0	0	2	1.3	2	0.9
unspecified	0	0	1	0.6	1	0.4
Livestock						
pigs	2	2.8	0	0	2	0.9
poultry	3	4.2	1	0.6	4	1.8
cattle	6	8.5	3	1.9	9	4.0
sheep	0	0	1	0.6	1	0.4
Fishing (includes nets and refrigerators)	0	0	8	5.1	8	3.5
Other (non-agricultural)						
hotel	0	0	2	1.3	2	0.9
school	0	0	1	0.6	1	0.4
theatre	0	0	6	3.8	6	2.6
contractor	0	0	1	0.6	1	0.4
bookstore	0	0	1	0.6	1	0.4
Unspecified	1	1.4	8	5.1	9	4.0
Total	71	100.0	156	99.9	227	99.8

Types of businesses chosen by district

The relevance of business choices to local conditions is best illustrated by the Manus and Madang essays, which expressed the highest proportion of interest in business investment.

Manus District. The interest expressed by the Manus students in business is impressive: 76.5 per cent of them would use their imaginary capital to begin a business venture (see Table 5.6). It is worth emphasising that none chose to make expenditures for immediate returns or for pleasure alone. The specific kinds of business investments are shown in Table 5.14.

Table 5.14

Manus students' business choices

Type of business chosen	Number choosing it	% of total business choices	% of students choosing it (N=36)*
Tradestores	23	30.3	63.9
Fishing (including nets and refrigerators)	8	10.5	22.2
Trucks	8	10.5	22.2
Motorised boats	15	19.7	41.7
Plantations	6	7.9	16.7
Sawmills	2	2.6	5.6
Movie theatre	4	5.3	11.1
Cattle	3	3.9	8.3
Garage or carpentry workshop	3	3.9	8.3
Factory	2	2.6	5.6
Other (contractor, bookstore, unspecified)	2	2.6	5.6
Total	76	99.8	211.2

* This column adds up to more than 100 per cent because it gives all the students' job choices, and many students made more than one choice.

Since only 36 Manus students wrote essays categorised as type 3 (capital return, see Table 5.6) yet mentioned 76 contemplated businesses, their essays averaged 2.11 businesses each. Although the largest number of investments would be in tradestores, these were not necessarily the final investment goal: stores are less capital intensive than some other business ventures and so offer a means to expand capital and permit diversification into other more complex enterprises.

The following three essays aptly illustrate the investment links progressing toward a final investment goal.

If I have £500 in my box, I would start my canteen in my village. I would buy some bags of rice, sugar, and other things from the store which the people can buy. The people would buy things from my canteen. I would earn more money and I will buy more things for my canteen. If I have a lot of money I will buy one outboard motor to carry my goods to my village because if I use truck from other people I would spend a lot of money to pay for it. If I want to sell vegetables to the market I would put them on the boat and come to the market and sell them.

With my £500 I will buy a film projector so that I could show films and can get a lot of money. With the money which I took from when I showed the films I would buy more films and a bigger projector and the money from that I will buy a cow and a bull and they will produce more and more cattle and I will sell milk and meat. From the money I will buy more and more cattle and milking machinery and sell the products (milk) to the Europeans and Natives in the town. When the money is big enough, I would buy a milk tram and sell my milk early so that the families can have milk for their breakfast. As my money increased I will buy a sawmill at my village and produce timber for the PWD [Public Works Department]. When the money is big enough I would buy a small workshop and tools such as planes, chisels, hammers, saws, clamps etc., and glues, paints and varnish etc. I will make chairs from the timber which I produced and as well, cupboards, tables, and sell the products to the people who wanted them.

If I have £500 I would like to build a small trade store for my brother. I consider that £500 is enough to make up the small trade store and have it grow bigger. This means that inside this £500 I would gain profits from it and buy more goods and new materials from the large shop to enlarge my small trade store until it becomes a good and efficient one. Besides it must have a business of cocoa or coconut plantation to help it going on. When I believe that I have reached more than £500 then I can get something else beside it. By means of this I hope I will obtain one motor boat or large store in my village. This will be used for my brother and also for all my relations and parents in the village. So in my opinion that this is how I would do with the £500 which I have.

Motorised sea transport or commercial fishing industry ventures were most frequently the final investment goals, obvious choices for local economic development in an island area poorly suited for cash cropping and lacking extensive road development. The importance of boat transport for the Manus is well illustrated in the following two essays (emphasis added):

If I have £500 I think I will definitely buy one of the useful things which can last many years in my life. The thing which

will really make me happy and famous boy on the Island of Manus is a boat. A boat can profit my future fortunes because boat is the only means of handling things from my Industry to the people who live in Lorengau town or other towns in the Territory. With this £500 I will buy a metal boat so it will last me for many years to use it. If it is a small one and cost less than £500 the money which is left over I will then buy something from the store and start making a canteen in my own village and get profits money from the village and all villages around my village. It is unwise to use transport from other Company or other people. This only gives them money or makes their company grow well if I use their boat to bring my cargoes or bringing in store supplies for my canteen. Since Manus has no modernised roads or no roads from my village to village then to town it will be important to buy a boat. The boat is important to travel to places in far distance in rough weather too much for canoes. Many people choose boat to go to Towns to bring their copra and get their cargo back home. In this case if the people have no canoe they will pay my boat to come to Town and see all big ceremony happening in Town. If the government wants all transport to bring the Teachers and patrol officers to go around to see the villages I will permit them to use my boat. I will also allow sick people to go inside my boat and go to hospital. At first it was only £500, but the boat has made more than £500.

If I could have £500 I would spend it to buy a speedboat. Because it is important for transporting goods from the village to the town and some other places. Because of no roads this is very important. If some of the money is left I would buy some of the goods from the store and start my own business such as starting a small canteen. The goods will be transported by the boat I have bought. This is very important because if you have no transport of your own, you would have to pay for the transporting of your goods in another persons or companys transport.

The desire of the Manus people for government aid to establish a fishing industry was expressed to the United Nations visiting mission in 1968. In the absence of refrigeration, cold-storage installations would be needed, and students who imagined themselves investing in the fishing business took this into account, as the following example illustrates:

I think £500, I would spend it on some of the food that I will make a small trade store. The food which I buy will be in the trade store and when the people who wanted to buy anything out of my trade store it will cost him or her money...or the best is I would spend it on a gil net. When I get a gil net I would go fishing and when we fish and think that we have enough fish then sold them to other people from other district or town. I would do that for 1 year and when I have enough money then I buy

a frig and then when I have just finish fishing I would put them in the frig and they can stay there for many days so they will be fresh at all time. The people will come and buy it when it is bad weather when the people have no meat to eat. So it will cost them more money. In future I will have more money and I will become rich. Then the money I took out of those things I will buy another thing with them. My village will grow more and more better. When we have enough money we buy a fishing boat to pull the gil net along the water. Then when I catch many fish I would send them to other districts and make more money.

Another student decided to begin by purchasing a refrigerator, apparently a small one, with the idea of having his 'factory' grow larger in time. Yet he too realised that improvements might be slow:

If I have £500 I would buy a refrigerator and a motor engine. With these two requirements I will start a small fishing industry. My people can be employed to work. To start off we have to get few wages. We catch fish, freeze them, and sell them in town and with this money we would buy more equipment. We slowly build up our factory until we get a big one or we might not be able to, so we continue the small one.

It is obvious from these essays that Manus students consciously recognised local needs and planned to start their businesses locally. Only one of the essays not quoted did not refer to the student's own village as a centre for his contemplated business enterprise. The writer wanted to start a frozen fish business. To be near a main market, he would move from his village to a town. However, the town he chose was still on Manus.

This strong orientation towards the village as a site for self-employment was particularly striking because Manus people, with their superior education, had good employment opportunities in urban centres outside their district. Among Europeans in New Guinea, the Manus District is known as the greatest exporter of educated labour because 'after all, there is nothing on Manus for people to do'. Although this may be true, the Manus people, particularly the educated youth, may not be satisfied with this situation. The extraordinarily great interest of the Manus students in starting businesses in their home areas, and the few opportunities for them to do so now, may foreshadow a potentially difficult political situation if local economic conditions are not improved.

Madang District. The interest of Madang students in business ventures focused on tradestores and on trucks to carry freight and passengers (see Table 5.15). Unlike Manus, Madang is known as a tourist centre, and international air tours there also feature half-day boat trips offshore. A few students said they would like to acquire boats primarily for tourism, and one said he would start his own hotel.

Table 5.15

Madang students' business choices

Type of business chosen	Number choosing it	% of total business choices	% of students choosing it (N=29)*
Tradestores	18	35.3	62.1
Trucks	19	37.3	65.5
Boats	4	7.8	13.8
Plantations	4	7.8	13.8
Joinery, garage workshop	2	3.9	6.9
Hotel	1	2.0	3.4
Theatres	2	3.9	6.9
Private school	1	2.0	3.4
Total	51	100.0	175.8

* This column adds up to more than 100 per cent because it gives all the students' job choices, and many students made more than one choice.

Twenty-nine Madang students wrote essays featuring 51 business investments, which gave a rate of 1.76 businesses chosen per student. As in Manus, when students had capital intensive businesses as their ultimate aim, they visualised starting with a small investment, and gradually expanding with the profits gained. The following is a typical essay from a student who would like eventually to set up a joinery:

I would become a businessman if I have £500. You could buy a strong piece of machinery and it could help you start a big business if you are careful. If I have £500, I would buy a utility and also make a little trade store. I will also buy a piece of land by getting a loan off the trading bank and on the land I would plant or grow cash crops and also I could expand my business. When I see that from that £500 my business is getting larger and larger, I would try to form a joinery and for certain I will earn much money and my business will be a big company or partnership type of business.

Although the Madang essays did not emphasise village service through business as much as the Manus ones, the writers did locate their businesses in their home village or region. They also recognised that businessmen could meet local needs, as the following essay shows:

I would like to build a trade store in my village and do my own business so that I could have more money than I had before. Also if I have more money, I could put up one more business beside the trade store. The other thing is in my village we have no Trade store and therefore my people are very hard to go to some other places to buy their thing which they need. Therefore, I found that I must build a tradestore to help my people

from walking or travelling far distances. Also they too will help me to raise my business to a great standard of business. Then in future I could be one of the richest men in the village.

Students did not see business only as a means of serving the community, but it was the role of business which they emphasised. That there was no incompatibility in their minds between providing a service and making profits is shown most clearly in the following essay:

With the £500 I will do something with it. It must be a good one. I would use the money for the poor people. I would help them make the home tidy and neat. Help them and give them what they want and what they need. Make business out of the money I have. Buy a truck or boat. I would bring passengers from place to place. From this, I would get some more money and help my village and build school and borrow the teacher and teach my village people to be educated. Pay the teacher for his kindness. Make my people to become an educated people.

Other districts. The general suitability to local conditions of business choices expressed by highlands students has already been discussed, but the comparative lack of business interest among Tolai and Eastern Highlands students deserves further comment.

Table 5.6 showed that the Tolai expressed the greatest interest in the intermediate return type of expenditure. This was usually for a European-style house. Tolai socio-economic standing was generally higher than that of other groups in the sample.¹ Since the families of the Tolai students had comparatively high living standards, it was only natural that the students should have expected to continue and even improve on them. Also, since their 'fathers' generally had more business assets, more Tolai students than others could have expected to become involved in either a mother's brother's or father's business should they be interested in business activities.

Tolai students, unlike those from other areas, did not think of business primarily as a means for helping in local development. Their contemplated business ventures were located in their home district, but their essays did not mention the home village as a business site, or needs of the village. Profit appeared to be the primary concern of the Tolai students. Perhaps community business development was so well established that needed services already existed. Educated young men might have felt they could better aid their communities by starting profitable enterprises or taking well-paid jobs away from home. In a poorly-developed area a young man could easily justify his interest in business by providing services to the community, but where commercial services were well established, an ambitious young man must justify his

¹ See Chapter 3.

business interests by making profits outside the immediate village environment, and by being prepared to share these with relatives at home.

The businesses chosen by Tolai who in their essays expressed a desire to invest are summarised in Table 5.16. The 17 Tolai students choosing to invest stated only 22 specific business choices and hence had a rate of only 1.29 choices each. This is considerably lower than the rate for Manus and Madang, and is consistent with the lesser concern for business investment generally shown by the Tolai students.

Table 5.16

Tolai students' business choices

Type of business chosen	Number choosing it	% of total business choices	% of students choosing it (N=17)*
Tradestores	6	27.3	35.3
Plantation	1	4.5	5.9
Factories	2	9.1	11.8
Trucks	8	36.4	47.1
Unspecified	5	22.7	29.4
Total	22	100.0	129.5

* This column adds up to more than 100 per cent because it gives all students' job choices and some students made more than one choice.

Although the Eastern Highlands students ranked lowest on investment interest, their essays did reveal a concern with rendering community service through business. Some writers felt that business profits should be balanced by community service because businessmen whom they knew were very afraid to appear too selfish in commerce, lest sorcery be used against them by jealous villagers. In a private conversation one student revealed to me that one of his kinsmen, a prominent local businessman, had an elaborate plan to guard against such sorcery. The businessman planned to have the student educated in modern commercial techniques, and the latter would then return to the village where, with the aid of capital supplied by the businessman, he would help people start various commercial projects. These projects would bring the villagers substantial profits, and, hopefully, would help to dampen any resentment over the businessman's affluence.

The essays from elsewhere in New Guinea did not reveal whether other businessmen were similarly concerned, so it cannot be concluded that fear of sorcery dissuaded a disproportionate number of Eastern Highlands students from having business interests.

Table 5.6 showed that the emphasis given by Eastern Highlands students to immediate investment was surpassed only by Chimbu students. It is

likely that young Eastern Highlanders whose older kin had made a name for themselves in business within one generation of becoming acquainted with money were not as concerned with starting businesses as their less wealthy highlands counterparts were; instead they may have been more enthralled with the mere possession of money and the goods it could buy. Nevertheless, almost one-quarter of the students had as their imagined investment interest a capital return on a business investment. Although this was the lowest in the New Guinea samples, it was still higher than the average business interest of Ivory Coast students.¹ That it was so high for a group recently introduced to money and experiencing such rapid and striking success in its initial commercial ventures, is perhaps an important omen for the future of New Guinea.

General concern with village service

Student concern with serving the home area was also evident in the data on occupational preferences. Table 5.2 indicated that 50 per cent of students gave 'helping' reasons for their job preferences. Of these, 22 per cent volunteered the information that they would help their own people and work in their own community. If those who said they wanted to help their parents (an additional 4 per cent) are assumed to be planning to do so in their home village, the percentage of students preferring village-located work is 26 per cent. A good proportion of the remaining 24 per cent of students who simply stated that they wanted jobs 'to help' would probably also reveal a home bias if questioned about the locale of their intended efforts.

Table 5.17 summarises data bearing directly on preferred work place of students from Manus,² Goroka (including both Chimbu and Eastern Highlanders) and Malabunga high schools. These students were asked specifically where they wanted to work and given the choices of: (i) your own district, (ii) elsewhere in New Guinea, (iii) Papua - particularly Port Moresby (or the name of the place in Papua they might prefer if it was other than Port Moresby), and (iv) Australia.

Manus and Goroka high school students were also asked if they wanted to work in their 'own small place'. In Table 5.17 their positive responses are included under the category 'own district'. If these responses are considered separately, one would find that the entire 76 per cent of the Manus and 33 per cent of the Goroka high school students listed as wanting to work in their 'own district' would want to work in their 'own small place', the village. This is roughly the same amount of interest in village-located work as expressed in the £500 essays - 76 per cent for the Manus and 31 per cent for the Chimbu and Eastern

¹ See p.75.

² I am indebted to Mr K. Ferris, then headmaster of Manus high school, for collecting and posting the Manus data to me in Australia.

Table 5.17

Students' choices of a place to work

	Eastern Highlands/ Chimbu		East New Britain		Manus		Total	
	N	%	N	%	N	%	N	%
Own district	41	66.1	38	58.5	38	76.0	117	66.1
Elsewhere in New Guinea	8	12.9	8	12.3	11	22.0	27	15.3
Papua	1	1.6	8	12.3	0	0	9	5.1
Australia	12	19.3	11	16.9	1	2.0	24	13.5
Total	62	99.9	65	100.0	50	100.0	177	100.0

Highlands students combined. Although the same data for Tolai students are not available, one could expect that their interest in village service would be lower, as the £500 essays suggested. Table 5.17 indicates, as did the £500 essays, that the Tolai showed the greatest willingness of all students to work outside the Trust Territory of New Guinea, and were the only group with any notable interest in working in Papua.

Relation of job preferences to local needs

If local service was so important to students and was not mentioned merely to give a quick and socially acceptable answer on questionnaires, one could expect to find different preference rates for particular jobs according to the varying needs of the different districts.¹ Table 5.18 shows that there was considerable variation in job preferences, a great deal of which can be plausibly related to differing local conditions.

The differing preferences shown by students from the six districts for the three generally preferred jobs - mechanic, teacher, and agricultural officer - are especially worth discussion.

Mechanic. Differences in the number of indigenous-owned vehicles, condition of local roads, and number of mechanics in a district should all influence preference differences if students who chose to become mechanics generally planned to work locally.

The three top-ranking districts on student preference for mechanic - Chimbu (42.9 per cent), Eastern Highlands (26.3 per cent), and East New Britain (25.0 per cent) - had, according to motor vehicle registration officials and records consulted, the greatest number of indigenous-owned motor vehicles, although ownership did not follow this ranking exactly

¹ The questionnaire on job preferences is given in Appendix J.

Table 5.18

Job preference by student's district of origin

Job preference	Chimbu		Eastern Highlands		East New Britain		Madang		Manus		Western Highlands		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Mechanic	15	42.9	10	26.3	13	25.0	11	20.4	7	14.0	6	15.0	62	23.0
Teacher	7	20.0	10	26.3	4	7.7	11	20.4	5	10.0	5	12.5	42	15.6
Agricultural/co-operatives officer	2	5.7	1	2.6	8	15.4	2	3.7	11	22.0	5	12.5	29	10.8
Medical	1	2.9	4	10.5	4	7.7	2	3.7	3	6.0	3	7.5	17	6.3
Military	2	5.7	3	7.9	4	7.7	4	7.4	7	14.0	3	7.5	23	8.6
Business*	0	0	3	7.9	2	3.8	4	7.4	3	6.0	5	12.5	17	6.3
Patrol officer	1	2.9	0	0	2	3.8	4	7.4	3	6.0	5	12.5	15	5.6
Police	1	2.9	0	0	1	1.9	0	0	2	4.0	0	0	4	1.5
Carpenter	0	0	0	0	1	1.9	2	3.7	3	6.0	0	0	6	2.2
Radio-related	1	2.9	0	0	3	5.8	3	5.5	1	2.0	0	0	8	3.0
Professional	0	0	0	0	3	5.8	2	3.7	0	0	2	5.0	7	2.6
Government	0	0	1	2.6	1	1.9	1	1.8	0	0	0	0	3	1.1
Pilot	3	8.6	2	5.3	0	0	1	1.8	1	2.0	2	5.0	9	3.3
Supervisory	1	2.9	2	5.3	3	5.8	3	5.5	0	0	3	7.5	12	4.5
Other	1	2.9	2	5.3	3	5.8	4	7.4	4	8.0	1	2.5	15	5.6
Total	35	100.2	38	100.0	52	99.8	54	99.8	50	100.0	40	100.0	269	100.0

* This includes preferences for jobs as cash crop farmers, 'businessmen' and boat builders. Choices of jobs as mechanics and agricultural officers, even when it is clear that these were intended as the basis for a future business, are not included.

as Chimbu had fewer vehicles than the other two districts. However, the condition of local roads and the present supply of mechanics also influenced the pattern.

The East New Britain and Eastern Highlands Districts had the highest proportions of population served by roads, and the Chimbu District was not far behind them (see Table 2.3). However, roads in the rugged highlands were in far worse condition than those in the densely populated portions of East New Britain where the terrain is relatively flat; maintenance problems were therefore much greater in the highlands. In addition, the highlanders, who started owning and operating vehicles in the late 1950s, had much less mechanical experience and far fewer mechanics than the more sophisticated Tolai. Finally, whereas the Tolai people had access to numerous European repair shops (as well as some indigenous-owned ones), there were few European repair shops in the highlands. The highlanders were greatly dissatisfied with what they considered to be their exorbitant charges and poor services. Hence the highlanders had a much greater need for local mechanics than did the Tolai, and the Chimbu District, with the worst roads and poorest services, had the greatest need of the two highlands districts.

The reasons given by highlands students with a preference for the job of mechanic demonstrate that students recognised the nature of the local market for the skills of mechanic. Students did not generally think of becoming a mechanic with government or private companies which might transfer them to an urban centre, but rather they thought of servicing run-down trucks belonging to their relatives. They realised that by becoming mechanics they could both provide a community service and engage in a potentially profitable business, as the following examples of reasons given by highland students for job preferences show:

I would like to be a mechanic because my people keep on buying cars and when they don't work well, that's the end of them. If not they bring them to the mechanic and after they are charged with tremendous amount of money. That's why I want to help my people.

I want to be a motor mechanic because we can see many car just lay around it need man to work for its a worthwhile job.

I want to start my own business. After a 5 year apprenticeship I want to start my own business instead of working for somebody.

I like it. I want to build my own garage.

Later on I would like to have a trucking business so I think it would be better if I became a motor mechanic myself and fix my own trucks instead of hiring somebody else and waste money.

The reasons Tolai students gave for choosing to become mechanics primarily emphasised their own abilities, interests, and personal suitability for the work rather than providing services to village or family

trucks or starting their own businesses as mechanics. Where a need for mechanics was recognised it was either at a national level or, more commonly, at a very personal one. Many students assumed that they would own a car or truck in the future and that they would be able to save on maintenance costs if they learned to be mechanics. In addition, the comparatively high economic development of the Gazelle region meant that the Tolai students could consider either personal or national needs rather than just local development needs. Examples of their reasons are:

Because when I buy a car for myself and it breaks down, I'll be able to fix it.

Because if I am going to work as an employer and buy myself a car, I can just fix it again when it is broken down.

I chose this kind of job because if you train you do your training practically and also because I can repair things which go wrong in cars, radios, etc. If they are mine without any doubt at all.

For the other districts, preferences for a mechanic were also reasonable in terms of local needs. With a low proportion of people served by roads and low local incomes, neither the Madang nor Manus people owned many vehicles, and there was little reason for students from these districts to express much interest in becoming mechanics. However, the low interest of the Western Highlands students in this work may seem surprising since their district, like the Eastern Highlands and Chimbu Districts, was experiencing the beginnings of indigenous commercial development. But in the Western Highlands, development in most fields lagged behind that in the other two highlands districts and there was a greater need for a range of skills: Western Highlands students placed higher priorities on jobs other than mechanic, which was not so needed.

Because the general interest in being mechanics may seem unusually high for high school students (who in New Guinea could presumably qualify for white-collar employment upon graduation), it is worth emphasising that students did not seem to have any notion that status and respect accrued only to those who held 'clean jobs' or 'desk jobs'. Perhaps their acceptance of 'dirty work' as suitable for the educated was one unexpected benefit of Europeans retaining for so long the 'dirty jobs', such as mechanic or truck driver, which in other colonial areas were often the first to be handed over to indigenous workers.¹ New Guinean students may not have been burdened with the belief that unskilled or semi-skilled labour should be denigrated by the educated, but may have assumed such work was proper for them since Europeans could be seen performing it. One student explained his job preference: 'I myself

¹ Personal communication: R.G. Crocombe, 8 May 1968.

have seen people who have education who are working on fixing car, truck and ship today.'

In summary, the rates of student preference for being mechanics, and the reasons students gave for this choice, indicate how keenly attuned they were to local needs.

Teacher. As the great disparity between districts in the number of school places per head of population and the numbers of local teachers shown in Tables 4.7 and 4.10 would lead one to expect, Manus and East New Britain students showed far less interest in becoming teachers than the highlands and Madang students. Western Highlanders, however, showed less interest in the occupation of teacher than might be expected. As was the case with their lower interest than other highlanders in becoming mechanics, this may have been due to the generally wider needs in their district.

Although no students suggested that they planned to become teachers in order to start their own schools, their reasons for wanting to become teachers did reveal an interest in serving locally. This interest was not unrealistic, for a teacher could usually expect to serve, for a while at least, in his home district, or even his home village. Data provided by the Department of Education offices in Manus and Rabaul show, for example, that a considerable proportion of the teachers working in the Manus and East New Britain Districts were from these districts, and that many of them were working in their home village (Table 5.19).

Table 5.19

Proportion of Manus and East New Britain indigenous teachers working within their own district, and within their own village, 1967

Indigenous teachers	Manus		East New Britain		Total	
	N	%	N	%	N	%
Employed	75	100.0	199	100.0	274	100.0
Working in own district	43	57.3	151	75.9	194	70.8
Working in own village	12	16.0	65	32.7	77	28.1

Agricultural officer. The position of agricultural officer, like the job of mechanic, was primarily seen by students as a means both to help local development and to obtain a skill for their own commercial undertakings. I expected, then, that students from areas with lower cash crop production would show the greatest preference for being agricultural officers, and that those from areas of higher production would show the least. This is so for the Manus and Eastern Highlands students but not for the Madang and East New Britain ones. There was little point in a Madang student becoming an agricultural officer to perform local service if his people had little hope of success in agricultural development. The unexpectedly high interest of the Tolai, given their

advanced development, in the position of agricultural officer is perhaps best explained by their tendency to think about other than local needs. Many Tolai students who chose to be agricultural officers did not mention helping their own people, but emphasised a need within the whole country. Since they were cognisant of the advanced position - particularly in cash cropping - of their people, the Tolai students may have been beginning to feel some responsibility for sharing their skills and accomplishments with other New Guineans.¹

The differences in the rates of interest in being an agricultural officer between the highlands groups reflected different local needs for cash crop development.

Other jobs. The different preference rates for some other jobs also seemed reasonable in the light of local conditions. As mentioned regarding the Western Highlands, for example, no one job was strongly emphasised, perhaps because of the wide range of skills needed in this most pioneering of all the districts. Compared to students from other districts, those from the Western Highlands did, however, show a greater interest in becoming patrol officers, a preference probably also related to the frontier quality of life in the district. Many of the Mt Hagen high school students realised that patrol officers had a major role in introducing the local people to the laws and policies of the Administration, and explicitly stated that as patrol officers they could ease people's confusion concerning these innovations. The students from Manus, where a naval base is located, showed the highest preference for military work, perhaps hoping to be stationed near home. The Tolai showed a noticeably wider spread than did other students in their job preferences, and a greater concentration on specialised or professional work. This was probably another manifestation of the tendency for Tolai students to make their job choices in terms of their school training, interests and abilities, a luxury permitted to them by the relatively well-developed state of their area.

¹ T.S. Epstein (personal communication: 8 February 1969), who has worked extensively among the Tolai, told me that young Tolai often discussed the relatively advanced status of their people in cash cropping, and the need for them to help spread prosperity to other groups.

Chapter 6

Student views of European attitudes and efforts

Whether or not a New Guinean becomes a successful entrepreneur depends on the opportunities available to him, as well as on his own interests and abilities. Without roads, cash crops, credit, and other vital economic improvements and services, would-be entrepreneurs are likely to be frustrated in their desires for commercial success. In New Guinea the relationship between indigenous people and economic opportunities is almost wholly mediated by Europeans. It is the European members of the Administration and the European managers of expatriate banks and business firms who usually make the decisions as to where roads are to be placed, what cash crops are to be introduced, who will receive extension or business advisory services, and who will be granted a trading licence or a loan. In this situation, one can reasonably assume that the views New Guineans have of Europeans are molded largely by those economic opportunities Europeans have made available to them. Also, New Guineans' aspirations are probably related to their opinion of European attitudes.

This chapter first describes the general views students had of European attitudes towards, and efforts for, New Guineans. Then it examines differences in student views according to district and investigates whether these are better explained by what Europeans have done for New Guineans than by cultural or psychological characteristics of the district populations. Finally, the chapter considers the possible influence the students' views of Europeans had on the goals they set for themselves.

To find out if New Guinean students saw Europeans as being generally helpful and co-operative or withholding and self-concerned, I gathered two kinds of data: first, essays on the topics, 'What Europeans think of New Guineans' and 'What New Guineans think of Europeans'; and second, pictures which students drew depicting Europeans and New Guineans together, and about which they wrote interpretive stories.

Collecting essays on student views of European attitudes

Before I decided to use essays to explore student views of European attitudes to New Guineans, I had asked pre-test students to tell stories about pictures (based on New Guinea scenes and drawn by an artist following my instructions) showing Europeans and New Guineans in situations

where their relationship could equally well be co-operative or hostile. I found that students did not comment on the presence of two races, let alone elaborate on their relationship. There is a well-known danger in using such projective material: pictures containing cues about very emotion-laden matters can elicit what is called an 'avoidance response' (subjects repress references to things about which they feel a great deal of anxiety). Because the students ignored obvious racial cues, I assumed this might be happening, and decided to abandon my inquiry into student views of European attitudes towards New Guineans: I did not want to use more direct methods for fear school authorities would object that any unfavourable results were the outcome of my 'putting ideas into students' heads'.

Then two Australian teachers with whom I had discussed my difficulties - and possible remedies for them - tried to elicit student views of Europeans in the direct but open-ended way of asking students to write essays on 'What New Guineans think of Europeans' and 'What Europeans think of New Guineans'. Both teachers told their students that the essays would be for me (one also said that she herself would not read the essays, while the other said she would read them before passing them on but hoped students would still be frank). According to the headmaster at their school, both (one a Guidance¹ and English teacher, the other, a History and English teacher) enjoyed exceptionally good relationships with students. The content of the essays they collected covered a wide range of opinions, which suggested that with proper rapport the direct method could elicit views of Europeans that were more than stereotyped answers.

I was able to collect similar essays at three of the remaining four schools. Writing them was always the last task I gave students, to allow the greatest possible rapport to be created first. At the fifth school, two teachers collected the essays, following my detailed instructions. They told students that I was the only one who would read what they wrote. In order to encourage free expression, students were always told to omit their names from their papers if they so wished.

Whenever I gave the essay assignment, I began with these instructions:

I have asked you many questions already and you have spent a lot of time answering them. But there is still something very important which I want to ask you about. It is something that is important in the Territory now and it will continue to be important in the future - race relations.

We all know what we would like race relations to be like. Sometimes they are this way and sometimes they are not. I want you

¹ 'Guidance' periods in schools were devoted to a wide range of discussions, from occupations and independence to dress or manners in school.

to tell me what you think of race relations in the Territory by writing a two-part essay for me. Part one will have the title: 'What New Guineans think of Europeans'. Part two will have the title: 'What Europeans think of New Guineans'. (The titles were written on the blackboard.)

You can say good things or bad things. You can give your opinions or the opinions of others. If you do give your own opinions, say they are your own. If you give someone else's opinions, say whose opinions they are - whether they are the opinions of people in the village, or people in town or whatever.

The first essay will be the easiest for you to write because after all you are New Guineans and you know what you think of Europeans, and you know what your friends and relatives think. Wherever you can, give examples to show why you or your friends and relatives think as they do.

The second essay will be more difficult to write because you cannot know for sure what Europeans think about you. But you can get some idea from the way Europeans treat New Guineans or from the things you may have heard Europeans say about New Guineans. You can use the things Europeans do and say to guess what Europeans think about New Guineans. Again, give examples if you can, and say what kinds of Europeans think the way you describe.

One more thing. I know that you have worked very hard doing all the things I have asked you to do, and you know how pleased I am with your work. I know some of you will want to write the things you think will please me most. Although I am a European I do not stay permanently in New Guinea or Australia so I am not going to think that the things you write will have anything to do with me personally. If you think of good things to write about race relations, fine. If you think of bad things to write, fine. You can please me most by telling me what you really think.

Again, what you are writing is for me to read and not for your teachers. Some other people may read some of the things you write, but they will not see your names on your essays. I would like it if you would put your name on your paper. But if you do not trust me or fear someone else might see your paper and you would write more honestly with your name off the paper, please leave it off. If you do leave your name off the paper, please tell me what village and sub-district you come from and what form you are in so that I can look at your essays along with all the other things I know about you and try to understand the things that make you think as you do.

Are there any questions?

I told students to use one side of a foolscap page for the first essay, and the other side for the second essay. I gave them one period (forty minutes) to do the work, although a few students wanted to write more than they could in one period and were given extra time to finish.

Evaluating student essays

Students who sought to write what they thought I really wanted would presumably write something good and something bad in their essays. About one-third reported good and bad things equally. One-third wrote essays that were wholly or decidedly favourable, and the remaining one-third, essays that were wholly or decidedly unfavourable (see Table 6.1). This distribution seems to reflect honest opinion more than slavish writing of 'what she wants to hear'. Students who saw racial unrest in America as relevant to the New Guinea situation did not hesitate to mention it, despite the possibility of offending me, as these examples show:

In the last couple of years the New Guinea people thought that Australians are treating us badly. They said we want Americans to rule our country, we want to be part of America. I myself think that Australia should look after us and rule us. I think that if Australians leave us and go aback to their own country, who's going to rule us and protect us from attacking? No country will help us.... We need countries to help us.... I think if America rule us she will really treat us like pigs, isn't it?

Most of the New Guineans who are at home (in the village) have no idea about the Europeans.... The educated people, they know what the Europeans are like and what they are trying to do. They can say that these Europeans are doing right things or helping us or they can say the opposite way. I think too those of us who are educated know that the Europeans are trying to fool us because if they teach to higher form then we might kick them off in their positions. That is alright because this is our country.... That is all my main points and these concern the educated people of this country and the Europeans. I think the Negroes have beaten Americans so that is why the Europeans do not want to give full education.

Essays were written by 224 students from the following districts: Chimbu, 22; East New Britain, 52; Eastern Highlands, 34; Madang, 32; Manus, 54; and Western Highlands, 30. At Goroka and Tusbab high schools, teachers collected the essays. Because I relied only on certain teachers and they did not have classes with all the sample students, the numbers for the samples for Chimbu, Eastern Highlands (both from Goroka high school), and Madang are less than the total number of students I worked with in other contexts. I collected the essays from East New Britain, Manus, and the Western Highlands, and any incomplete totals meant that some students were absent. The essay data are evaluated in proportions or ranks, so there was no great drawback in having unequal numbers from the six district samples.

To quantify and relate opinions in the essays to other variables, I set up a system to code the essay contents. I had names of writers masked and the essays arranged in a random order determined by a table of random numbers used with an alphabetic list of student writers. I read through all the essays several times at one sitting, making notes on topics frequently mentioned. Then, using another set of essays from a pre-test group, I totalled the frequencies with which the topics were mentioned, read the set of essays again, and added or eliminated categories for the final scoring system. The essays for the final scoring were already in random order so that I would not know where they came from and could not bias my scoring. All were typed in a typing pool and had the names of students removed when I read them for the final scoring. After six months, I read one-quarter of the essays again and obtained a reliability of .93 with my first scoring.

Students' attitudes were scored according to things they appreciated and things about which they complained. For each element, many itemised categories were defined. Once the itemised categories - both appreciations and complaints - were tabulated for each student's pair of essays, I gave each pair a single score representing its emphasis: a score of 1 if it were primarily appreciative; 2, if it balanced criticisms and appreciations; 3, if it were primarily critical. This overall score enables statistical tests to be done to evaluate the relationship between student views of Europeans and other data. It also permits us to discover whether students from less developed areas were more critical of Europeans' supposed attitudes to New Guineans than were students from better developed areas.

It is emphasised that the categories I scored and use to determine the overall score were not a priori ones I decided should be important to students, but ones derived from what they actually wrote. However, letting students write open-ended essays had its disadvantages, especially for comparative work. A topic may not have been mentioned by some students, and one cannot tell if this happened because a student thought it irrelevant, lacked time, experienced stress or 'blocking', or was merely unconcerned. The alternative approach would have been to use some kind of questionnaire. I thought this inadvisable because I did not have information on students' views from which I could construct a relevant questionnaire, or time to validate one based on essay contents. As I was working on a sensitive issue, I did not want to cross the boundary between investigator and teacher, which I might have done had I used a questionnaire that forced students to consider particular points. The open-ended approach did mean that the topics raised were the students' own concerns.

Before the overall scores are summarised and related to other data, some assumptions that students made about what Europeans should be like are discussed, and their appreciations and complaints described in order to provide a better understanding of the reasons they expressed appreciation or criticism in the manner they did. The discussion of the

students' assumptions is based on a frankly subjective reading of all the essays.

Ideal Europeans: student views

Students stressed that New Guinea ultimately belonged to New Guineans, not Europeans. To them, New Guinea as a Trusteeship was held literally 'in trust' by Australia: the United Nations trusted Australia to develop New Guinea for the benefit of its rightful owners and citizens, the New Guineans. Students knew from their studies that Australia asked for the responsibility of looking after New Guinea. For them, Australia had a somewhat parental role to play; they even spoke of Australia willingly encouraging and aiding the development of the country as a mother would that of a child. In this context, students were understandably confused by Australian complaints about 'excessive' requests of New Guineans, about New Guineans wanting to be consulted on development, or even about the taxes Australians paid for development. Because students assumed parental and unselfish interest on the part of Australia, they thought it natural that New Guineans should make requests of, and expect their wants to be of interest to Australia. And taxes, to them, were necessary 'to make the Territory grow'.

The students' assumption that Europeans in New Guinea should be primarily concerned with the welfare of New Guineans doubtless gained support from their exposure to teachings about Christian moral values. Christianity represents a goodly body of Western values, and students (whose own traditional values were often denigrated by those who professed Christianity) would rarely have dared to question whether or not Australians did believe in and act on the values their representatives proselytised. Christian charity was regarded by students as a respectable and plausible motivation to assign to Australians in New Guinea.

Associated with the students' belief that Australians wanted to develop New Guinea for the benefit of New Guineans was the idea that Australians should see New Guineans as worthy and basically equal people: people isolated for a long time without knowledge of skills needed to develop and run a modern economy, but nevertheless people with equal potential. In the students' eyes, 'race' did not render New Guineans inferior. Their essays seemed to show that they were generally content with their colour and did not fully realise the significance it could have to Europeans. When, as part of a separate study, I asked students at Goroka, Manus and Malabunga high schools what colour they would like to be - yellow like a Chinese, white like a European, black like a Buka,¹

¹ People from the Buka-Bougainville area are considered to be the darkest New Guineans, and most of the students in the sample had lighter skin colour.

or 'the colour you are now' - 91 per cent chose the colour they were.¹ Since these students were not involved in a 'black power' movement, their satisfaction with their colour should be taken, I think, as genuine and natural, reflecting their trust in European attitudes towards them.²

Education, the students assumed, was being extended to New Guineans specifically so that they might attain the potential of their basic equality, which they believed Europeans already recognised. With their assumption that it was education and not 'race' which separated New Guineans and Europeans, students were particularly interested in European treatment of educated New Guineans, the 'equal' ones. When Europeans excluded, ignored, belittled or insulted educated New Guineans, students found this most confusing. It suggested to them that Australians believed New Guineans were basically inferior. Such behaviour could lead New Guineans to question their existing assumptions about Australian attitudes towards them, but for the present, students usually concluded that people acting in these ways represented a type of European the Administration would not knowingly countenance. They assumed that the Administration was sincere in its efforts and was doing a great deal to develop New Guinea and to provide opportunities for young New Guineans. Even when they had experienced blatant rudeness and selfishness, many students maintained their assumption that Europeans were in their country to help. They did not conclude that all Europeans were bad, but tended to divide Europeans into 'good' and 'bad' groups. The 'good' Europeans were those who came to help, while the 'bad' were those who came for personal profit. Generally 'good' Europeans, to the students, included Administration personnel and missionaries, while the 'bad' comprised plantation owners and businessmen. Students particularly resented individuals in the 'good' class who did not behave as expected: they saw them as cheating the Administration or church as well as New Guineans.

Unhappily, what made a 'bad' European in students' eyes may simply have been a 'good bloke' by European standards of behaviour in New

¹ Of the 178 sample students asked, 161 replied that they would like to stay the colour they were; 5 said they would like to be yellow; 5, white; and 7, black.

² The unique nature of the New Guineans' attitude is attested to by Wagatsuma (1967) who indicated that a preference for other than light skin is most unusual; by Coles (1967) who discussed problems black children can have in accepting some of their characteristics; and by black psychologist Thomas (1970:78) who pointed out the difficulties his people can have in affirming their blackness, a goal which individuals may reach only after they have passed through several stages, some of which are movements designed to enhance the position of black people in society.

Guinea. Motives which Europeans accept as proper - few, even in the Administration, would see themselves as being in New Guinea solely for altruistic reasons, and surely businessmen could be surprised to discover that they are expected to run businesses for the benefit of New Guineans rather than for personal profit - can come as a shock to New Guineans, just as the trust of New Guineans can disturb Europeans. New Guineans considered some behaviour as rude simply because it contradicted what they had been told by Europeans were the civilised standards of behaviour which they should adopt. These inconsistencies led New Guineans to criticise Europeans about standards Europeans themselves set.

Generally, students had very high expectations for Australian efforts and a fund of goodwill toward Australians. They did appreciate what Australians were doing for them, but they may have taken these things more for granted than Australians might think they should. From their point of view, Australia was an exceedingly rich country, and the 'fact' that it gained the Trusteeship in order to help New Guinea led students to accept that help as natural. Where there was any element of 'cargo thinking', students might have assumed that a gift would not hurt Australia at all: there was always more, for little effort, where that came from, and the only question was why Australia did not give more. For students it was the exceptional Australian who did not help rather than the rare one who did, and one bad Australian was perhaps more memorable than the many good. Student criticisms offered great insight into their expectations, and were usually expressed far more richly than the sometimes perfunctory appreciations.

The four main assumptions of students, then, were: that Australia wanted to help New Guinea, and Australians were in New Guinea for that purpose; that Australians believed New Guineans were basically equal and that educated New Guineans would be fully equal; that Australia was a rich country and it 'cost' her little to give to New Guinea; and that Australians in New Guinea who neither helped nor respected New Guineans were people the Administration would not knowingly support.

Appreciations and criticisms

The following list of students' appreciations and criticisms are arranged according to the frequency of their occurrence in the essays.

Appreciations

1. helping or development in general
2. education
3. friendship
4. better material life; modern goods
5. health improvement
6. knowledge of earning money
7. inter-tribal peace
8. contributions of money

9. industrial development
10. defence (past and present)
11. political development
12. inter-marriage
13. law

Criticisms

1. Europeans' superior attitude
 - a. direct statements
 - b. physical abuse
 - c. swearing and verbal abuse
2. social inequality
3. Europeans' wrong motivation for being in New Guinea
 - a. 'here for money only'
 - b. 'set bad examples'
4. development too slow
5. unequal pay
6. New Guineans exploited as physical labourers
7. unequal access to occupations for New Guineans with equal education
8. unequal goods
9. poor housing for New Guineans
10. unequal education
 - a. not enough schools for New Guineans
 - b. unequal quality of education
11. no business advice for New Guineans
12. indigenous land alienation
13. sexual inequality
 - a. no access for New Guineans to European women
 - b. Europeans' abuse of indigenous women

Scoring criteria

Criteria for scoring individual appreciations and criticisms follow, with examples of scoring. Comments which are the basis for scoring are underlined in the portions of essays quoted. The absence of any underlining in a quote indicates that the entire quote was scored. In order to show the context of students' thinking and their forms of expression, I have intentionally made the examples more lengthy than would be required merely to illustrate scoring. This is important, for some people, on first hearing excerpts from these student essays, have doubted that they were spontaneous expressions of New Guinean students.

Examples of appreciations

1. Any direct statement about Europeans 'helping', 'developing' or 'civilising' was scored as an appreciation of help or development in general, as the underlined parts of the following example show.

Many natives thought of Europeans as their mother because Europeans helped us, clothed us, feed us, give us education, and do many things for us. If the Europeans wouldn't come then we might turn into our old ancestor customs and live in the bush but Europeans, especially Australians, come along and helped us, established laws, and so many things you can think of. They taught us to be civilised. We thought of them as our lovely Mother.

Plates 7 and 8 show two students' ideas of ways in which Europeans helped develop the country.

2. Scoring appreciation of education was clear-cut. Even the single word 'education' listed as something Europeans had given New Guineans (as in the example above) was scored. It was also scored, of course, if students indicated that they appreciated a particular type or level of education, as here:

At present Europeans are trying hard to get more intelligent people to go to the University of Papua and New Guinea to study certain things at the University.

3. Several kinds of statements were scored as evidence of an appreciation of friendship, including those that boldly stated Europeans and New Guineans were friends. The following is an example:

Most of the New Guineans and Europeans are good friends. And friends always do their jobs better than enemies. That is why all these people are working together to develop this country to be a civilised country in the years to come.

Others described congenial mixing on a personal level, in groups or in sports:

But now wherever you go you can see people from New Guinea talking, eating, playing together with Europeans. Some are even living together with Europeans and married young European ladies.

New Guineans are thinking that most of the Europeans are very good in playing sports. They teach the native many kinds of sport.

Some indicated that Europeans had a positive opinion about New Guineans or 'loved' them or their country (with nothing to indicate that they might love for selfish reasons):

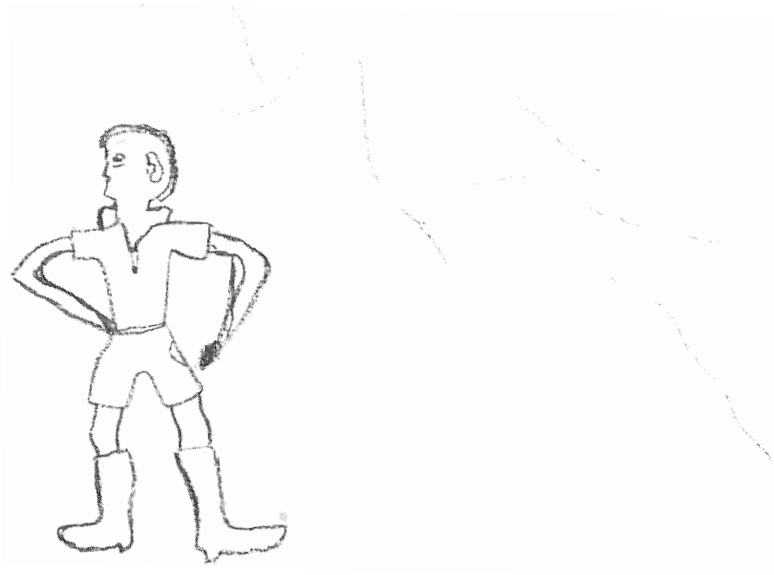
Some Europeans, like our three teachers last year got three New Guineans and went with them to their places. Those are the people who love this country and want it to become a good country. They didn't think they got different skin or are different kind of men. They thought that Europeans and New Guineans are all the same or one.



The primitive people are listening to the European man.

These group of people do and collecting there food
They are asking the European man how to grow better crop.

They organise themselves with European man
and ~~at~~ they will improve their Agricultural system.



- 1/ A European ~~man~~ ^{young} Patrol Officer.
- 2/ He is giving orders to the native labourers to work hard.
- 3/ ~~They~~ He was working
- 4/ He is thinking of building ~~the~~ a big town ~~also~~ he is ~~telling~~ ^{telling} them and encouraging them to work hard.
- 5/ As a result it would grow into a big town.

Two students' views of Europeans and New Guineans meeting together in friendly fashion are shown in Plates 9 and 10.

4. Appreciation of a better material life or modern goods seems very similar to the appreciation of development in general; yet a statement about the latter may be perfunctory, a kind of sop thrown to the expectant European. When a student specified what he appreciated, I accepted that he really was appreciative. Consequently, I used a separate scoring category for better material life or modern goods which were specified. For instance:

The people like Europeans because they [the people] earn their living by using the European clothes, materials for building houses, travelling by trucks, ships, planes, and some other things.

5. A single word, 'health', if listed as something Europeans had given to or improved for New Guineans, was enough for appreciation of health improvement to be scored. Plate 11 conveys some of the difficulties of improving health in New Guinea.

6. The improvement of agriculture under European tutelage provided many New Guineans with a basis for cash income. With knowledge of running small businesses, it represented for students a 'knowledge of earning money' that did not depend on wage employment by Europeans. I scored as an appreciation of 'knowledge of earning money' any statement about European aid in setting up businesses or improving agriculture, such as this example:

Some Europeans help the Natives to set up good businesses such as trade store and have good plantation of cocoa, coffee, coconut, and some other sort of businesses.

7. Statements indicating that Europeans caused New Guineans to abandon inter-tribal fights or killings were scored as showing appreciation of inter-tribal peace. For example:

Papuans and New Guineans didn't know each other before but when Europeans came they started stopping people from killing each other and make people co-operate with each other.

8. Whenever there was a statement about Europeans giving money through charity or taxation, I scored for an appreciation of money Europeans had contributed.

9. If students specified the presence of infrastructure that could encourage industrial development, or mentioned 'industrial development' by name,¹ I scored for an appreciation of industrial development, as for the following:

¹ This differed from the 'modern goods and better material life' category in that it did not indicate a personal benefit from modern goods but a benefit to the country or the economy as a whole.

The New Guineans think of Europeans because they developed this country built roads, wharfs, towns, aerodromes, and harbours.

10-13. The scoring of the remaining appreciation categories - defence, political development, inter-marriage, and law - depended on a straightforward statement about these changes occurring through European effort.

Examples of criticisms

1. Students most frequently criticised the European attitude of superiority. Direct statements that Europeans thought themselves better than New Guineans or that Europeans thought New Guineans inferior were scored, such as the following:

I recognise the attitude of the European towards the New Guinean is a miserable one. The European acts as if they were the strongest, richest, and bravest to the New Guinean. At the same time they are proud too. They look at the New Guinean as a man looking down at the dog or an animal.

They look on us with contempt...some of the New Guineans have gone to higher technical school and a few to the new University but still they don't care...I wish those people who have reached the better education should tell the European that some of the things which they do are not fit for New Guineans. If they keep on doing that, some of the educated people might go mad.

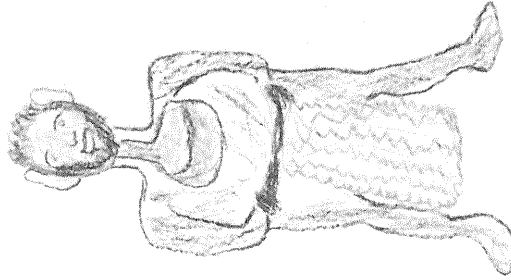
Also scored were statements which indicated that Europeans thought it was their right to treat New Guineans badly:

Some Europeans think that the people of New Guinea are natives so they can do nasty things to us. What Europeans think of New Guineans is to make New Guineans stay down always.... Europeans think that the New Guineans should always stay under them and not make the people of New Guinea to grow strong and have power themselves.

Reports of verbal abuse were scored, including complaints about Europeans 'swearing' or examples of 'swearing words' used, or terms of address or reference which Europeans might not have considered to be 'swearing' but which New Guineans regarded as insulting and abusive. Most readers would acknowledge that the terms in the first two examples below were 'swear words' but might be surprised at the not uncommon New Guinean view, which the last two examples indicate, of 'bush kanaka' as almost equally offensive:

when Europeans are angry they say bad words such as BASTARD or BLOODY THING¹ to the natives and the natives learn from them and later swear at someone. Some natives think thats not good

¹ Student's capitalisation.



- ① A white man and Native man, a white man playing guitar and Native man watching him
- ② They were ~~not~~^{glory} the cooking to have their mad Rocky, so when the white man finished playing they will have the mad
- ③ They are thinking about having a party for the white man wanted to go ~~see~~ leave.
- ④ The white man will check and his friend Native man will carry him to bed.



- (1) The people in the picture are about a European man and a New Guinean girl.
 (2) They were talking about a ^{which was held at} ~~party~~ ceremony the other day. They were laughing to each other about a ~~an~~ actor.
 (3) They are thinking about the serious thing which happened in the church.
 (4) They are going to the church and see the quarrelling between the Bishop and the Christians in the church of in the distant

for Europeans to swear at them because they are only Earthly men and nobody is better than the other.

Europeans think of New Guineans as people of low standard of living and of different colour and treat us very low. Some of them think that there is no use to the New Guineans. Whenever something goes wrong, they always get upset and use the words such as black bastard, bloody bush kanaka, and blast it. These are some words they use when something annoys them or upsets them. They use it mainly to us Natives of New Guinea. They thought they can not treat us like them. They must be above us.

When a New Guinean does a little bit of a mistake the Europeans swear at them. 'Bush Kanaka' is the main swearing word. Bush kanaka really means primitive which isn't fair at all. The other foul word is 'Black Bastard', which is really worse than bush kanaka.... This is another fact, whenever a European speaks there must be a swearing word.

I think it would be better if we had a strict law in this country saying Europeans should not call New Guineans by this name of Bush Kanakas because after all we are not. We used to be maybe in the past when our forefathers lived but not today.

The kind of feelings which abusive terms can arouse was best indicated by a student who wrote:

they [Europeans] make us angry and say ruined things to us. That shows the New Guineans very angry, and we feel like hitting them to dead.

Complaints about physical and verbal abuse, or about physical abuse alone, were also scored as criticism of Europeans' superior attitude:

Some of the New Guineans usually hate the Europeans because when they work for them the Europeans sometimes say bad words to them...and often the European knocks the natives.

The European thinks that New Guineans would do nothing to them so they use the New Guineans as wild animals, they shout at them and kick them and cane them. They think it is better to shout and cane them to make them understand.

...they treat natives as something nothing. For instance, I remember a plantation owner who tied one of his labourers behind his motor cycle, got on it, and sped away the three miles road, dragging the unskinned and bleeding native. The European did this to him for being misconducted. This was not serious, and surely he could have given him something easier.

Not scored as criticisms of European superiority were comments that Europeans did not like or 'hated' New Guineans when no explanation was

given for Europeans allegedly having these feelings. Although students who made these statements probably believed that Europeans thought themselves superior, I did not want to assume this.

2. Coded as a separate criticism, 'social inequality', were two kinds of statements: first, those that indicated Europeans did in fact have better social facilities, services or other privileges; and second, those that indicated Europeans did not want New Guineans to share social privileges and facilities with them. The latter were scored as criticisms of social inequality rather than as complaints about superiority in order to avoid judgments about the reasons why Europeans might want to exclude New Guineans from their company. A New Guinean might assume the European felt superior, but the European might express many other reasons. Here the desire for social exclusion was simply taken as a fact.

Statements indicating a difference in facilities, services or privileges referred to various settings, including shops, hotels and theatres, and clubs:

It use to happen in shops too. When ever a New Guinean is behind the counter and he is the first to stand there and say a European storeman comes up to him and starts to sell things to him but hasn't finished with him yet, a European comes in and the storeman starts concentrating on the European.

In towns all over the Territory you would find Europeans have separate hotels, Picture theatres, and many more. Some of these allowed to natives of course, but others are really forbidden.

They seem greedy in everything that they made. Example - European can't let natives become member of Golf club or bowling club. In these ways I think Europeans are really greedy in every possible thing they make or build.

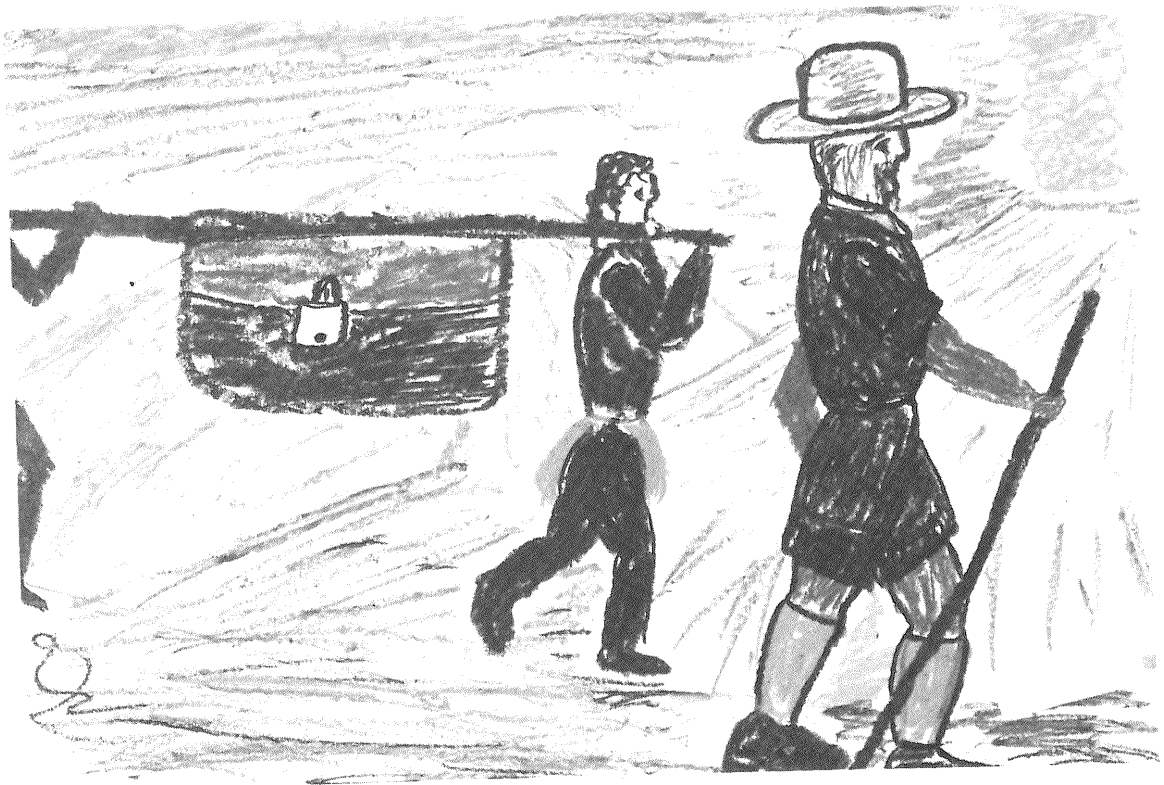
Statements that Europeans did not want to mix with New Guineans covered clubs, private homes, and various public facilities:

The Europeans here at...don't like mixing with us; they have another club of their own...not very many Europeans make friends with us.

The idea of co-operation is lacking...one small example. Europeans can't even like inviting natives to eat and sit together in a house as a matter of nature because we all have the same life but only different coloured bodies.

Some of the Europeans are just too clever and push New Guineans in the church or a picture show. They never wanted New Guineans to sit beside them. Yet they are teaching us manners but they never use them when they command a New Guinean to move somewhere or get out of something.

3. Students frequently criticised Europeans as having the wrong motivation for being in their country. Comments about Europeans wanting



- ① The people in the picture are ~~Patrol~~ Patrol Officer and some ~~the~~ NEW Guinean carrying thing for the patrol officers.
- ② They were exploring the unknown parts of New Guinea.
- ③ They want to know the characteristic of other people on the other side of the main land.
- ④ They could help the unhealthy people and help them to have good foods and clean house.

'to fill their pockets with money' at the expense of New Guinea's economy constituted most of this category, as for example:

Some New Guineans think that only a few Europeans in New Guinea are trying hard to help New Guinea and to build up New Guinea. But they think that most of the Europeans in New Guinea are just here to fill up their own pockets. They don't care for the New Guineans. They usually push New Guineans into a hard job and they themselves would like to be boss and wait for money. Some New Guineans think that many Europeans come to New Guinea to help them. But then they saw some of the Europeans are just looking forward for their own pockets to be filled up so the New Guineans think that nearly all the Europeans are not helping to build up the country....

For the criticism 'wrong motivation' to be scored, it was sufficient that students indicated that they believed Europeans were in New Guinea to gain money rather than to give aid:

The Europeans are thinking of themselves in a selfish manner. All they are doing is to get enough money from this country and make themselves big and rich. When they are rich enough, they go back to their countries. This is not a good way to help New Guinea as a new Developing country.

I think it is better to have Europeans in New Guinea of those of them who are trying to develop this country by teaching the native people how to do things and grow things. But I don't think we will keep the people who are having a lot of businesses and making money in our country. For example missionaries and the people who are working in the administration we will need their help because they are kind people and helping us but I don't know why we should be having those European fellows who are making money here.

Not only the businessman was blamed for having the wrong motivation. Some individuals were regarded as having come to New Guinea seeking easy money and a soft life because they had been unable to make a satisfactory career in Australia:

The Europeans thought of New Guinea as a place of pleasure and good for earning their living. If Europeans really thought of New Guinea I think they would do good work in New Guinea area. In my opinion I think that European country is much busier and no work for some of them to do so they thought of New Guinea country to come and work there so that they can earn their living too.

New Guineans think that the Europeans (especially Australians) are poor in their own country and so run away from their country where they usually work everytime to wash their clothes, chop wood for fuel, to the Territory so as to gain good pay, instead

of washing their clothes and chop wood like they usually do back down South they get hold of a native from New Guinea to do the washing and other jobs where they should be doing it.

Students were aware that many Europeans in New Guinea received higher salaries than they probably would have elsewhere and were also entitled to living allowances and tax benefits. They had heard the argument that high salaries provided the best or only means of attracting good European personnel, yet they believed that a man who came to New Guinea for a high salary when he would not have come otherwise was not necessarily a good man. He was also criticised for 'wrong motivation':

Europeans are only in New Guinea for bigger salary for their work. If it happens that Europeans get the same pay in here as they get in Australia, I don't think there would be many Europeans here because they don't like it.

The main aim of the Europeans in this Territory is to get money only and not to develop the country. That is Australians. The Australians are not developing the Territory as much as they can. They didn't build any industry here. The people of New Guinea think that when all the Australians send the money (budget) to New Guinea much money is received by the Europeans (differential wage) not New Guineans. They think that if the money is sent from Australia to develop New Guinean, all the Australians must not get the money which is sent from Australia. They must get their money from their own country (and not from the budget).¹

Also scored in this category were instances where students mentioned a 'bad type' of European, on the assumption that students would say such persons had the wrong motivation for being in New Guinea.

4. The criticism 'inadequate development' was scored whenever an essay referred to a general lack of development per se:

The main idea that the New Guineans think about Europeans is they say Europeans are clever and show us people of New Guinea some good work in the country. But this doesn't happen often.

Also included were references to a slow pace of development:

Some of the older people think that the Australians are slow in developing the Territory and they think they will never see the Independence Day.

Many kinds of development - general, industrial, agricultural, defence - were regarded as slow or lacking, and all were scored. Complaints about the development of education were listed separately in category 10.

¹ This student's use of parentheses is copied verbatim.

5. Criticisms of unequal pay referred both to New Guineans with good qualifications and jobs, and New Guineans working in less skilled occupations:

New Guineans are always treated as pigs. PSA [public servants] who work in government but they don't live in good houses like Europeans. Those PSA don't earn enough to look after their families. Europeans get high wages and New Guineans get low wages. Why is that, why can't both get same wages anyway. Is it because your skin is white and you thought that you are more important than we are. We were just the same what would you do to me? I think I might be boss and I might go down to Australia and work there.

The Europeans think that giving less pay for their [New Guineans'] hard work is nice. The Europeans do not know what is happening in the minds of the people.

6. The criticism that Europeans exploited New Guineans as labourers was no doubt related in the minds of many students to their complaint about unequal pay, but the latter applied to New Guineans with good as well as poor jobs, whereas the former dealt strictly with Europeans using New Guineans to do physical labour while they appeared to do lighter, easier jobs:

The Europeans are trying to be the top class. They make the natives do the dirty jobs and they do the office work and fill their tummies with beer and so no one will understand each others work. By that I mean if European works with natives the natives will know what Europeans think and how they work, so they will understand Europeans better instead of Europeans working in one group and natives in another.

Although pay may be mentioned in the context of this complaint, it was not scored as a complaint about unequal wages unless New Guinean and European wages for the same work were compared. The following example, for instance, was scored as a complaint about exploitation of New Guineans, and not as a complaint about unequal wages:

I guess Europeans like New Guineans because they wanted cheap labourers. Might be in other European countries, labourers are very dear. But in New Guinea, Europeans liked New Guineans for one or two special reasons. One is for labours and the other is some New Guineans are stronger in their jobs. Here you can get a labourer for 5 (shillings) a week. Which is very cheap.

Plate 12 illustrates a student's idea of the relationship between a New Guinean labourer and a European.

7. A separate criticism category, 'unequal access to occupations for New Guineans with equal education', was used where students felt that New Guineans did not have equal work yet were equally qualified. The

students who criticised exploitation, on the other hand, usually admitted that New Guineans working as labourers were not qualified for anything else. They worried that labourers would never gain any qualifications, even through on-the-job training, if Europeans did not work with them and encourage them to improve. Two examples follow:

They [Europeans] also think that the New Guineans must get the lower jobs although they [New Guineans] have the same education many of them [Europeans] have already had.

The most important fact about this point (What Europeans think of New Guineans) is that our European Masters looked upon New Guineans as backward and uneducated people. There are quite a number of New Guineans who are well educated, they are still regarded as first or second classes. The knowledge of some of them may have reached a position where he or she should really take over from a European but still they shut him or her out.

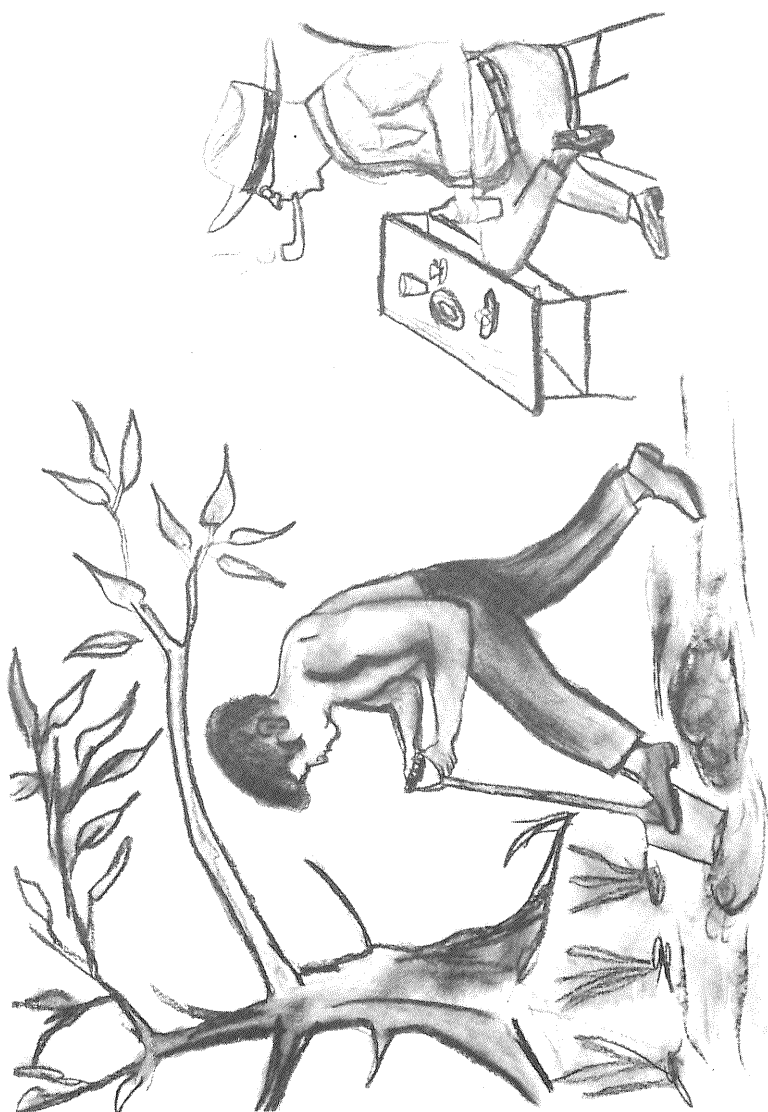
8. As the criticism 'inequality of goods' I scored statements that revealed 'cargo cult' types of beliefs and statements that Europeans had more or better goods than New Guineans. The first example below illustrates 'cargo-thinking', while the second was simply a protest against inequality of goods:

The natives think of Europeans as very clever and brilliant people. When Europeans first arrived in Papua and New Guinea natives received them as ghosts. Now there are places where the natives think Europeans are gods and get their food, clothes, and other things from somewhere under the ground. Some of the natives think that their ancestors who died went to some parts of the earth and sent them goods by planes and ships and trucks but the Europeans who are in New Guinea take control of everything that comes in and steal them. Most of the older people think that there is no such place like Australia and America. Some of the people who see map of Australia and New Guinea think that New Guinea is on top of Australia and the Australians who come to New Guinea come through the earth.

Some New Guineans think Europeans are greedy people who use better things for themselves only but no sharing with New Guineans.

9. Criticisms about 'inadequate housing' were scored whenever a student indicated that New Guineans of a particular occupational status had housing unequal to that of their European counterparts, or said that New Guinean housing was poor yet made no explicit comparison with European housing.

Students criticised housing as inadequate for obvious things such as size or furnishing, and also for the fact that New Guineans felt they could not invite white friends home because the poor quality of their



1. The people are the natives are a native working laboriously and a European drinking beer or liquor.
2. They are digging (native) and drinking (European).
3. They The native is thinking about working very hard and little wages and European is thinking about how the native at his ground.
4. The native will see that he is to throw away the European out of his country.

houses meant that they could not extend hospitality in a reciprocal fashion. The Administration's failure to provide indigenous and European workers of the same grade with the same housing may have seemed to students to be direct evidence of the European's basic desire not to mix with New Guineans. The following examples illustrate these points:

Say most New Guineans are educated now and they are working in the offices of PWD [Public Works Department] or other jobs. As they are working for the Administration they must have somewhere to sleep. So the Administration has to accommodate them in better life. However, the New Guineans don't think they are doing what they should be doing. The New Guineans say that the houses the Europeans accommodate them in is like the pigstie. This is the expression New Guineans give to the Europeans. The New Guineans said the house is very small without any furnitures supplied and can't hold the worker plus his wife and their children. So the New Guineans think that the European is making themselves as a man and treating New Guineans as a dog.

To us New Guineans not many people dislike white men. Though they have good reason for it. For instance, many senior local officers with bad housing problems and also not getting enough pay, not all start to dislike white men but only a few. Couple or may be more New Guineans nowadays have white men friends but they just cannot invite their white friends for a party or so on because their houses, and also not enough money for good food. This could be a very good idea to contact or get use to white men, but it never happened because of the poor living conditions for New Guineans.

In one case I think it will be better if the Europeans talk together and give some of the officers and Assistant officers a good house to live in and better accommodation. Because Europeans don't love New Guineans they never give good houses to New Guineans' highly educated people. For example, high school teachers, patrol officers, police officers, agricultural officers. I think these people should have good houses to live in even if they don't get the same wages as Europeans. In these ways the Europeans thought we are not very good people to connect with.

10. The criticism 'unequal education' included statements that there were not enough schools for indigenes, and that existing schools were not of the same quality as European ones. Students remarked on inequality at all levels of the education system - primary, secondary and tertiary:

I don't know what the Europeans actually feel about New Guineans. I suppose they think that they are white which means they feel that they are extra clever than a New Guinean. They think that a New Guinean is brown skinned then he must be a hard labourer.

Sometimes we are close friends. The European thinks that a local boy must attend Primary T School not Primary A School.¹ They think that a New Guinean has not got enough intelligence to go to their schools.

For education in school they have now put the forms to form 4. First it was form 6 but now it is back to form 4. This is not good. This shows that the European is selfish. Form 4 is not a well educated class. They said they would help us become fully educated people but where is it now? This shows the Europeans are too lazy to show us the good ways of life.

They did some considerable amounts of jobs that they think will satisfy the New Guineans, so they build a University College at Port Moresby. They did not really build it as a good University, but just did it so as to satisfy the New Guineans. So they are very happy with what they are doing, but not the New Guineans. By doing this they dissatisfy the New Guineans and make them upset.

Some students took different education facilities as evidence that Europeans did not want to mix with New Guineans, and some went beyond this. They saw education as the means to full equality, and wondered whether Europeans were purposely delaying equal education facilities for fear that New Guineans would rise and threaten their power. For example, the student whose criticism of inequality at the secondary level is cited above, continued:

They think we might knock them out easily from the high position jobs if they teach us to form 6.... I think this corresponds to American negroes.

Another example (and from another district):

those of us who are educated know that the Europeans are trying to fool us because if they teach to higher form then we might kick them off in their positions. That is all right because this is our country.

Because of manifest inequalities in jobs and in the control of economic progress, some students apparently believed a part of education which was the key to economic power (a sort of 'job-cargo') had been denied to New Guineans:

The Australians think of New Guineans that the New Guineans must not win them with education. When any New Guinea student gets to the high education they'll be jealous of that person and they won't tell him as much or teach him as much as they

¹ Primary 'T' schools follow a Territory curriculum while Primary 'A' schools are based on Australian syllabi.

can of their education. This goes to all the works that people do....

...now there aren't many young New Guineans who have reached that standard of education. We think sometimes there are some things that we still are not told by the Europeans, even though we attend colleges.... May be Australia is a new nation and doesn't think for developing our country, or they are still hiding some things or ways to lead us into being a modernised country.

11. The criticism 'no business advice for New Guineans' was scored when students stated this explicitly or said that no or few New Guineans were managing businesses.

12. 'Indigenous land alienation' was scored if a student complained about loss of land to Europeans.

13. The final criticism, 'sexual inequality', was infrequently made. It was scored if students stated that Europeans abused indigenous women, or that New Guineans were forbidden to mix with European women, or were punished for inter-racial sexual offences more than a European would have been.

Many of the criticisms, as examples have shown, did not only indicate a dissatisfaction with the lack of material goods, but dissatisfaction also with the attitude of Europeans who appeared to withhold these things. Students considered social inequality, unequal pay and occupational inequality to be signs that Europeans disliked the thought that New Guineans were equal beings.

Overall scores

Both essays by each student were assigned one overall score that showed whether, as a whole, they were primarily appreciative (scored 1), balanced between being appreciative and critical (scored 2), or primarily critical (scored 3).

The overall score was derived by comparing the numbers of appreciations and complaints scored for each student's essays. If these were roughly equal, the essays were scored 2. If there were only appreciations, or appreciations with only one or two complaints which did not equal the number of appreciations, the essays were scored 1. In the same way, if there were only criticisms, or criticisms with only one or two appreciations which did not equal the number of criticisms, the essays were scored 3. In cases where there were more appreciations or criticisms, but the student writer indicated that his own position contrasted with that of persons whose views he reported, the essays were scored in favour of the student writer's admitted leanings.

A single scoring category, be it an appreciation or criticism, was only scored once for each essay regardless of how many times it was

mentioned. Students writing quickly, and in a second language, may have developed one idea at length and then found themselves short of time to develop others, which they could but mention. Topics repeated and elaborated and topics mentioned but once and abruptly therefore received equal weight in scoring. This procedure probably gave undue importance to student appreciations when they appeared with criticisms, for the former were commonly listed (in passing as it were) before the student settled down to cover his favourite criticism in detail.

The directions for writing essays asked students to give examples showing what kind of people thought certain things. This was done so that anxious students might feel free to express their own thoughts while giving the impression that these were other people's views. Consequently, no distinction was made in scoring between what a student wrote in the third and first person (except where a student himself pointed out that his views differed from those he reported for others) but all appreciations and criticisms were scored as though they were the student's. Neither was any distinction made between the 'some', 'many', 'most', and 'few' who were said to have certain opinions: for I noted when reading the essays that a student might have begun by saying that 'most' Europeans were kind or bad but gone on to say that 'all' Europeans were really the opposite. Student use of these adjectives, when not reflecting linguistic confusion, appeared to be a form of camouflage.

Examples of pairs of essays scored 1, 2 or 3 follow, each illustrating points about the scoring and the nature of the materials scored.

Example of essays scored 1. The first pair of essays, scored 1, dwelt on the value of European friendship, yet the appreciation of friendship was only scored once. Other appreciations similarly scored were inter-marriage, general development, goods (better material life), and knowledge of making money. Although the pair of essays contained some criticisms of Europeans, according to the scoring system these represented only the one criticism category, Europeans' superior attitude. Balanced against the five appreciations, this one criticism was not enough to score the pair of essays as 2, so it was recorded as being primarily appreciative:

What New Guineans think of Europeans

New Guineans like Europeans very much. Only some, those who are educated, are friends to Europeans. But some Europeans do not like Natives. Sometimes they swear at them with all sorts of filthy words when the Natives make some kinds of mistake. We New Guineans want to make friends with Europeans, talk with them and dance with them and have good time. Some Europeans want to marry native girls and some natives want to marry European ladies. For example [name] married one European girl from [place]. New Guineans think that the European is helping us to follow their way of life and to forget the Traditional way of

life for our ancestors; for example, they show us how to have good houses, how to cook and eat good food and so on. But some of our natives do not want to make friends with Europeans. I think that we must cooperate with Europeans so that we can know about their Country and way of life they lead. Some Natives like Europeans very much because the European treated them very well and eats together with them. I think that Most or nearly all the natives are able to have good friend with European if they wish to.

What Europeans think of New Guineans

Most of the Europeans think that New Guineans should like the European way and forget about the Traditional way of life. Some of the Europeans disliked natives of some sort, I don't know why. There is not reason for it. Some Europeans help the Natives to set up good business such as Trade-Store and have good plantation of Cocoa, Coffee, Coconut and some other business. Some Europeans took students to go down South and have the holidays there, e.g. four students or more I think, teacher of [place] took them down. Most of the Europeans like Natives but only a few that they don't like Natives. Europeans think that Natives should have job as they have and good houses and so on. People of New Guinea are very proud because the European Cooperates with them and leads good way of life. Well I think that some Europeans think that we must always be friend to Natives. That's Friendship.

Example of essays scored 2. The second pair of essays, scored 2, contained appreciations for education, health, and help in general, as well as criticisms for lack of business advice, wrong motivation, superiority, and social inequality. As there was only one more criticism than appreciation according to the scoring system, the pair was scored 2 rather than 3, despite its critical tone. The essays illustrate well the perfunctory and abrupt way in which appreciations may be expressed. This makes them no less real, for scoring, than the criticisms elaborated upon at greater length, although the criticisms are more noteworthy, given the students' assumptions about ideal Europeans.

What New Guineans think of Europeans

New Guineans think that Europeans are doing just a medium work here in the Territory. That is the schools and hospital are very good and important in the Territory. Europeans are very nice and they help a lot. That is the population is growing because of good hospitals. More people are educated each year and more secondary schools are being established, and most important is the University. What I think about the school is very nice, but in educating people it is very nice indeed, but it takes years for young people to be good or of any importance. There are other things which I think Europeans should do to help villages. Most officers work only for their own Department.

Only very few businessmen only concentrate on their business and there is no explanation or very little advice from agriculture. What I suggest is that there should be more help and advising of how people should find money for themselves. Most little-educated people now in the territory are thinking what Europeans are here for. They think that most Europeans are here to work as officers and only get higher salaries. What they think about Europeans is to help give their life or join or co-operate in field, around villages instead of just making money and when their service is over they return back to their country. Little I hate and found that most of these Europeans are saying is not very nice to hear. This Territory is called the Trust Territory and yet some get angry when things go wrong with students and they would get angry with us and use those words everytime. Most complain about how much Australia is helping the Territory. Out of this I understand that probably some Europeans are here and not only think of progressing and helping but they get most of the important responsibility without helping the country.

What Europeans think of New Guineans

Europeans are thinking to New Guinea the same as any part of Australia. That is why they come up here, they work hard for just a short service and leave back for Australia. Because most of the educated come to enjoy themselves only they have no friends over to the village people. I watch most of the Europeans and they don't have friends in the Territory. They don't get along very much. It looks to me that this part of the Territory is just the same as any part of Australia where there are many people of the same skin and they just pass each other without any greetings. But I think this should not be the same as anywhere they treat themselves of the same colour. I think Europeans should think that this New Guinea is not one of their states but the state to which assistance is essential.

Example of essays scored 3. The following sample contained mostly criticisms about wrong motivation, superior attitude, unequal pay and poor housing. One appreciation was scored, helping or development in general: where the writer said it would be good if Europeans came up and stayed to 'help the country to grow up quickly', I took this to mean that some Europeans had come, stayed and helped development. This single appreciation, however, was not enough to prevent the essays being scored 3, or primarily critical:

What New Guineans think about Europeans

This is my opinion about Europeans:

(a) some Europeans who come to this territory to work are not doing much job for the territory. The Government pays them to come and work as plumbers, pilots and other jobs but when they earn enough money they pay their fares and go back to Australia.

So if they are told to work for 6 years they stay 2 years and go back. I think if we stop them from coming in and stealing our money it will be a good idea;

(b) on other hand I think its good for European to come here and not going back to Australia if they stay here it will help the country to grow up quickly. If Europeans come and go it will slow down the developing of the territory. I think if Europeans come here to work they should stay for the rest of their lives.

What Europeans think of New Guineans

I think this is what Europeans are thinking of New Guineans.

(a) I think the Europeans are thinking that New Guineans have no brains and are not intelligent. That is a wrong idea. New Guineans have the same brains as the Europeans but the New Guineans are not educated.

(b) Europeans think that New Guineans are dirty and are like pigs. But our skins are dark and sometimes a person looks dirty. But Europeans if they are not washed they just look clean because their skins are white.

(c) They think they can cheat the New Guineans by giveing them little pay and bad homes to live in. But God made us all and we are one type of people but our skins, hair have made us into different nations. If Europeans think they are the first civilised people they can go to Hell. So Europeans think hard and never cheat us again.

Distribution of overall scores

The distribution of the overall scores for the race relations essays appears in Table 6.1.

Table 6.1

Distribution of overall scores for race relations essays

Score	Indication	N	%
1	Appreciative	70	32.4
2	Balanced	69	31.9
3	Critical	77	35.6
Total		216	99.9

Approximately one-third of the scores fell into each scoring category. This did not result from a forced distribution, but from scoring the essays according to the above directions and noting the distribution of scores. It suggests that the open-ended essays in fact represented a range of genuine sentiments, not merely stereotyped responses.

The breakdown of scores by district in Table 6.2 shows that some student samples wrote particular types of essays far more frequently than they did others: for example, 67 per cent of the East New Britain sample wrote primarily appreciative essays, while 66 per cent of the Manus sample wrote primarily critical essays. These figures suggest that local economic conditions may be related to the proportions of students who wrote different kinds of essays.

Table 6.2

Race relations essay scores, by district

District	Scores						Total	
	1 (Appreciative)		2 (Balanced)		3 (Critical)			
	N	%	N	%	N	%	N	%
Manus	6	11.3	12	22.6	35	66.0	53	99.9
Madang	5	16.1	11	35.5	15	48.4	31	100.0
Chimbu	8	38.1	5	23.8	8	38.1	21	100.0
Western High-lands	13	40.6	9	28.1	10	31.3	32	100.0
Eastern High-lands	5	16.7	19	63.3	6	20.0	30	100.0
East New Britain	33	67.3	13	26.5	3	6.1	49	99.9
Total	70	32.4	69	31.9	77	35.6	216	99.9

Table 6.3 shows the ranking of the districts by the proportion of students writing the most critical essays. When this ranking is compared with that of districts according to local economic development, one finds that the higher the proportion of population served by roads, the lower the level of student criticism ($\rho = -.94$, Table 6.3), and that the lower the income from major cash crops the higher the level of student criticism ($\rho = -.84$, Table 6.4). The ρ in Table 6.4 just

Table 6.3

Incidence of critical race relations essays and proportion of district population served by roads: rank order comparison, by district

District	Ranking of essays	Ranking on roads
Manus	1	6
Madang	2	5
Chimbu	3	3
Western Highlands	4	4
Eastern Highlands	5	2
East New Britain	6	1

$\rho = -.94$

Table 6.4

Incidence of critical race relations essays and cash crop income:
rank order comparison, by district

District	Ranking of essays	Ranking on cash crop income
Manus	1	5
Madang	2	6
Chimbu	3	3
Western Highlands	4	4
Eastern Highlands	5	1.5
East New Britain	6	1.5

rho = -.84

fails to reach statistical significance, yet the fact that it is so strongly in the same direction as the rho in Table 6.3 offers evidence (along with the significant rho) for the inverse relationship between local economic conditions and student views of European attitudes towards New Guineans.

Between-groups analysis

A comparison of essay scores first by district of origin and then by personal and socio-economic background variables yields more evidence for the importance of a student's district of origin for the tone of his essay. Tables 6.5 and 6.6 summarise the chi-square values, their degrees of freedom, and probability levels for each comparison. The values are not as telling as they might have been, for some students omitted their names from essays which made it impossible to include their data in the distributions for any of the comparisons other than scores and district of origin.¹

Although the relationship between a student's essay score and his district of origin was by far the most significant statistically ($p < .001$), the relationships between essay score and religion ($p < .02$), and essay score and father's business holdings ($p < .05$) were also statistically significant. Catholics appeared to write appreciably fewer favourable essays than Protestants (23.5 per cent compared with 76.5 per cent, see Table D.6), and sons of fathers with no business holdings wrote a greater proportion of primarily critical essays than

¹ Table 6.2 and tables in Appendix D show the original distributions on which the chi-square analyses were based. The totals on these tables vary because not all the students who put their names on their essays also supplied complete background information.

Table 6.5

Chi-square values for race relations essay scores,
by district of origin and personal variables

Variable	Chi-square	df	Probability	Significance
District	72.670	10	<.001	Significant
Form standing	.619	2	>.70	Not significant
Age	4.676	8	>.70	Not significant
English ability	4.175	2	>.10	Not significant
Birth order	9.466	4	>.05	Not significant
Personal travel	1.665	2	>.30	Not significant
Religion	18.944	2	<.02	Significant

Table 6.6

Chi-square values for race relations essay scores,
by socio-economic background variables

Variable	Chi-square	df	Probability	Significance
Father's education	.801	2	>.50	Not significant
Father's language	1.883	2	>.30	Not significant
Father's travel	1.715	2	>.30	Not significant
Father's type of house	3.134	2	>.20	Not significant
Father's business holdings	10.285	4	<.05	Significant
Father's personal possessions	1.553	2	>.30	Not significant

did sons of fathers with cash crops or diverse holdings (52.5 per cent, 28.8 per cent, and 18.6 per cent, respectively, see Table D.11). The distribution of essay scores for sons of father with no holdings indicates that they were more critical generally, for they also wrote a greater proportion of balanced essays than favourable ones (29.5 per cent compared with 25.5 per cent), although not as many balanced as primarily critical ones.

Why Catholic sons tended to be more critical than Protestant ones is not readily apparent, but there may simply have been more Catholics in the less-well developed areas. Table A.6 bears this out. The tendency for sons of fathers with fewer business holdings to be critical was more predictable. A within-groups analysis should provide more information than is available from the between-groups one on both these statistically significant relationships and on the less significant ones as well.

Within-groups analysis

To compare the distributions of essay scores and of data on personal and socio-economic variables within each district sample, I divided the

race relations essays for each of the six samples into two groups rather than three, on the basis of the combination of scores that yielded the distribution closest to a dichotomy. The East New Britain and Eastern Highlands samples had the highest rates of primarily appreciative essays; hence balanced and critical essays were combined in one group while the appreciative essays made up the second group. For other districts, critical essays were in one group, and balanced and appreciative essays were in a second group. Also for each sample I defined each of the personal and socio-economic variables in the way that would yield a distribution closest to a dichotomy. Chi-squares were calculated for the essay scores compared with data on each of the personal and socio-economic variables for each of the six district samples. Then, for each of the variables being compared with the essay scores, the six individual chi-squares were pooled, along with their degrees of freedom, to permit evaluation of the overall relationship between essay scores and personal and socio-economic variables defined in ways that reflected variation within groups as much as possible.

General findings. I found that the significant relationships produced by the between-groups analysis for essay scores with both religion and father's business holdings disappeared: no longer did it seem that Catholics generally wrote fewer favourable essays than did Protestants (pooled chi-square, 4.875; $p > .30$), or that sons of fathers with fewer business holdings tended to be the most critical (pooled chi-square, .818; $p > .99$). So far as religion is concerned (see Table 6.7), there was only one trend indicating Catholics tended to be more favourable, and it was not statistically significant ($p > .10$). Clearly most of the Catholics writing race relations essays came from Madang, Manus and the Western Highlands. This is further evidence that religion and the state of development in districts happen to coincide. When, for the within-groups analysis, the degree of criticism in essays was adjusted to be relative to each sample's essay contents, the apparent relationship between a student's religion and view of Europeans was revealed as spurious. In the case of father's business holdings (see Table 6.8), the within-groups analysis may obscure more than it reveals. The attempt to divide the essay scores into two groups reflecting the more and less critical views relative to each sample rather than reflecting absolute scoring categories, and to divide father's business holdings into 'low' and 'high', made it impossible to convey the worthwhile information that the majority of those students who scarcely tempered their criticisms were the sons of men with no business holdings. As the distribution of the original data showed (see Table D.11), once fathers had even cash crops their sons tended to write more appreciative essays.

These two tested relationships, which the outcome of the between-groups analysis prompted me to consider first, were not the only ones which failed to show statistically significant relationships: no statistically significant pooled chi-squares emerged from the within-groups

Table 6.7

View of Europeans expressed in race relations essays,
by religion and district

District	View of Europeans	Religion*		χ^2
		Catholic	Protestant	
Chimbu	Critical	6	0	2.387
	Appreciative/balanced	2	3	p >.10
Eastern Highlands	Critical/balanced			
	Appreciative			
East New Britain	Critical/balanced	2	11	.096
	Appreciative	4	19	p >.70
Madang	Critical	9	3	.057
	Appreciative/balanced	10	4	p >.80
Manus	Critical	11	16	2.307
	Appreciative/balanced	1	10	p >.10
Western Highlands	Critical	5	4	.028
	Appreciative/balanced	6	8	p >.80
Pooled χ^2				4.875
				p >.30

* Since all but one of the 20 Eastern Highlanders on whom there is both religion and essay data were Protestant, the Eastern Highlands District was excluded from this table.

analysis. There were, however, some intriguing trends and one statistically significant relationship within a district sample's data.¹

Generally, the within-groups analysis adds some interesting detail to what the between-groups analysis shows, and suggests some provocative further studies,² while in no way detracting from the importance of district economic conditions to the content of essays students wrote about Europeans.

¹ These are discussed in Appendix G.

² See Appendix G, pp.171.

Table 6.8

View of Europeans expressed in race relations essays,
by father's business holdings and district

District	View of Europeans	Father's business holdings*		χ^2
		Low	High	
Chimbu	Critical	5	1	.179
	Appreciative/balanced	2	2	p > .50
Eastern Highlands	Critical/balanced	6	7	.000
	Appreciative	3	2	p > .00
East New Britain	Critical/balanced	9	4	.002
	Appreciative	15	9	p > .95
Madang	Critical	9	5	.063
	Appreciative/balanced	8	5	p > .80
Manus	Critical	15	11	.464
	Appreciative/balanced	6	7	p > .30
Western Highlands	Critical	5	4	.110
	Appreciative/balanced	10	4	p > .70
Pooled χ^2				.818
				p > .99

* For Chimbu and East New Britain, 'Low' means nothing or cash crops only, while 'High' means additional holdings such as trucks or trade-stores; for all other districts, 'Low' means no business holdings, while 'High' means cash crops or diverse holdings.

Picture-stories

Because I recognised that the use of open-ended essays on race relations was a novel and relatively unknown technique, and that its validity could be questioned, I sought an independent means to evaluate student views of European attitudes. My choice was a drawing assignment, to be given by the students' own teachers so that it would appear unrelated to the essay assignment and there would be no possibility that my presence could influence student views.

Collection of the data. Teachers told their students they were to do a 'figure-drawing' lesson. They were asked to draw a picture with at least one European and one New Guinean in it, and were told that these people could be 'doing anything, or doing nothing, saying anything, or saying nothing'. No matter what activity a student suggested drawing, the teacher was to indicate that this was permissible. If students suggested only one activity, the teacher was to call for others, or to suggest a long list that covered both 'pleasant' and 'unpleasant'

activities. If students did not ask any questions at all, the teacher was to invite each to make a suggestion about what might be drawn. After discussing numerous possibilities, the teacher told the students that they had the remainder of the period to finish their drawing assignment, and then left the room. About five minutes before the end of the period, the teacher returned and told the students that he wanted to see if they could tell stories about their pictures. To help them along, he said, he would ask them questions about the pictures. If they answered these questions, he continued, they would find that they had told their stories without spending lots of time thinking about them. Then he asked the students to turn their pictures over, and to answer the following questions:

1. Who are the people in the picture and what are they doing?
2. What were they doing before we see them in the picture?
3. What are they thinking about or wanting?
4. What will happen?

These are simplified versions of the standard questions which an investigator asks when having subjects interpret pictures that are part of a 'projective test' - that is, a test in which one interprets ambiguous pictures, revealing one's inner concerns through 'projecting' these into the pictures and one's stories about them. What the students were really being asked to do was to draw their own projective tests in a situation they would not associate with testing.

Malabunga, Manus, Mt Hagen, and Tusbab high schools had art classes at the time of the research, and these were used for the drawing assignment. At Goroka, where there was no art class, students were given the assignment in their library period, during which drawing assignments had been given in the past.

I collected 221 picture-stories, although only 120 of these were done by students in my sample. The remaining 101 were done by students who happened to be in an art class when the assignment was given, but who were not part of the sample, and by students at another high school. The distribution of the 120 picture-stories done by students in the sample was as follows: Western Highlands, 25; Manus, 26; East New Britain, 30; and Eastern Highlands plus Chimbu, 39. It was not possible to collect picture-stories from Tusbab high school, so the Madang District was not represented in this analysis.¹ Since I was unable to

¹ In the absence of the art teacher, the headmaster at Tusbab high school gave the assignment to the art class which most of the sample students attended. However, when he went to collect the drawings at the place where the students had placed them upon leaving class, he found that they were gone. They never reappeared. He offered to collect a new set of drawings, but I declined his offer because I felt that students who had been queried about 'losing' the drawings might associate things going wrong with the drawing assignment and express these feelings in their work the second time the assignment was given.



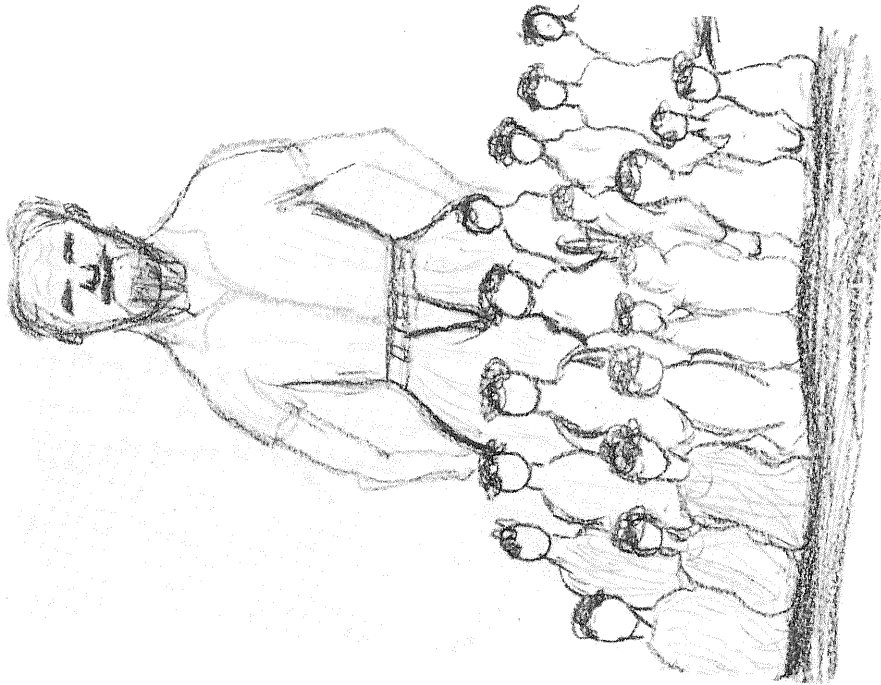
1/ The people are the first European to the village
and the native leader of the tribe.

The native man was given a spade and they are becoming friends.

2/ They were introducing themselves as well as shaking hands.

3/ They are thinking about making a new settlement in the native man's village. They want to live as friends in the future.

4/ The native man was going to be given clothes to be worn.
He was going to take off his local dressing and dress himself with
the European dressings.



- 1) The people in the pictures are in the church. somewhere in New Guinea. and they are listening to the gospel.
- 2) Before this they came and ~~sat~~ sit on the ~~benches~~ benches in the church.
- 3) They are thinking about the things they have heard in the church.
- 4) After this they'll go out off the ~~street~~ church and will go home.

obtain pictures from Western Highlanders attending Tusbab high school, the total number for the Western Highlands was low. At Manus and Malabunga high schools the number of pictures collected was also low, primarily because only a portion of the students in the sample drawn from each school were enrolled in art classes. The pictures from Goroka high school could not be classified by district because the students, who were from both the Eastern Highlands and the Chimbu Districts, did not put their names on their work.

Scoring the data. To find out the main themes in the stories students wrote to interpret their pictures I had all 221 stories copied from the backs of the pictures, typed, and put into random order with the names of the students masked. Then I read and re-read the stories in order to get some idea of their different themes. After this, I attempted to score the stories written by the 101 students not in my sample. I resolved scoring problems using these stories, and drew up scoring rules based on their contents and what I recalled of all the stories. Next I read and scored all the stories written by sample students. Afterwards I compared the proportions of students from each district writing different themes.

The stories revealed three broad themes: co-operation between Europeans and New Guineans; conflict between them; and differences (without any emotion expressed about these) between them. No doubt more themes could have been defined, but these three seemed sufficient for me in order to check if the emphasis found in the stories might correspond, on a district by district basis, with that found in the essays.

I scored a co-operation theme whenever a joint activity directed toward a common end was described for the New Guinean and European in the drawing. It could be a social or recreational activity, a business one, an educational one, or even a mundane one for the purpose of satisfying everyday needs, such as this one:

1. The people in the picture are John [New Guinean] and his wife Joan the European wife.
2. Joan was giving some rice to John which she bought from the store.
3. They were thinking or wanting to cook the rice in the bush.
4. They will cook the rice and eat it. After that they will go back in the afternoon to their home.

The stories and pictures in Plates 9 and 10 are about social activities and were scored as having co-operation themes. The story in Plate 1 is about a business activity and was scored the same way. Plates 2, 3, 4, 7 and 8 and also Plates 13 and 14 are examples of other stories scored as having co-operation themes. The very broad meaning of the concept of co-operation, as used in evaluating the picture-stories, is well illustrated by Plate 14 which shows Europeans and New Guineans in the 'joint activity' of attending church.

Co-operation stories did not have to describe co-operation between equals. Role differences in the stories (often with the European in a position superior to the New Guinean's) were regarded as part of an objective picture of life in New Guinea. Unless a student himself indicated his characters felt badly about their role differences, I did not take them as being a sign of conflict. The following, for example, was scored as having a co-operation theme:

1. The two person were the native and European. The native is shaking hands with his master.
2. The native was waiting for his master at the airstrip.
3. The European is thinking that he might get his old friend back.
4. The New Guinean would work for the European as houseboy.

Although the Europeans and New Guineans shown in Plates 3, 11 and 15 could scarcely be called equals, the stories about them have nonetheless been scored for co-operation.

Pictures which were unfinished were scored as long as stories had been written for them. Plates 7 and 8 show unfinished pictures, but their stories permit scoring. Both were scored as having co-operation themes.

A conflict theme was scored whenever principals in the story were at cross-purposes. Withholding, punishing, fighting, and killing were all scored as conflict themes. If someone in the picture asked another person (of a different race) for something and this was denied, I took the story as an example of 'withholding', no matter how trivial the request might seem. A story principal might have asked for a favour, companionship, food, money, or a job. The story below exemplified 'withholding' and was scored for conflict:

1. The people were a New Guinean and a European. The New Guinean was standing under a lamp by the road and the European was just having a good time along the road....¹ The New Guinea man he may be hungry and crying and begging people who went by for food.
2. I think the New Guinean man was begging the European man for some money so he could buy food for him self but the European man just gave him no money and just passed.
3. I think the European man is thinking about that New Guinea man who begged for money and the New Guinea man was really wanting food.
4. The New Guinea man would just die of starvation by the road and the European man went away and enjoyed himself or may(be) told other European men about the poor New Guinea man.

¹ These dots appeared in the student's story and do not indicate omitted material.



- 1- In this picture we can see one European and his native servant
- 2- The servant is taking a food. to his Master towards the table
- 3- They are thinking of taking a trip after the meal.
- 4- They will take a trip to some native villages.

'Punishing' included legal punishment, unless the story stated that the criminal or his community would benefit from legal punishment, in which case it was scored as a co-operation theme. What constituted 'fighting' was generally clear, with the exception of a few difficult cases, which are explained below.

In addition to Plate 5 which illustrates a withholding story, Plates 6, 12, 16, 17, 18 and 19 have stories which are examples of ones scored for conflict.

I also scored as a conflict theme any statement of differences between persons when negative affect was expressed about these, unlike those scored for the final theme, in which there was a statement of differences but no emotion expressed about them.

The following is an example of a story stating differences without affect:

1. The picture shows the difference between a European and some of the New Guineans today.
2. Either of them is thinking about what he is going to do the next day.
3. A European is thinking about what he is going to teach the students and the New Guinean is thinking about going hunting of continuing his subsistence farming.
4. During the next day they are going to do something different.

The story in Plate 21 is of the same type.

There were several difficult scoring cases, such as whether a sporting event was to be considered an example of co-operation or conflict. The stories about sporting events were of two types: those in which participants were primarily concerned with the game or contest itself even when their purpose was winning, and those in which the participants were expressing animosity or a desire to punish or impress each other. In the first, participants might be thinking of winning a prize for the event, but in the second they let their personal feelings dominate. Stories about sporting events which did express personal conflict were scored as having conflict themes:

1. There is a European and Native person in the picture.
2. They were practicing boxing before the picture.
3. They are thinking to fight and who is going to win.
4. The European man will get angry and try to kill the Native man and he will get a prize for winning the fight.

In contrast, stories that described participants as opponents only for the purposes of a sporting match were scored as having co-operation themes. For example:

1. There is a European and a native in the picture. They are having a competition of lifting an iron weight 200 lb.
2. They were preparing for competition. They do many exercises.

3. Each one was thinking whether he himself will win or what is he going to have if he win the competition.
4. If he will win the competition he will be happy and get what he was thinking off such as money - shield - silver cup.

In a few stories about sporting events, the participants might be identified with the countries they represented. If a story generalised from the outcome of the event to the relationship between nations represented in it, the story would be scored according to the nature of the outcome. For instance, the following story was scored for conflict:

1. The people in the picture are boxers from New Guinea and England.
2. They were boxing to find out who is the worlds champion.
3. They are waiting to give each other a terrible punch.
4. The New Guinean boxer gave a terrible punch to the English boxer, and New Guinea overcome England.

Another difficult type of story to score was the one which expressed both co-operation and conflict. Usually I did not look at a picture when scoring its story, but when the story contained both co-operation and conflict or was otherwise ambiguous I did, and scored according to the picture's emphasis. I did this because I recognised that some students, asked to write stories about their drawings only after these were finished, might have become anxious if they had depicted conflict and tried to censor this theme in their story. In a few cases students became anxious even before they were asked to write stories. They would leave unfinished a drawing showing conflict and draw a picture emphasising co-operation on the other side of the paper. Their stories were usually ambiguous. When this occurred, I scored the story according to the theme of the original picture. When the meaning of the picture was unclear, I scored the story for its outcome. If a story was ambiguous and had only one picture drawn for it, I tried to score it according to the picture. For example, the ambiguous story in Plate 20 was scored as having a conflict theme on the basis of the picture which shows New Guineans being choked and knocked down. If both story and picture were ambiguous, I did not score the material. Fortunately, there were very few picture-stories which could not be scored.

Results. The distribution of picture-story themes by district is shown in Table 6.9.

The rankings of the districts on co-operation or conflict themes are very similar to those on either primarily appreciative or primarily critical scoring categories for the essays (see Table 6.2). Although the positions of Chimbu/Eastern Highlands and East New Britain are reversed, it is clear, nonetheless, that students from these better-developed areas wrote more often of co-operation than did students of the less well-developed Western Highlands and Manus Districts. It is unfortunate that there were no Madang picture-stories, although the very fact that they disappeared suggests to me that they probably did not give a flattering impression of European-New Guinean relations.



- 1) A white man and a black man fighting
- 2) Before we saw them in the picture they were hiding in the bush.
- 3) They are thinking to kill each other.
- 4) The black man is going to be killed



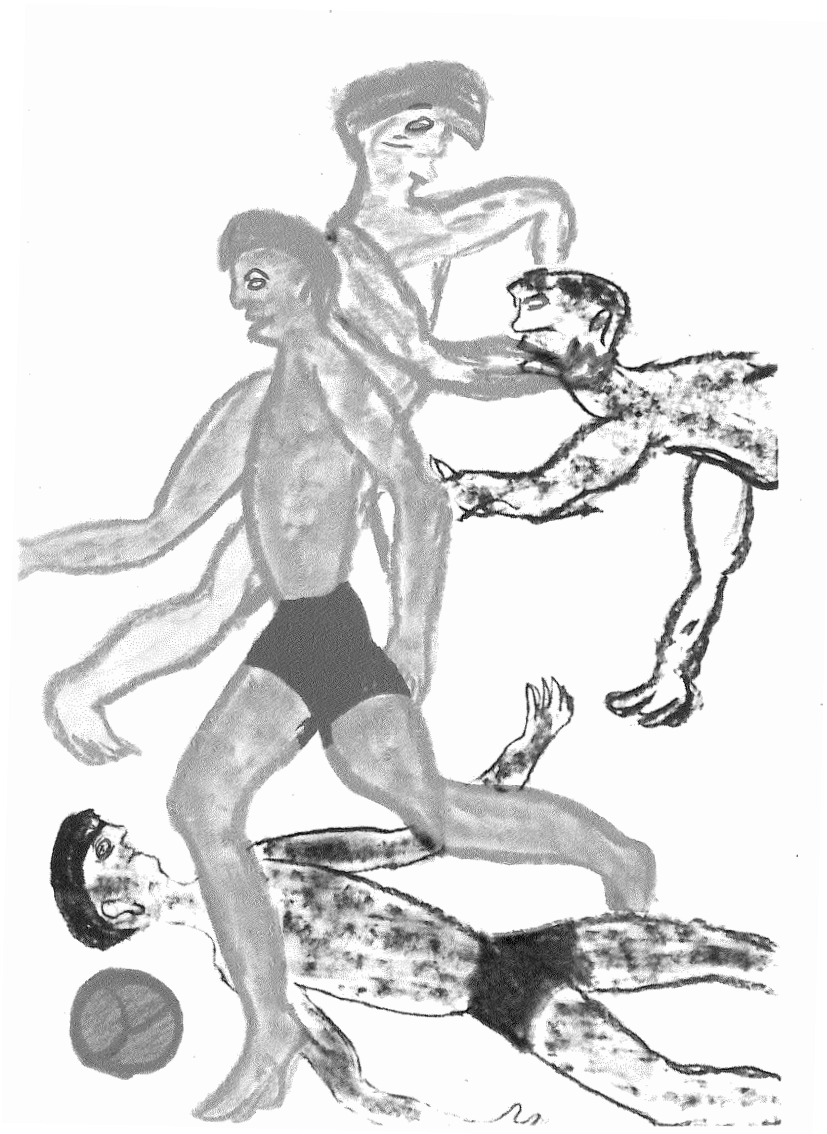
- (1.) White man with a bush man with an ^{bow} arrow.
- (2) They once had a fight in the plantation because the native wasn't working properly.
- (3) The native ran away to become a wild primitive ~~of~~ more and he ^{decided} thought that ~~for~~ he ~~well~~ would spear or shoot in with an arrow.
- (4) The manager, white man came to the plantation and then through the bushes till he came to a stop when he got a shock with an arrow. Struck his arm. That was the thing the native did in return to finish the white's life. The European was finally shot dead.



- (1) A European man ^{was} chased by two native men of the Hagen.
- (2) Before we saw them in the picture, that European man was visiting the village and he ~~was about to~~ ^{killed the} ~~took the~~ leader's pig ~~property~~ without giving him the pay.
- (3) The two native men was thinking about to kill that European and that European man was trying to run away so he ran away.
- (4) The European man ran away from the village and went to the police station and see the Police Officer and the two native were put in prison.



1. The picture shows few New Guinean runner and an Australian runner .
2. They were running in the 100 yds race .
3. they thinking about themselves to come first eg. An Australian is trying to come first and knocking one of the New Guineans in front down.
4. The New Guineans will fight against the Australian runner .



1. New Guineans and Europeans
2. Before the picture they were ~~convinced~~ planning to play soccer
3. They ~~are~~ ^{rough} are wanting to play ~~soccer~~ ^{soccer} well and thinking not to play
4. They'll be a fortune after this had happened

Table 6.9

Picture-story themes, by district

District	Themes						Total	
	Co-operation		Conflict		Differences		N	%
	N	%	N	%	N	%		
Chimbu/Eastern Highlands	32	82.1	7	17.9	0	0	39	100.0
East New Britain	21	70.0	9	30.0	0	0	30	100.0
Manus	10	38.5	13	50.0	3	11.5	26	100.0
Western Highlands	14	56.0	9	36.0	2	8.0	25	100.0
Total	77	64.2	38	31.6	5	4.2	120	100.0

If a statement of differences theme is considered to be closer to a conflict than to a co-operation theme (on the basis that in student essays differences between European and New Guineans were usually stated with resentment, not approval), stories containing this theme can be grouped with those having conflict themes. Applying the chi-square test to the resulting distribution of story themes by district, one finds a significant difference between the proportions of students from the better-developed areas and those from the less well-developed areas writing the two kinds of picture-stories. Table 6.10 shows the distribution with its chi-square value.

Table 6.10

Students writing co-operative or conflict/differences picture-stories, by better-developed or less well-developed districts

District	Picture-story themes				Total	
	Co-operative		Conflict/differences		N	%
	N	%	N	%		
Chimbu/Eastern Highlands/ East New Britain	53	76.8	16	23.2	69	100.0
Manus/Western Highlands*	24	47.1	27	52.9	51	100.0
Total	77	64.2	43	35.8	120	100.0

$$\chi^2 = 12.03 \text{ (1 df) } p < .001$$

* See p.23, fn.1, for an explanation of the criteria upon which the Western Highlands District is considered to be less well-developed.

Although the positive relationship of the content in picture-stories and essays, on the one hand, and economic conditions, on the other, constitute evidence for the rational origin of student hostility, one must consider the possibility that the more hostile student groups came

from populations which traditionally tended to be more hostile than the others. It seems unlikely that whatever variation in social structure or child-rearing one might want to relate to aggressive adult behaviour would happen to co-vary with the economic conditions, but it is possible. In the absence of a systematic study of 'personality type' (if such a term can still be properly applied to a large population) of peoples represented in the study, one must point out that with judiciously chosen quotes from Europeans involved in early contact with or study of New Guineans, all groups reported in this study could be called basically aggressive, including the Tolai and Eastern Highlanders, the two groups from which the student samples showed the greatest appreciation of Europeans.¹

Student views of Europeans, and their relation to economic motivation

To a certain extent, the relative lack of economic development in a district - or, more precisely, the relative lack of roads, agricultural extension programmes, and other improvements and services - seems to have stimulated students' entrepreneurial interest. Students apparently interpreted the relative neglect of their district as evidence of the poor attitude towards them of the Administration, and Europeans in general; by becoming entrepreneurs and promoting development in their districts they considered that they could show Europeans that they were worthy of respect.²

If student evaluation of European attitudes towards New Guineans is treated as though it were an independent variable - almost as though it were another way of expressing the state of local economic conditions - and compared to student business interest, a close relationship between the two, which Table 6.11 illustrates, is apparent.

When all the highlands districts are treated as one unit (equivalent to the former Central Highlands District), there is a perfect relationship between the two rankings, as Table 6.12 shows.

The relative neglect of Manus and Madang, and the European attitude of superiority which students associated with this, apparently heightened conscious interest in business activities.

¹ See Powell (1883:262-3) for a description of the inhabitants of the Gazelle Peninsula, and Read (1954:3) for comments on highlanders.

² This is not the same as Hagen's (1962) theory of 'withdrawal of status respect', which related to childhood experiences and psycho-analytically based processes, rather than the cognitive processes of young adults discussed here. See McClelland (1964) for a review of Hagen's theory that makes clear how different Hagen's reasoning is from mine.

Table 6.11

Rank order comparison of student business interest and student critical evaluation of European attitudes, by district

District	Ranking on critical essay score	Ranking on business interest
Manus	1	1
Madang	2	2
Chimbu	3	4
Western Highlands	4	3
Eastern Highlands	5	6
East New Britain	6	5

rho = .89

Table 6.12

Rank order comparison of student business interest and student critical evaluation of European attitudes, by district*

District	Ranking on critical essay score	Ranking on business interest
Manus	1	1
Madang	2	2
Highlands	3	3
East New Britain	4	4

* Highlands districts combined.

Conclusion

If the keen interest of New Guinean students in entrepreneurial roles is considered in conjunction with the demonstrated ability of some groups (like the Tolai of East New Britain and the highlanders) to respond quickly to favourable economic opportunities, a potential for economic development rare, if not unique, in the underdeveloped world is apparent. Elsewhere in underdeveloped countries the educated tend to desert their home areas for the towns where they seek white collar jobs, but New Guinean students in this sample showed a marked interest in staying in their home districts and starting their own commercial enterprises there. One might expect that students from districts with few economic opportunities, like Manus and Madang, would want to turn their backs on home and seek their careers elsewhere. But this study showed the opposite trend. It was the students from the poorest areas who seemed most anxious to return home, to make their careers there and to promote local economic development. The Administration, if it draws solely on

the experiences of other underdeveloped countries, may be completely unprepared for the high business interest of New Guinean students, for its rural, home-based bias, and for its possible repercussions on future economic and political developments.

For example, present manpower planning may be seriously unbalanced, for many persons being trained in secondary and tertiary institutions for public service positions, or other white collar jobs, may decide to become self-employed cash crop producers or businessmen. Writing about the Ivory Coast, Clignet and Foster (1966:167) cautioned manpower planners that a consideration of present skills in relation to the assumed needs of the economy was not sufficient, for opportunities for new uses of manpower could originate within the community itself. This caution seems particularly apt for New Guinea. For instance, although the current five-year development plan (Territory of Papua and New Guinea 1968) repeatedly mentioned the promotion of indigenous participation in the economy, for all the specific commercial projects discussed it included New Guineans in only menial roles. The plan made little or no provision for promoting the entrance of high school graduates, or graduates of tertiary institutions, into private enterprise at the level of locally-owned cash crop and business ventures. Yet, high school students were keenly interested in going into business, and had high aspirations for commercial success.

Moreover, the interest of educated youths in business could promote overt hostility towards the Administration and Europeans generally if fuller opportunities for local development are not forthcoming, particularly in relatively neglected areas like Manus and Madang. Although data on students' political attitudes were not systematically collected in this study, it may be significant that the political attitudes in the essays seemed to vary according to the opportunities for development in students' districts. For example, while many Tolai students volunteered the opinion that independence was coming soon and that they were being properly prepared for it, this was rare among the Manus students, some of whom said that Europeans would have trouble with New Guineans and might be forced to leave the country.¹ The comments of the Manus students on this latter subject ranged from fairly mild observations like these two:

¹ Twenty-one, or 41 per cent, of Tolai students writing essays volunteered remarks about being prepared for imminent independence, while only two, or 4 per cent, of Manus students did so. Seven, or 13 per cent, of the Manus volunteered remarks on the theme of impending trouble between Europeans and New Guineans and the possibility that Europeans might be made to leave. No students from other districts included such remarks in their essays.

To me this is not the way Europeans should treat the New Guineans. If they continue things on they will have trouble between New Guineans and Europeans like the Negroes and Whites in the United States;

I assume that many New Guineans are thinking of going against the Europeans;

to radical and emotional remarks like this one:

In the news I often heard about New Guinea in the United Nations meeting at America. I often hear some topics given by the Russians about New Guinea of what Australia is doing and some members said the Russians are wrong, but to me they are exactly right. So Australia is not doing well up here. Get RID OF THEM¹ and the other country can come to take their place, even if Communists will try to rule.

Although one might be tempted to believe that the educated youths of better-developed areas will remain appreciative of the Administration and of the European presence in New Guinea, one should not forget that these students tended to assume that they would eventually become equal to Europeans in material as well as educational terms. As students, they might be willing to wait and see if education brought actual equality, and might even be prepared to differ with critical opinions of their elders. One Tolai student, for instance, wrote:

Our village people put forward a silly idea that if New Guinea is going to start 'self-supporting' all the Europeans must be sent off at once in their home country, and some will be killed and some will be our slave.

If this student and others like him were to find they could not achieve the goals they believed education would help them to attain, they might lose faith in Europeans and become susceptible to possible pleas for violence from their uneducated relatives at home. This process was perhaps foreshadowed by the fact that the most frequent complaint raised by Tolai students in their essays concerned unequal jobs for persons of equal education. Since no fifth or sixth form classes existed at the time of this research, and no students had by then graduated from the University of Papua and New Guinea, not many New Guineans could have tested whether equal education brings equal material standing. But the Tolai, because of their high educational achievements, were most able to do so. Despite their generally high appreciation of Europeans, they were apparently beginning to find the formula wanting.²

¹ Student's capitalisation and emphasis.

² See R.S. Finney (1970:20-2) for some observations on the recent development of the Mataungan Association in the Gazelle Peninsula of New Britain, and its relevance to the data presented in this study. See also R.S. Finney (1971).

One of the first public criticisms of the five-year plan was made by J. Kaputin, a Tolai who had been educated overseas. Kaputin (1969) argued simply and forcefully that the plan did not give the New Guineans a fair share in the development of their country.¹ The disappointment he expressed may represent the feeling of many New Guineans who have been trusting the Administration to provide opportunities for them to become equals in their own country, but become indignant when these fail to appear.

It is not enough to say, as many Europeans in New Guinea do when they are defending their privileged position, that Europeans have given New Guineans a chance to achieve a better way of life than was possible before European contact. New Guineans may indeed appreciate what the European presence has so far brought them, but this does not mean that they are necessarily satisfied with their lot. Bearing in mind that many New Guineans tend to believe that Australians have voluntarily come to their country to promote indigenous development and welfare, perhaps the most relevant question one can ask concerning future relations between the groups is 'How does the New Guinean share of development compare with that of the Europeans?'

Should the current situation of economic inequality between New Guineans and Europeans continue without relief, it would not be surprising if the highly motivated but deeply disappointed would-be entrepreneurs develop into revolutionaries. Should the New Guinean students fail to attain high-level economic goals through the institutionalised means in which they sincerely believe, they may feel forced to seek alternative means of securing what they believe is their right in their land.

¹ Mr Kaputin's criticism of the plan was originally delivered at a public meeting of the Papua and New Guinea Society in Port Moresby on 14 October 1968, well before other criticisms of the plan were published. However, because Kaputin's talk was not reported in the press at the time it was delivered, and was not published until mid-1969, many people falsely gained the impression that his remarks were inspired by criticisms of the plan made by various Europeans. The fact is that Kaputin's critique preceded those of the European commentators. See Arndt (1969), Crocombe (1968-69), T.S. Epstein (1969), Fisk (1969) and Shand (1969) for subsequent analyses of the plan.



- 1) Two people were European and New Guinean
- 2) They are dressing.
- 3) They are thinking about the future
- 4) They will live together or not.

Appendix A

Tables for personal and socio-economic background variables, by district

Table A.1

Form, by district

District	Form				Total	
	Second		Third			
	N	%	N	%	N	%
Chimbu	13	30.2	30	69.8	43	100.0
Eastern Highlands	25	58.1	18	41.9	43	100.0
East New Britain	25	44.6	31	55.3	56	99.9
Madang	38	62.3	23	37.7	61	100.0
Manus	28	52.8	25	47.2	53	100.0
Western Highlands	23	54.8	19	45.2	42	100.0
Total	152	51.0	146	49.0	298	100.0

$$\chi^2 = 12.627 \text{ (5 df); } p < .05$$

Table A.2

Age, by district

District	Age (years)								Total	
	10-14		15		16		17		18-22	
	N	%	N	%	N	%	N	%	N	%
Chimbu	5	11.6	6	14.0	10	23.3	11	25.6	11	25.6
Eastern Highlands	11	25.6	10	23.3	9	20.9	7	16.3	6	14.0
East New Britain	4	7.1	13	23.2	17	30.4	12	21.4	10	17.9
Madang	13	21.3	19	31.1	12	19.7	10	16.4	7	11.5
Manus	4	7.5	10	18.9	20	37.7	11	20.8	8	15.1
Western Highlands	4	9.5	9	21.4	10	23.8	9	21.4	10	23.8
Total	41	13.8	67	22.5	78	26.2	60	20.1	52	17.5
									298	100.1

$$\chi^2 = 25.177 \text{ (20 df); } p > .10$$

Table A.3

English ability, by district

District	English ability				Total	
	Low		High			
	N	%	N	%	N	%
Chimbu	14	46.7	16	53.5	30	100.0
Eastern Highlands	10	62.5	6	37.5	16	100.0
East New Britain	31	55.4	25	44.6	56	100.0
Madang	27	44.3	34	55.7	61	100.0
Manus	26	49.1	27	50.9	53	100.0
Western Highlands	19	46.3	22	53.7	41	100.0
Total	127	49.4	130	50.6	257	100.0

$$\chi^2 = 2.783 \text{ (5 df); } p > .70$$

Table A.4

Birth order, by district

District	Birth order						Total	
	First*		Middle		Last			
	N	%	N	%	N	%	N	%
Chimbu	9	25.0	19	52.8	8	22.2	36	100.0
Eastern Highlands	10	26.3	20	52.6	8	21.1	38	100.0
East New Britain	16	32.7	15	30.6	18	36.7	49	100.0
Madang	21	36.2	23	39.7	14	24.1	58	100.0
Manus	16	34.0	16	34.0	15	31.9	47	99.9
Western Highlands	9	22.5	20	50.0	11	27.5	40	100.0
Total	81	30.2	113	42.2	74	27.6	268	100.0

 $\chi^2 = 9.371$ (10 df); $p > .30$

* 'First' includes 6 students who were 'only children'.

Table A.5

Personal travel, by district

District	Travel				Total	
	Own district only		Beyond			
	N	%	N	%	N	%
Chimbu	7	19.4	29	80.6	36	100.0
Eastern Highlands	11	28.9	27	71.1	38	100.0
East New Britain	37	75.5	12	24.5	49	100.0
Madang	42	75.0	14	25.0	56	100.0
Manus	33	68.8	15	31.3	48	100.1
Western Highlands	14	35.0	26	65.0	40	100.0
Total	144	53.9	123	46.1	267	100.0

 $\chi^2 = 55.981$ (5 df); $p < .001$

Table A.6

Religion, by district

District	Religion				Total	
	Catholic		Protestant			
	N	%	N	%	N	%
Chimbu	26	72.2	10	27.8	36	100.0
Eastern Highlands	1	2.8	35	97.2	36	100.0
East New Britain	8	16.3	41	83.7	49	100.0
Madang	38	65.5	20	34.5	58	100.0
Manus	14	29.2	34	70.8	48	100.0
Western Highlands	17	42.5	23	57.5	40	100.0
Total	104	39.0	163	61.0	267	100.0

 $\chi^2 = 66.475$ (5 df); $p < .001$.

Table A.7

Father's education, by district

District	Father's education				Total	
	None		Some		N	%
	N	%	N	%		
Chimbu	27	75.0	9	25.0	36	100.0
Eastern Highlands	32	86.5	5	13.5	37	100.0
East New Britain	18	37.5	30	62.5	48	100.0
Madang	21	39.6	32	60.4	53	100.0
Manus	36	75.0	12	25.0	48	100.0
Western Highlands	38	95.0	2	5.0	40	100.0
Total	172	65.6	90	34.4	262	100.0

 $\chi^2 = 58.447$ (5 df); $p < .001$.

Table A.8

Father's language attainments, by district

District	Father's language attainments				Total	
	Tok ples only		Other		N	%
	N	%	N	%		
Chimbu	16	44.4	20	55.6	36	100.0
Eastern Highlands	15	39.5	23	60.5	38	100.0
East New Britain	2	4.1	47	95.9	49	100.0
Madang	5	8.8	52	91.2	57	100.0
Manus	2	4.2	46	95.8	48	100.0
Western Highlands	26	65.0	14	35.0	40	100.0
Total	66	24.6	202	75.4	268	100.0

 $\chi^2 = 76.942$ (5 df); $p < .001$.

Table A.9

Father's travel, by district

District	Father's travel				Total	
	Own district only		Beyond		N	%
	N	%	N	%		
Chimbu	10	27.8	26	72.2	36	100.0
Eastern Highlands	17	44.7	21	55.3	38	100.0
East New Britain	20	41.7	28	58.3	48	100.0
Madang	9	16.4	46	83.6	55	100.0
Manus	15	31.3	33	68.8	48	100.1
Western Highlands	26	65.0	14	35.0	40	100.0
Total	97	36.6	168	63.4	265	100.0

 $\chi^2 = 27.024$ (5 df); $p < .001$.

Table A.10

Father's type of house, by district

District	Father's type of house				Total	
	Traditional		Improved			
	N	%	N	%	N	%
Chimbu	15	41.7	21	58.3	36	100.0
Eastern Highlands	25	65.8	13	34.2	38	100.0
East New Britain	4	8.2	45	91.8	49	100.0
Madang	31	56.4	24	43.6	55	100.0
Manus	15	31.3	33	68.8	48	100.1
Western Highlands	21	52.5	19	47.5	40	100.0
Total	111	41.7	155	58.3	266	100.0

$\chi^2 = 40.671$ (5 df); $p < .001$.

Table A.11

Father's business holdings, by district

District	Father's business holdings						Total	
	None		Cash crops only		Diverse*			
	N	%	N	%	N	%	N	%
Chimbu	8	22.2	14	38.9	14	38.9	36	100.0
Eastern Highlands	8	21.1	15	39.5	15	39.5	38	100.1
East New Britain	5	10.2	28	57.1	16	32.7	49	100.0
Madang	29	50.9	16	28.1	12	21.1	57	100.1
Manus	26	54.2	16	33.3	6	12.5	48	100.0
Western Highlands	15	37.5	13	32.5	12	30.0	40	100.0
Total	91	34.0	102	38.1	75	28.0	268	100.1

$\chi^2 = 37.867$ (10 df); $p < .001$.

* 'Diverse' refers to holdings which included trucks, tradestores, or both.

Table A.12

Father's personal possessions, by district

District	Father's personal possessions				Total	
	Neither watch nor radio		Watch and/or radio			
	N	%	N	%	N	%
Chimbu	21	60.0	14	40.0	35	100.0
Eastern Highlands	26	68.4	12	31.6	38	100.0
East New Britain	11	22.4	38	77.6	49	100.0
Madang	37	67.3	18	32.7	55	100.0
Manus	29	60.4	19	39.6	48	100.0
Western Highlands	29	72.5	11	27.5	40	100.0
Total	153	57.7	112	42.3	265	100.0

$\chi^2 = 32.620$ (5 df); $p < .001$.

Appendix B

Tables for chi-square analyses of $\bar{n}$ Ach scores by personal variables and socio-economic background variables

Table B.1

$\bar{n}$ Ach, by form

Form	<u>$\bar{n}$ Ach</u>				Total	
	Low		High		N	%
	N	%	N	%		
Second	50	51.5	45	50.6	95	51.1
Third	47	48.5	44	49.4	91	48.9
Total	97	100.0	89	100.0	186	100.0

$\chi^2 = .018$ (1 df); $p > .90$

Table B.2

$\bar{n}$ Ach, by age

Age (years)	<u>$\bar{n}$ Ach</u>				Total	
	Low		High		N	%
	N	%	N	%		
10-14	15	15.5	11	12.4	26	14.0
15	24	24.7	19	21.3	43	23.1
16	19	19.6	29	32.6	48	25.8
17	24	24.7	15	16.9	39	21.0
18-22	15	15.5	15	16.9	30	16.1
Total	97	100.0	89	100.1	186	100.0

$\chi^2 = 5.022$ (4 df); $p > .20$

Table B.3

$\bar{n}$ Ach, by English ability

English ability	<u>$\bar{n}$ Ach</u>				Total	
	Low		High		N	%
	N	%	N	%		
Low	42	52.5	40	49.4	82	50.9
High	38	47.5	41	50.6	79	49.1
Total	80	100.0	81	100.0	161	100.0

$\chi^2 = .157$ (1 df); $p > .50$

Table B.4

n Ach, by birth order

Birth order	<u>n Ach</u>				Total	
	Low		High		N	%
	N	%	N	%		
First*	29	34.9	27	32.9	56	33.9
Middle	42	50.6	45	54.9	87	52.7
Last	12	14.5	10	12.2	22	13.3
Total	83	100.0	82	100.0	165	99.9

$\chi^2 = .342$ (2 df); $p > .80$

* 'First' includes 3 students who were 'only children'.

Table B.5

n Ach, by personal travel

Personal travel	<u>n Ach</u>				Total	
	Low		High		N	%
	N	%	N	%		
Own district only	49	55.7	38	46.3	87	51.2
Beyond	39	44.3	44	53.7	83	48.8
Total	88	100.0	82	100.0	170	100.0

$\chi^2 = 1.482$ (1 df); $p > .20$

Table B.6

n Ach, by religion

Religion	<u>n Ach</u>				Total	
	Low		High		N	%
	N	%	N	%		
Catholic	40	46.0	33	40.2	73	43.2
Protestant	47	54.0	49	59.8	96	56.8
Total	87	100.0	82	100.0	169	100.0

$\chi^2 = .565$ (1 df); $p > .30$

Table B.7

n Ach, by father's education

Father's education	<u>n Ach</u>				Total	
	None		Some		N	%
	N	%	N	%		
None	55	64.7	52	64.2	107	64.5
Some	30	35.3	29	35.8	59	35.5
Total	85	100.0	81	100.0	166	100.0

$\chi^2 = .005$ (1 df); $p > .90$

Table B.8

n Ach, by father's language attainments

Father's language attainments	<u>n Ach</u>				Total	
	Low		High			
	N	%	N	%	N	%
Tok ples only	26	29.5	23	27.7	49	28.7
Other	62	70.5	60	72.3	122	71.3
Total	88	100.0	83	100.0	171	100.0

$$\chi^2 = .070 (1 \text{ df}); p > .70$$

Table B.9

n Ach, by father's travel

Father's travel	<u>n Ach</u>				Total	
	Low		High			
	N	%	N	%	N	%
Own district only	29	33.3	33	40.7	62	36.9
Beyond	58	66.7	48	59.3	106	63.1
Total	87	100.0	81	100.0	168	100.0

$$\chi^2 = .988 (1 \text{ df}); p > .30$$

Table B.10

n Ach, by father's type of house

Father's type of house	<u>n Ach</u>				Total	
	Low		High			
	N	%	N	%	N	%
Traditional	37	42.5	42	51.2	79	46.7
Improved	50	57.5	40	48.8	90	53.3
Total	87	100.0	82	100.0	169	100.0

$$\chi^2 = 1.281 (1 \text{ df}); p > .20$$

Table B.11

n Ach, by father's business holdings

Father's business holdings	<u>n Ach</u>				Total	
	Low		High			
	N	%	N	%	N	%
None	37	42.0	29	34.9	66	38.6
Cash crops only	32	36.4	32	38.6	64	37.4
Diverse	19	21.6	22	26.5	41	24.0
Total	88	100.0	83	100.0	171	100.0

$$\chi^2 = 1.044 (2 \text{ df}); p > .50$$

Table B.12

n Ach, by father's personal possessions

Father's personal possessions	n Ach				Total	
	Low		High			
	N	%	N	%	N	%
Neither, watch nor radio	50	57.5	49	60.5	99	58.9
Watch and/or radio	37	42.5	32	39.5	69	41.1
Total	87	100.0	81	100.0	168	100.0

 $\chi^2 = .158$ (1 df); $p > .50$

Appendix C

Tables for chi-square analyses of £500 essay scores by personal variables and socio-economic background variables¹

Table C.1

£500 essay scores, by form

Form	£500 essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
Second	31	57.4	53	60.2	49	41.5	133	51.2
Third	23	42.6	35	39.8	69	58.5	127	48.8
Total	54	100.0	88	100.0	118	100.0	260	100.0

$$\chi^2 = 8.123 \text{ (2 df); } p < .02$$

Table C.2

£500 essay scores, by age

Age (years)	£500 essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
10-14	12	22.2	16	18.2	10	8.5	38	14.6
15	15	27.8	23	26.1	22	18.6	60	23.1
16	10	18.5	23	26.1	35	29.7	68	26.2
17	11	20.4	10	11.4	28	23.7	49	18.8
18-22	6	11.1	16	18.2	23	19.5	45	17.3
Total	54	100.0	88	100.0	118	100.0	260	100.0

$$\chi^2 = 15.321 \text{ (8 df); } p > .05$$

Table C.3

£500 essay scores, by English ability

English ability	£500 essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
Low	19	46.3	42	56.8	53	48.2	114	50.7
High	22	53.7	32	43.2	57	51.8	111	49.3
Total	41	100.0	74	100.0	110	100.0	225	100.0

$$\chi^2 = 1.677 \text{ (2 df); } p > .30$$

¹ In this Appendix, score 1 refers to expenditure for an immediate return, or expenditure with an emphasis on pleasure, score 2 to expenditure for an intermediate return, and score 3 to expenditure for a capital return.

Table C.4

£500 essay scores, by birth order

Birth order	£500 essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
First*	16	35.6	25	31.6	40	36.0	81	34.5
Middle	24	53.3	46	58.2	53	47.7	123	52.3
Last	5	11.1	8	10.1	18	16.2	31	13.2
Total	45	100.0	79	99.9	111	99.9	235	100.0

$\chi^2 = 2.742$ (4 df); $p > .50$

* 'First' includes 6 students who were 'only children'.

Table C.5

£500 essay scores, by personal travel

Personal travel	£500 essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
Own district only	29	60.4	29	36.3	52	46.4	110	45.8
Beyond	19	39.6	51	63.8	60	53.6	130	54.2
Total	48	100.0	80	100.1	112	100.0	240	100.0

$\chi^2 = 2.366$ (2 df); $p > .30$

Table C.6

£500 essay scores, by religion

Religion	£500 essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
Catholic	21	43.8	25	31.3	49	43.4	95	39.4
Protestant	27	56.3	55	68.8	64	56.6	146	60.6
Total	48	100.1	80	100.1	113	100.0	241	100.0

$\chi^2 = 3.349$ (2 df); $p > .10$

Table C.7

£500 essay scores, by father's education

Father's education	£500 essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
None	34	75.6	46	58.2	72	64.3	152	64.4
Some	11	24.4	33	41.8	40	35.7	84	35.6
Total	45	100.0	79	100.0	112	100.0	236	100.0

$\chi^2 = 3.756$ (2 df); $p > .10$

Table C.8

£500 essay scores, by father's language attainments

Father's language attainments	£500 essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
Tok ples only	14	29.2	19	23.8	23	20.4	56	23.2
Other	34	70.8	61	76.3	90	79.6	185	76.8
Total	48	100.0	80	100.1	113	100.0	241	100.0

 $\chi^2 = 1.485$ (2 df); $p > .30$

Table C.9

£500 essay scores, by father's travel

Father's travel	£500 essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
Own district only	16	34.0	35	43.8	38	34.2	89	37.4
Beyond	31	66.0	45	56.3	73	65.8	149	62.6
Total	47	100.0	80	100.1	111	100.0	238	100.0

 $\chi^2 = 2.079$ (2 df); $p > .30$

Table C.10

£500 essay scores, by father's type of house

Father's type of house	£500 essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
Traditional	26	54.2	33	41.8	42	37.5	101	42.3
Improved	22	45.8	46	58.2	70	62.5	138	57.7
Total	48	100.0	79	100.0	112	100.0	239	100.0

 $\chi^2 = 3.836$ (2 df); $p > .10$

Table C.11

£500 essay scores, by father's business holdings

Father's business holdings	£500 essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
None	14	29.2	29	36.3	44	38.9	87	36.1
Cash crops only	20	41.7	26	32.5	41	36.3	87	36.1
Diverse	14	29.2	25	31.3	28	24.8	67	27.8
Total	48	100.1	80	100.1	113	100.0	241	100.0

 $\chi^2 = 2.338$ (4 df); $p > .50$

Table C.12

£500 essay scores, by father's personal possessions

Father's personal possessions	£500 essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
Neither watch nor radio	30	62.5	45	56.3	63	57.3	138	58.0
Watch and/or radio	18	37.5	35	43.8	47	42.7	100	42.0
Total	48	100.0	80	100.1	110	100.0	238	100.0

$\chi^2 = .523$ (2 df); $p > .70$

Appendix D

Tables for chi-square analyses of race relations essay scores by personal variables and socio-economic background variables¹

Table D.1

Race relations essay scores, by form

Form	Race relations essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
Second	29	51.8	25	51.0	28	45.2	82	49.1
Third	27	48.2	24	49.0	34	54.8	85	50.9
Total	56	100.0	49	100.0	62	100.0	167	100.0

$\chi^2 = .619$ (2 df); $p > .70$

Table D.2

Race relations essay scores, by age

Age (years)	Race relations essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
10-14	9	16.1	8	16.3	6	9.7	23	13.8
15	11	19.6	10	20.4	14	22.6	35	21.0
16	12	21.4	14	28.6	20	32.3	46	27.5
17	14	25.0	11	22.4	10	16.1	35	21.0
18-22	10	17.9	6	12.2	12	19.4	28	16.8
Total	56	100.0	49	99.9	62	100.1	167	100.1

$\chi^2 = 4.676$ (8 df); $p > .70$

Table D.3

Race relations essay scores, by English ability

English ability	Race relations essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
Low	27	54.0	22	56.4	22	37.9	71	48.3
High	23	46.0	17	43.6	36	62.1	76	51.7
Total	50	100.0	39	100.0	58	100.0	147	100.0

$\chi^2 = 4.175$ (2 df); $p > .10$

¹ In this Appendix, score 1 refers to a primarily favourable view of Europeans, score 2 to a 'balanced' view of Europeans, and score 3 to a primarily critical view of Europeans.

Table D.4

Race relations essay scores, by birth order

Birth order	Race relations essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
First*	23	50.0	14	31.1	17	28.8	54	36.0
Middle	19	41.3	25	55.6	27	45.8	71	47.3
Last	4	8.7	6	13.3	15	25.4	25	16.7
Total	46	100.0	45	100.0	59	100.0	150	100.0

$\chi^2 = 9.466$ (4 df); $p > .05$

* 'First' includes 4 students who were 'only children'.

Table D.5

Race relations essay scores, by personal travel

Personal travel	Race relations essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
Own district only	32	62.7	22	50.0	35	59.3	89	57.8
Beyond	19	37.3	22	50.0	24	40.7	65	42.2
Total	51	100.0	44	100.0	59	100.0	154	100.0

$\chi^2 = 1.665$ (2 df); $p > .30$

Table D.6

Race relations essay scores, by religion

Religion	Race relations essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
Catholic	12	23.5	15	34.1	30	50.8	57	37.0
Protestant	39	76.5	29	66.0	29	49.2	97	63.0
Total	51	100.0	44	100.1	59	100.0	154	100.0

$\chi^2 = 18.944$ (2 df); $p < .02$

Table D.7

Race relations essay scores, by father's education

Father's education	Race relations essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
None	33	66.0	26	59.1	39	67.2	98	64.5
Some	17	34.0	18	40.9	19	32.8	54	35.5
Total	50	100.0	44	100.0	58	100.0	152	100.0

$\chi^2 = .801$ (2 df); $p > .50$

Table D.8

Race relations essay scores, by father's language attainments

Father's language attainments	Race relations essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
<u>Tok ples</u> only	13	25.5	10	22.7	9	15.3	32	20.8
Other	38	74.5	34	77.3	50	84.7	122	79.2
Total	51	100.0	44	100.0	59	100.0	154	100.0

 $\chi^2 = 1.883$ (2 df); $p > .30$

Table D.9

Race relations essay scores, by father's travel

Father's travel	Race relations essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
Own district only	22	43.1	16	36.4	18	31.0	56	36.6
Beyond	29	56.9	28	63.6	40	69.0	97	63.4
Total	51	100.0	44	100.0	58	100.0	153	100.0

 $\chi^2 = 1.715$ (2 df); $p > .30$

Table D.10

Race relations essay scores, by father's type of house

Father's type of house	Race relations essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
Traditional	22	43.1	17	39.5	16	27.6	55	36.2
Improved	29	56.9	26	60.5	42	72.4	97	63.8
Total	51	100.0	43	100.0	58	100.0	152	100.0

 $\chi^2 = 3.134$ (2 df); $p > .20$

Table D.11

Race relations essay scores, by father's business holdings

Father's business holdings	Race relations essay scores						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
None	13	25.5	13	29.5	31	52.5	57	37.0
Cash crops only	21	41.2	17	38.6	17	28.8	55	35.7
Diverse	17	33.3	14	31.8	11	18.6	42	27.3
Total	51	100.0	44	99.9	59	99.9	154	100.0

 $\chi^2 = 10.285$ (4 df); $p < .05$

Table D.12

Race relations essay scores, by father's personal possessions

Father's personal possessions	Race relations essay scores						Total	
	1		2		3		N	%
	N	%	N	%	N	%		
Neither, watch nor radio	24	47.1	26	59.1	32	56.1	82	53.9
Watch and/or radio	27	52.9	18	40.9	25	43.9	70	46.1
Total	51	100.0	44	100.0	57	100.0	152	100.0

$\chi^2 = 1.553$ (2 df); $p > .30$

Appendix E

Within-groups analysis of $\bar{n}$ Ach scores by personal variables and socio-economic background variables

Tables E.1 to E.12 show the results of the within-groups analysis, including individual and pooled chi-square values,¹ as well as trends, even the very weak ones.

$\bar{n}$ Ach scores and personal variables. The pooled chi-square for form in Table E.1, where the distributions of data on form and $\bar{n}$ Ach are compared, approaches significance ($p > .10$). The only other pooled chi-square for personal and socio-economic background variables to come close to doing so is for personal travel in Table E.5 ($p > .20$). Among all the variables reported, these are the two over which a New Guinean student has most personal control. One might have predicted that individuals with high $\bar{n}$ Ach would be most likely to advance in school when there are few opportunities for education, and to travel and gain new experiences when this is difficult to do. Six of the 9 trends in the data relating form and travel to $\bar{n}$ Ach support this prediction. Included among them are all but one of the trends in Tables E.1 and E.5 which approach significance. A closer analysis of the form standing data in relation to $\bar{n}$ Ach makes the point even better: the two strongest trends ($p > .05$) are in the data from the Eastern and Western Highlands, the two districts in this study which had most recently gained government high schools. (Although the data from the Chimbu District - which had no high school in 1967 - do not show a similar trend, they are probably not suitable for comparison here because the Chimbu students attended high school in the Eastern Highlands, perhaps because their families lived closest to the Eastern Highlands or worked there, rather than because of their own motivation.) Also in Table E.1 are reversed trends in the East New Britain and Madang data. There are many more opportunities for education in East New Britain and Madang than there are in the highlands, and one would not expect motivation to play as great a role in a young New Guinean's level of schooling there as in the highlands. The data from Manus, where opportunities for education are also greater, show the same trend as the highlands data, but at a much weaker level ($p > .50$).

Pooled chi-squares for Tables E.3, E.4, E.5 and E.6 have very low probability levels, and only a few individual chi-squares approach statistical significance. Also, the directions of trends within each table are generally inconsistent, apart from the trends in Table E.6 concerning religion. Four of the five samples from which data are usable for the within-groups analysis of $\bar{n}$ Ach and religion show the same trend for Protestants to have higher $\bar{n}$ Ach scores than Catholics. However, the trends for the data from Chimbu and Manus are very weak statistically ($p > .90$ and $p > .80$, respectively), and those in the Madang and Western Highlands data, though stronger ($p > .20$ and $p > .50$, respectively), still fail to reach a probability level which is statistically significant. It is not surprising, then, that the pooled chi-square for the relationship has a probability greater than .80.

Three of the four trends in English ability in Table E.3, those in the Madang, Manus, and Eastern Highlands data, are in a direction indicating that the greater one's ability in English, the more likely one is to have high $\bar{n}$ Ach. This data could well be taken to indicate that a study in New Guinea of the inter-relationship of $\bar{n}$ Ach, performance and ability would be fruitful; yet, the most significant trend in Table E.3 is in the opposite direction and is far more significant statistically (Western Highlands, $p > .05$).

¹ The individual chi-squares all have one df, and the pooled ones, six df except when data from one sample were eliminated from the analysis because of lack of variation in them.

n Ach scores and socio-economic background variables. All but one of the pooled chi-squares in Tables E.7 to E.12 have extremely low levels of statistical significance, and none of the individual chi-squares are significant or approach significance at the .05 level.

Trends in Table E.11 on father's business holdings show the most consistent pattern. All three trends indicate that sons of fathers with the greater business holdings tend to have high n Ach scores. One trend, in the Madang data, approaches statistical significance ($>.10$) and is one of the three trends to do so even at this level. The business holdings variable was originally included in the study for comparison with n Ach because it was speculated that fathers who themselves had high n Ach might also have greater business holdings and would rear their sons in ways favourable to the formation of high n Ach. Table E.11 suggests that a study of this question could be rewarding in New Guinea, particularly if one studied highlands and coastal peoples as separate groups: the three trends occur in the data for the coastal groups whereas there are none in the highlands data.

Tables E.10 and E.12 compare data on n Ach with that on father's type of house and father's personal possessions, the two other variables which would seem to be the best indicators of a father's n Ach and possible inclination to rear his son so as to enhance high n Ach. Here 5 of the 8 trends are in the same direction as are those for father's business holdings and n Ach. Considered together, 8 of the 11 trends for variables reflecting a father's material well-being show that the better off fathers are, the more likely are their sons to have high n Ach. Two conflicting trends occur in Table E.12, but they are the statistically weaker ones of the 4 in this table ($p > .80$ and $p > .30$ compared with $p > .20$ and $p > .10$). However, the single conflicting trend in Table E.10 is stronger than they are ($p > .20$).

Table E.8 on father's language attainments shows a similar but very weak tendency for fathers high in language attainments to have sons with high n Ach. The trend occurs in only 3 cases where it attains probability levels greater than .50, .70 and .80. Still, it contrasts markedly with the trends in Tables E.7 and E.9. With 2 exceptions, the 7 trends in data on father's education and father's travel compared with n Ach are in the opposite direction. That a reversal occurs most dramatically on these particular variables makes sense when one considers the likely conditions under which men now fathers of high school students would have travelled or received education. They probably 'travelled' as carriers in wartime or as contract labourers, rather than for pleasure as young people can do today. Since the purpose of school was poorly understood at first, education might also have been something for which one was recruited. In a situation where travel or education might have been forced rather than freely chosen, there would be no reason for high n Ach men in particular to be motivated to participate. However, a man's linguistic attainments, especially when acquired outside school (so often the case in New Guinea), are more under his control, and thus could be reasonably treated as a more likely indicator of high n Ach among mature New Guineans.

Table E.1

n Ach scores and form, by district*

District	n Ach**	Form		χ^2
		Second	Third	
Chimbu	High	3	8	.069
	Low	4	9	p > .70
Eastern Highlands	High	3	8	3.131
	Low	11	7	p > .05
East New Britain	High	5	5	1.545
	Low	3	13	p > .50
Madang	High	17	8	2.053
	Low	12	13	p > .10
Manus	High	6	5	.375
	Low	7	2	p > .50
Western Highlands	High	9	9	3.399
	Low	15	4	p > .05
Pooled χ^2				10.572
				p > .10

* Analysis of trends in all tables in Appendices E, F and G is based on Minturn *et al.* (1964).

** For Chimbu and Madang, 'High' and 'Low' n Ach scores are divided at the same point as they were for the total sample in the between-groups analysis (the general median); for East New Britain and Eastern Highlands, scores are divided one point below it; for Manus and Western Highlands, one point above it. These divisions also hold for other n Ach scores reported as 'High' and 'Low' in this Appendix.

Table E.2

n Ach scores and age, by district

District	n Ach	Age*		χ^2
		Younger	Older	
Chimbu	High	6	5	.001
	Low	7	6	p > .95
Eastern Highlands	High	7	4	2.292
	Low	5	13	p > .10
East New Britain	High	8	2	1.994
	Low	7	9	p > .10
Madang	High	11	14	.321
	Low	13	12	p > .50
Manus	High	5	6	.247
	Low	6	3	p > .50
Western Highlands	High	10	7	.005
	Low	12	8	p > .98
Pooled χ^2				4.860
				p > .50

* For Eastern Highlands and Madang, 'Younger' means up to age 15, while 'Older' means age 16 or older; for Chimbu, East New Britain, Manus and Western Highlands, 'Younger' means up to age 16, while 'Older' means age 17 or older.

Table E.3

n Ach scores and English ability, by district

District	n Ach	English ability*		χ^2
		Low	High	
Chimbu	High	4	2	.001
	Low	6	5	p > .95
Eastern Highlands	High	2	5	.633
	Low	5	3	p > .30
East New Britain	High	7	3	.082
	Low	9	7	p > .70
Madang	High	11	13	.537
	Low	13	10	p > .30
Manus	High	4	7	.165
	Low	5	4	p > .50
Western Highlands	High	13	5	2.857
	Low	8	10	p > .05
Pooled χ^2				2.305
				p > .80

* Because a student's percentile standing for English ability was recorded according to his standing in class rather than in comparison with fellow students in the sample, 'Low' and 'High' do not necessarily mean the lower 50 per cent and upper 50 per cent, respectively. For East New Britain, Chimbu, Eastern Highlands and Manus, 'Low' means up to the 40th percentile, while 'High' means above it; for Madang and Western Highlands, 'Low' means up to the 50th percentile and 'High' means above it. These breaks apply to both the within-groups analyses involving these variables reported in Tables F.2 and G.3.

Table E.4

n Ach scores and birth order, by district

District	n Ach	Birth order*		χ^2
		First	Other	
Chimbu	High	2	6	.091
	Low	1	10	p > .70
Eastern Highlands	High	3	6	.120
	Low	5	9	p > .70
East New Britain	High	4	5	.026
	Low	5	8	p > .80
Madang	High	9	15	.038
	Low	8	15	p > .80
Manus	High	4	7	.109
	Low	3	6	p > .70
Western Highlands	High	3	15	.970
	Low	6	10	p > .30
Pooled χ^2				1.354
				p > .95

* On the basis of findings by Minturn et al. (1964:262) that first-born children are generally less indulged than are other children, one might predict that first-born children would consequently receive earlier independence training and have higher n Ach than other children as a result. Therefore, first-born children have been grouped separately from only middle and last children for this analysis. This division also happens to yield the distribution closest to being a dichotomy, and has been maintained for both the within-group analyses reported in Tables 5.12 and G.4.

Table E.5

n Ach scores and personal travel, by district

District	n Ach	Personal travel		χ^2
		Own district	Beyond	
Chimbu	High	0	8	2.869
	Low	5	6	p > .05
Eastern Highlands	High	2	7	.005
	Low	5	12	p > .90
East New Britain	High	6	3	.026
	Low	7	6	p > .80
Madang	High	16	8	2.691
	Low	20	3	p > .10
Manus	High	7	4	.008
	Low	5	4	p > .90
Western Highlands	High	5	13	1.870
	Low	9	9	p > .10
Pooled χ^2				7.469
				p > .20

Table E.6

n Ach scores and religion, by district

District	n Ach	Religion*		χ^2
		Catholic	Protestant	
Chimbu	High	6	2	.013
	Low	10	2	p > .90
Eastern Highlands	High			
	Low			
East New Britain	High	1	8	.119
	Low	2	11	p > .70
Madang	High	14	10	1.270
	Low	17	6	p > .20
Manus	High	3	8	.038
	Low	3	6	p > .80
Western Highlands	High	7	11	.450
	Low	9	9	p > .50
Pooled χ^2				1.890
				p > .80

* Since only one of the relevant Eastern Highlanders (N=24) was a Catholic, the Eastern Highlands sample was excluded from this table.

Table E.7

n Ach scores and father's education, by district

District	n Ach	Father's education*		χ^2
		None	Some	
Chimbu	High	6	3	.038
	Low	8	3	p > .80
Eastern Highlands	High	9	1	.191
	Low	14	2	p > .50
East New Britain	High	1	7	.611
	Low	5	8	p > .30
Madang	High	9	13	.393
	Low	7	15	p > .50
Manus	High	8	2	.019
	Low	6	3	p > .80
Western Highlands	High			
	Low			
Pooled χ^2				1.252 p > .90

* Since all but two of the relevant Western Highlands fathers (N=36) had no education, the Western Highlands sample was excluded from this table.

Table E.8

n Ach scores and father's language attainments, by district

District	n Ach	Father's language attainments*		χ^2
		Low	High	
Chimbu	High	3	5	.208
	Low	7	5	p > .50
Eastern Highlands	High	4	7	.000
	Low	7	9	p > .99
East New Britain	High	6	3	.042
	Low	8	5	p > .80
Madang	High	2	23	.013
	Low	1	21	p > .90
Manus	High	7	3	.019
	Low	7	2	p > .80
Western Highlands	High	11	7	.120
	Low	12	6	p > .70
Pooled χ^2				.402 p > .99

* For East New Britain and Manus, 'Low' means tok ples and Pidgin English, while 'High' means English, German, Japanese, or a combination of these as second languages; for other districts, 'Low' means tok ples only, and 'High' means any other language.

Table E.9

n Ach scores and father's travel, by district

District	n Ach	Father's travel*		χ^2
		Low	High	
Chimbu	High	3	5	.186
	Low	4	7	p > .50
Eastern Highlands	High	5	5	.009
	Low	7	9	p > .90
East New Britain	High	7	2	1.920
	Low	5	3	p > .10
Madang	High	18	6	.073
	Low	15	6	p > .70
Manus	High	5	5	.048
	Low	4	5	p > .80
Western Highlands	High	10	8	.222
	Low	12	7	p > .50
Pooled χ^2				2.458
				p > .80

* For Madang and Chimbu, 'Low' means travel in own district or in districts within the Trust Territory of New Guinea, while 'High' means travel in Papua or beyond; for other districts, 'Low' means travel in own district and 'High' means travel beyond it.

Table E.10

n Ach scores and father's type of house, by district

District	n Ach	Father's type of house*		χ^2
		Poorer	Better	
Chimbu	High	5	3	1.467
	Low	3	9	p > .20
Eastern Highlands	High	8	4	.029
	Low	10	6	p > .80
East New Britain	High	4	5	1.224
	Low	10	3	p > .20
Madang	High	13	10	.002
	Low	12	9	p > .95
Manus	High	2	8	.019
	Low	3	6	p > .80
Western Highlands	High	9	9	.450
	Low	11	7	p > .50
Pooled χ^2				3.191
				p > .70

* For East New Britain, 'Poorer' means traditional houses and houses with tin roofs but no other improvements, while 'Better' means houses of sawn timber, with sanitary facilities or other improvements; for other districts, 'Poorer' means 'traditional' and 'Better' means 'improved in any way'.

Table E.11

n Ach scores and father's business holdings, by district

District	n Ach	Father's business holdings*		χ^2
		Low	High	
Chimbu	High	5	2	.082
	Low	7	6	p > .70
Eastern Highlands	High	3	7	.137
	Low	5	11	p > .70
East New Britain	High	5	4	.351
	Low	10	3	p > .50
Madang	High	13	12	2.454
	Low	17	6	p > .10
Manus	High	5	5	.073
	Low	6	3	p > .70
Western Highlands	High	10	12	.468
	Low	8	6	p > .50
Pooled χ^2				3.565
				p > .70

* For Chimbu and East New Britain, 'Low' means nothing or cash crops only, while 'High' means additional holdings such as trucks or tradestores; for all other districts, 'Low' means no business holdings, while 'High' means cash crops or diverse holdings.

Table E.12

n Ach scores and father's personal possessions, by district

District	n Ach	Father's personal possessions		χ^2
		Neither watch nor radio	Watch and/or radio	
Chimbu	High	2	5	1.272
	Low	8	4	p > .20
Eastern Highlands	High	9	1	1.174
	Low	10	6	p > .20
East New Britain	High	6	3	.042
	Low	8	5	p > .80
Madang	High	16	7	.840
	Low	13	10	p > .30
Manus	High	5	4	.048
	Low	5	5	p > .80
Western Highlands	High	11	7	2.215
	Low	15	3	p > .10
Pooled χ^2				5.591
				p > .30

Appendix F

Within-groups analysis of f500 essay scores by personal variables and socio-economic background variables

Table F.1, on age, shows that older boys from Madang tended to write more 'high investment' essays than did younger ones ($p > .05$). Also for Madang, boys with greater English ability tended to write more 'high investment' essays (Table F.2). This is a weaker trend ($p > .30$) than the last, but it is repeated in the Chimbu data ($p > .30$). Perhaps further investigations of ability in relation to business interests would be in order. Should an investigation using a better indicator of general ability show that the more able students were most likely to want to start businesses, this would be interesting indeed to manpower planners as well as having an academic value. Another trend which comes close to being statistically significant in the Madang data concerns personal travel: Table F.3 reveals a tendency for the better-travelled students from Madang to be more investment-oriented ($> .05$). A similar tendency was found for the Western Highlands students ($> .20$), but not for any other group. Of course, Western Highlands and Madang were two of the three least developed areas. It is intriguing that travelled students from them should be more investment-oriented than others, particularly since contemplated business investments were usually intended to be local.¹ The trends in Table F.4 on religion indicate that Catholics tended to be somewhat more investment-oriented than Protestants in the Western Highlands and Chimbu Districts ($p > .10$ and $p > .50$, respectively).

So far as the socio-economic background variables are concerned, the only remarkable feature of the 6 trends is that 5 are in a direction indicating that the better off students' fathers were, the more likely students were to contemplate investment: 4 approach the .10 probability level - the only ones in these tables which are so strong - and 1 approaches the .20 level. The remaining trend only approaches the .30 level. This is especially true for the Madang sample wherein the three strongest trends occur. Perhaps in this poorly developed district it is difficult for sons of men who have gained little to think beyond an immediate return. Yet this interpretation needs further research, especially because the trends are not evident for Madang in each table and are not repeated in the data from Manus, the other particularly underdeveloped district.

¹ See pp.

Table F.1

Investment interest expressed in £500 essays, by age and district

District	Investment interest	Age*		χ^2
		Younger	Older	
Chimbu	Low	6	7	.047
	High	10	10	p > .80
Eastern Highlands	Low	6	7	.061
	High	11	14	p > .80
East New Britain	Low	25	11	2.463
	High	8	9	p > .10
Madang	Low	17	8	3.827
	High	12	17	p > .05
Manus	Low	7	4	.061
	High	21	13	p > .80
Western Highlands	Low	13	8	.001
	High	10	6	p > .95
Pooled χ^2				6.460
				p > .30

* For East New Britain, Madang, and Eastern Highlands, 'Younger' means up to age 15, while 'Older' means over age 16; for Chimbu, Manus, and Western Highlands, 'Younger' means up to age 16 and 'Older' means over age 17.

Table F.2

Investment interest expressed in £500 essays, by English ability and district

District	Investment interest	English ability		χ^2
		Low	High	
Chimbu	Low	7	5	.667
	High	5	7	p > .30
Eastern Highlands	Low	1	2	.017
	High	7	5	p > .80
East New Britain	Low	23	13	3.811
	High	6	11	p > .05
Madang	Low	14	10	.734
	High	13	15	p > .30
Manus	Low	5	6	.186
	High	18	16	p > .50
Western Highlands	Low	12	8	.038
	High	11	5	p > .80
Pooled χ^2				5.453
				p > .30

Table F.3

Investment interest expressed in £500 essays, by personal travel and district

District	Investment interest	Personal travel		χ^2
		Own district	Beyond	
Chimbu	Low	1	10	.537
	High	5	13	p > .30
Eastern Highlands	Low	3	9	.086
	High	8	14	p > .70
East New Britain	Low	22	9	.088
	High	12	3	p > .70
Madang	Low	19	3	3.708
	High	18	11	p > .05
Manus	Low	5	5	1.485
	High	26	8	p > .20
Western Highlands	Low	10	11	1.616
	High	4	11	p > .20
Pooled χ^2				7.520 p > .20

Table F.4

Investment interest expressed in £500 essays, by religion and district

District	Investment interest	Religion*		χ^2
		Catholic	Protestant	
Chimbu	Low	7	3	.173
	High	16	3	p > .50
Eastern Highlands	Low			
	High			
East New Britain	Low	7	24	.846
	High	1	14	p > .30
Madang	Low	15	8	.001
	High	19	10	p > .95
Manus	Low	3	7	.034
	High	9	25	p > .80
Western Highlands	Low	8	13	1.685
	High	9	6	p > .10
Pooled χ^2				2.739 p > .70

* Since all but one of the relevant Eastern Highlanders (N=34) were Protestant, the Eastern Highlands sample was excluded from this table.

Table F.5

Investment interest expressed in £500 essays, by father's education and district

District	Investment interest	Father's education*		χ^2
		None	Some	
Chimbu	Low	9	3	.122
	High	13	4	p > .70
Eastern Highlands	Low	9	1	.134
	High	17	5	p > .70
East New Britain	Low	13	17	.417
	High	5	10	p > .50
Madang	Low	10	11	1.873
	High	8	20	p > .10
Manus	Low	6	4	.690
	High	27	7	p > .30
Western Highlands	Low			
	High			
Pooled χ^2				3.236
				p > .50

* Since all but two of the relevant Western Highlands fathers (N=37) had no education, the Western Highlands sample was excluded from this table.

Table F.6

Investment interest expressed in £500 essays, by father's language attainments and district

District	Investment interest	Father's language attainments*		χ^2
		Low	High	
Chimbu	Low	5	7	.358
	High	9	8	p > .50
Eastern Highlands	Low	4	7	.024
	High	9	14	p > .80
East New Britain	Low	25	7	.705
	High	10	5	p > .30
Madang	Low	19	4	.547
	High	27	2	p > .30
Manus	Low	9	1	.286
	High	30	3	p > .50
Western Highlands	Low	11	9	.206
	High	10	6	p > .50
Pooled χ^2				2.126
				p > .90

* For East New Britain, Madang and Manus Districts, 'Low' means tok ples and Pidgin English, while 'High' means English, German, Japanese or a combination of these as second languages; for other districts, 'Low' means tok ples only and 'High' means any other language.

Table F.7

Investment interest expressed in f500 essays, by father's travel and district

District	Investment interest	Father's travel*		χ^2
		Low	High	
Chimbu	Low	4	8	.033
	High	5	12	p > .80
Eastern Highlands	Low	5	6	.062
	High	11	11	p > .80
East New Britain	Low	13	20	1.253
	High	8	6	p > .20
Madang	Low	18	7	2.122
	High	13	12	p > .10
Manus	Low	2	8	.128
	High	11	23	p > .70
Western Highlands	Low	13	7	.092
	High	9	6	p > .70
Pooled χ^2				3.690
				p > .70

* For Madang, 'Low' means travel in own district or in districts within the Trust Territory of New Guinea, while 'High' means travel in Papua or beyond; for all other districts, 'Low' means travel in own district only and 'High' means travel beyond it.

Table F.8

Investment interest expressed in f500 essays, by father's type of house and district

District	Investment interest	Father's type of house*		χ^2
		Poorer	Better	
Chimbu	Low	7	4	1.675
	High	7	11	p > .10
Eastern Highlands	Low	7	4	.002
	High	16	7	p > .95
East New Britain	Low	21	11	.301
	High	8	6	p > .50
Madang	Low	15	8	1.154
	High	13	13	p > .20
Manus	Low	4	6	.390
	High	8	26	p > .50
Western Highlands	Low	13	9	.003
	High	9	6	p > .95
Pooled χ^2				3.525
				p > .70

* For East New Britain, 'Poorer' means traditional houses and houses with tin roofs but no other improvements, while 'Better' means houses of sawn timber, with sanitary facilities or other improvements; for other districts, 'Poorer' means 'traditional' and 'Better' means 'improved in any way'.

Table F.9

Investment interest expressed in £500 essays, by father's business holdings and district

District	Investment interest	Father's business holdings*		χ^2
		Low	High	
Chimbu	Low	8	4	.006
	High	11	7	p > .90
Eastern Highlands	Low	7	4	.007
	High	11	9	p > .90
East New Britain	Low	22	10	.348
	High	9	6	p > .50
Madang	Low	14	9	.435
	High	15	14	p > .50
Manus	Low	6	4	.090
	High	20	14	p > .70
Western Highlands	Low	11	11	2.014
	High	4	11	p > .10
Pooled χ^2				2.900
				p > .80

* For Chimbu, Eastern Highlands, and East New Britain, 'Low' means nothing or cash crops only, while 'High' means cash crops or diverse holdings such as trucks or tradestores; for all other districts, 'Low' means no business holdings, while 'High' means cash crops or diverse holdings.

Table F.10

Investment interest expressed in £500 essays, by father's personal possessions and district

District	Investment interest	Father's personal possessions		χ^2
		Neither watch nor radio	Watch and/or radio	
Chimbu	Low	8	3	.120
	High	10	7	p > .70
Eastern Highlands	Low	7	3	.037
	High	17	6	p > .80
East New Britain	Low	7	25	.056
	High	3	12	p > .80
Madang	Low	15	7	.001
	High	19	9	p > .95
Manus	Low	8	2	1.015
	High	19	15	p > .30
Western Highlands	Low	15	6	.094
	High	10	5	p > .70
Pooled χ^2				1.323
				p > .95

Appendix G

Within-groups analysis of race relations essay scores by personal variables and socio-economic background variables

Views of Europeans and personal variables. Tables comparing data on personal variables with data on views of Europeans expressed in essays were far less amenable to interpretation than the tables on father's socio-economic standing variables. There were no pooled chi-squares or individual ones which were statistically significant, few trends, and no striking patterns among what trends there were.

For form and religion (Tables G.1 and 6.7) only single trends appeared; for birth order and personal travel two trends were apparent, but in each case they were in opposite directions, cancelling each other out (Tables G.4 and G.5). The clearest tendencies, albeit not statistically significant ones, concerned age and English ability (Tables G.2 and G.3). For Chimbu and Western Highlands samples there was a tendency for older students to be more appreciative; yet the trend in the Madang data showed that older students tended to be more critical. The latter tendency approached the .05 level, whereas the former two showed weaker probability levels ($p > .30$ and $p > .20$, respectively). For Chimbu and Madang there were tendencies for students of greater ability in English to be more critical of Europeans in their essays. The tendency in the Madang data approached statistical significance ($> .05$); that in the Western Highlands data was weaker ($p > .70$). The former showed the strongest relationship, statistically, in the tables on personal variables; and the pooled chi-square for English ability was the one which came closest to attaining statistical significance ($p > .10$). On the basis of these two facts, I would not wish to conclude that brighter New Guinean students may generally be more critical of Europeans, let alone that those best in English may be; yet I wonder what a future study using the data on 'intelligence' which may someday be generally available in New Guinea would reveal in a test of students' abilities compared to their attitudes towards Europeans.

Views of Europeans and socio-economic background variables. Thirteen (65.0 per cent) of these 20 trends were in a direction indicating that the better off a man was the more likely his son was to express a critical view of Europeans (in these essays at least). This was especially evident in the data from samples representing the less well-developed districts of Madang, Manus, and the Western Highlands, where 10 of 12 trends in these districts were in this direction. Particularly remarkable was the Western Highlands case: when the five variables reflecting the socio-economic positions of fathers were compared with essay contents, all showed trends indicating that sons of fathers with less tended to be more appreciative of Europeans. Four of the trends, concerning father's language attainments, travel, business holdings and personal possessions (Tables G.7, G.8, 6.8 and G.10, respectively) were fairly weak statistically, although taken together they were more suggestive than any one alone. The remaining trend, concerning father's type of house (Table G.9) approached the .05 probability level, and showed a tendency for sons of Western Highlands fathers with better houses to write more critical essays. The same tendency was revealed in the data for the Manus and Chimbu samples, but only approached the .10 and .80 probability levels respectively. In the Madang sample data, however, the trend was reversed. If it were not for the reversal, one might be tempted to hypothesize that, in the less well-developed areas, home improvements provided one of the best indices of a man's economic aspirations to share in the material wealth of Europeans; and that as long as he could improve his own lot but still not see general economic conditions improve, he remained dissatisfied and passed his feelings on to his son.

In the data from the better-developed areas of East New Britain, Eastern Highlands and Chimbu, there were the most trends for Chimbu, none for the Eastern Highlands, and only 2

for East New Britain. Four of the 6 trends in the Chimbu data, those concerning father's education, language attainments, business holdings and personal possessions, indicated weak tendencies for sons of better-off men to be more appreciative of Europeans. The same relationship showed in one of the trends for the East New Britain data, for father's travel, where it reached statistical significance ($p < .05$). Altogether, 5 of the 8 trends (62.5 per cent) in the data from the well-developed areas indicated that sons of men who were better off were more appreciative. This was a marked contrast to the 2 of 12 trends (16.7 per cent) in data from the less well-developed districts' samples which did. The differences between the general directions of trends in data from the less well-developed and better-developed districts could be interpreted as further evidence that strong criticism of Europeans was not inevitable but was most likely where general economic conditions were poor.

The only statistically significant relationship in the entire chi-square analysis was a particularly interesting one. It concerned father's travel (Table G.8) in the East New Britain data, and indicated that sons of Tolai fathers who had travelled more than others tended to be more appreciative of Europeans ($p < .05$). One could interpret this unexpected finding to mean that Tolai who travelled in districts other than their own became more aware than they would otherwise have been of the advantages of living in the relatively well-developed East New Britain District, and communicated this to their sons. Interestingly enough, in three other samples in this table, those from Chimbu, Western Highlands and Madang, the data showed weak trends between father's travel and essay scores, yet these were in the opposite direction from the significant one in the East New Britain data. I wonder if it is not the Chimbu, Western Highlands and Madang Districts, of the districts in this study, which offered the greatest proportion of men as contract labourers - a form of employment rare for East New Britain's Tolai. Perhaps fathers from the former three districts who had travelled had done so under less favourable conditions than had the Tolai fathers. If so, the trends for these districts, weak as they are, point to a possible relationship between father's experience as a labourer and son's view of Europeans. Alternatively, one might speculate that the fathers from less well-developed areas were embittered by seeing more favourable conditions during their travels, and told their sons about them, placing the blame for the relative neglect of their own districts on Europeans. Although this would be a plausible interpretation, sons of well-travelled Manus fathers did not show the same tendency to be more critical.

Table G.1

View of Europeans expressed in race relations essays, by form and district

District	View of Europeans	Form		χ^2
		2	3	
Chimbu	Critical	2	3	.245
	Appreciative/balanced	3	4	p > .50
Eastern Highlands	Critical/balanced	9	6	.278
	Appreciative	3	2	p > .50
East New Britain	Critical/balanced	3	10	.996
	Appreciative	13	16	p > .30
Madang	Critical	6	8	1.292
	Appreciative/balanced	9	5	p > .20
Manus	Critical	13	15	.811
	Appreciative/balanced	8	5	p > .30
Western Highlands	Critical	6	3	.280
	Appreciative/balanced	7	8	p > .50
Pooled χ^2				3.902
				p > .50

Table G.2

View of Europeans expressed in race relations essays, by age and district

District	View of Europeans	Age*		χ^2
		Younger	Older	
Chimbu	Critical	4	2	.883
	Appreciative/balanced	1	4	p > .30
Eastern Highlands	Critical/balanced	7	8	.067
	Appreciative	2	3	p > .70
East New Britain	Critical/balanced	6	7	1.397
	Appreciative	19	10	p > .20
Madang	Critical	5	8	2.967
	Appreciative/balanced	10	4	p > .05
Manus	Critical	20	10	.001
	Appreciative/balanced	8	5	p > .95
Western Highlands	Critical	7	2	1.143
	Appreciative/balanced	7	8	p > .20
Pooled χ^2				6.458
				p > .30

* For Eastern Highlands and Madang, 'Younger' means up to age 15, while 'Older' means age 16 or over; for other districts, 'Younger' means up to age 16, while 'Older' means age 17 or over.

Table G.3

View of Europeans expressed in race relations essays, by English ability and district

District	View of Europeans	English ability		χ^2
		Low	High	
Chimbu	Critical	1	3	1.470
	Appreciative/balanced	3	0	p > .20
Eastern Highlands	Critical/balanced	7	2	.006
	Appreciative	1	1	p > .90
East New Britain	Critical/balanced	9	4	1.856
	Appreciative	14	16	p > .10
Madang	Critical	4	8	3.094
	Appreciative/balanced	8	2	p > .05
Manus	Critical	10	18	2.121
	Appreciative/balanced	8	4	p > .10
Western Highlands	Critical	5	4	.101
	Appreciative/balanced	8	7	p > .70
Pooled χ^2				8.648
				p > .10

Table G.4

View of Europeans expressed in race relations essays, by birth order and district

District	View of Europeans	Birth order		χ^2
		First	Other	
Chimbu	Critical	1	5	.234
	Appreciative/balanced	1	3	p > .50
Eastern Highlands	Critical/balanced	5	9	.152
	Appreciative	1	1	p > .50
East New Britain	Critical/balanced	6	7	.107
	Appreciative	11	13	p > .70
Madang	Critical	4	9	.013
	Appreciative/balanced	3	11	p > .90
Manus	Critical	10	17	.039
	Appreciative/balanced	3	8	p > .80
Western Highlands	Critical	1	8	.319
	Appreciative/balanced	4	9	p > .50
Pooled χ^2				.864
				p > .99

Table G.5

View of Europeans expressed in race relations essays, by personal travel and district

District	View of Europeans	Personal travel		χ^2
		Own district	Beyond	
Chimbu	Critical	2	3	.034 p > .80
	Appreciative/balanced	1	5	
Eastern Highlands	Critical/balanced	6	10	.013 p > .90
	Appreciative	2	2	
East New Britain	Critical/balanced	7	6	2.606 p > .10
	Appreciative	21	4	
Madang	Critical	7	5	.004 p > .90
	Appreciative/ balanced	8	6	
Manus	Critical	21	6	1.530 p > .20
	Appreciative/balanced	5	5	
Western Highlands	Critical	4	5	.026 p > .80
	Appreciative/balanced	5	8	
Pooled χ^2				4.213 p > .50

Table G.6

View of Europeans expressed in race relations essays, by father's education and district

District	View of Europeans	Father's education*		χ^2
		None	Some	
Chimbu	Critical	6	0	.861 p > .30
	Appreciative/balanced	3	2	
Eastern Highlands	Critical/balanced	12	3	.417 p > .50
	Appreciative	4	1	
East New Britain	Critical/balanced	3	10	.498 p > .30
	Appreciative	9	13	
Madang	Critical	4	8	.023 p > .80
	Appreciative/balanced	5	8	
Manus	Critical	19	8	2.538 p > .10
	Appreciative/balanced	11	0	
Western Highlands	Critical			4.337 p > .50
	Appreciative/balanced			
Pooled χ^2				

* Since all but one of the relevant Western Highlands fathers (N=23) had no education, the Western Highlands sample was excluded from this table.

Table G.7

View of Europeans expressed in race relations essays,
by father's language attainments and district

District	View of Europeans	Father's language attainments*		χ^2
		Low	High	
Chimbu	Critical	4	2	.764
	Appreciative/balanced	2	3	p > .30
Eastern Highlands	Critical/balanced	7	8	.067
	Appreciative	2	3	p > .70
East New Britain	Critical/balanced	8	7	2.235
	Appreciative	18	4	p > .10
Madang	Critical			
	Appreciative/balanced			
Manus	Critical	12	5	1.241
	Appreciative/balanced	12	0	p > .20
Western Highlands	Critical	3	5	.591
	Appreciative/balanced	9	5	p > .30
Pooled χ^2				4.898
				p > .50

* For East New Britain and Manus, 'Low' means tok ples and Pidgin, while 'High' means English, German, Japanese, or a combination of these as second languages; for other districts, 'Low' means tok ples only, and 'High' means any other language. Since all but one of the relevant Madang fathers (N=26) spoke both tok ples and Pidgin but nothing else, the Madang sample was excluded from this table.

Table G.8

View of Europeans expressed in race relations essays, by father's travel and district

District	View of Europeans	Father's travel*		χ^2
		Low	High	
Chimbu	Critical	2	4	.160
	Appreciative/balanced	2	3	p > .50
Eastern Highlands	Critical/balanced	7	8	.067
	Appreciative	2	3	p > .70
East New Britain	Critical/balanced	9	4	5.515**
	Appreciative	7	17	p < .05
Madang	Critical	7	5	.060
	Appreciative/balanced	8	5	p > .80
Manus	Critical	7	19	.022
	Appreciative/balanced	2	9	p > .80
Western Highlands	Critical	4	5	.256
	Appreciative/balanced	9	5	p > .50
Pooled χ^2				6.080
				p > .30

* For Madang, 'Low' means travel in own district or in districts within the Trust Territory of New Guinea, while 'High' means travel in Papua or beyond; for all other districts, 'Low' means travel in own district only and 'High' means travel beyond it.

** Significant beyond the .05 level.

Table G.9

View of Europeans expressed in race relations essays,
by father's type of house and district

District	View of Europeans	Father's type of house*		χ^2
		Poorer	Better	
Chimbu	Critical	1	4	.056 p > .80
	Appreciative/balanced	2	2	
Eastern Highlands	Critical/balanced	8	7	1.832 p > .10
	Appreciative	5	0	
East New Britain	Critical/balanced	9	4	.426 p > .50
	Appreciative	14	10	
Madang	Critical	6	4	.365 p > .50
	Appreciative/balanced	5	8	
Manus	Critical	7	21	2.128 p > .10
	Appreciative/balanced	7	6	
Western Highlands	Critical	2	7	3.009 p > .05
	Appreciative/balanced	9	4	
Pooled χ^2				7.816 p > .20

* For East New Britain, 'Poorer' means traditional houses and houses with tin roofs but no other improvements, while 'Better' means houses of sawn timber, with sanitary facilities or other improvements; for other districts, 'Poorer' means 'traditional' and 'Better' means 'improved in any way'.

Table G.10

View of Europeans expressed in race relations essays,
by father's personal possessions and district

District	View of Europeans	Father's personal possessions		χ^2
		Neither watch nor radio	Watch and/or radio	
Chimbu	Critical	4	2	.018 p > .80
	Appreciative/balanced	2	2	
Eastern Highlands	Critical/balanced	10	5	.000 p > .99
	Appreciative	4	1	
East New Britain	Critical/balanced	1	12	1.344 p > .20
	Appreciative	7	16	
Madang	Critical	6	5	.205 p > .50
	Appreciative/balanced	10	4	
Manus	Critical	14	12	.780 p > .30
	Appreciative/balanced	9	3	
Western Highlands	Critical	3	4	1.027 p > .30
	Appreciative/balanced	12	4	
Pooled χ^2				3.374 p > .70

Appendix H

Background questionnaire for data on personal variables and
socio-economic background variables

ABOUT YOURSELF:

1. Name _____ School _____ Form _____
2. Born at _____
3. Age _____ Sex: male _____ female _____ (tick one)
4. Native tongue (if you are from N.G., give name of tok ples) _____
5. Your religion: (tick one) Catholic _____ Lutheran _____ Methodist _____ SDA _____
Other (specify) _____
6. Of your father's children, you are number _____ of (how many children) _____
7. Of your father's sons (or daughters) you are number _____ of (how many) _____
8. Where do each of your three best friends come from?
a. One comes from _____
b. One comes from _____
c. One comes from _____
9. What places (Districts or States or Countries) have you visited away from your home?

ABOUT YOUR FATHER:

1. My father was born at _____
 2. Is your father still alive? yes _____ no _____ (tick one)
 3. IF YOUR FATHER IS ALIVE, where is he living now? _____
IF YOUR FATHER IS NOT ALIVE, about how old were you when he died? _____
 4. If you do not stay with your own father when you are at home, and there is another man you stay with, what relation is he? _____
How long have you been staying with this person? _____
- IF YOUR OWN FATHER IS DEAD - OR YOU DO NOT LIVE WITH HIM AT HOME - ANSWER THE REST OF THE QUESTIONS ABOUT THE MAN YOU DO LIVE WITH. OTHERWISE, ANSWER THEM ABOUT YOUR OWN FATHER
5. How much education, if any, has your father had? _____
 6. What languages can your father speak? Pidgin _____ English _____ Mission Language _____
Tok Ples _____ Other (specify) _____
 7. What kind of work does your father do? _____
 8. What kind of work has he done before? _____
 9. How much money would you guess your father makes in one year? _____
 10. Would you say he made more than _____ the same _____ or less _____ money than other men where he comes from?
 11. Where was your father during the War (WWII) and what did he do? _____
 12. What places (Districts, States, or Countries) has your father visited besides those you might have just mentioned? _____
 13. Put a tick after any of the following things which your father owns: watch _____ radio _____
car _____ truck _____ tradestore _____ coffee or cocoa plantation _____ house of European materials _____
house of native materials but with a tin roof _____

ABOUT YOUR MOTHER:

1. My mother was born at _____
2. Is your mother still alive? yes _____ no _____ (tick one).
3. IF YOUR MOTHER IS ALIVE, where is she living now? _____
4. IF YOUR MOTHER IS NOT ALIVE, about how old were you when she died? _____
4. If there is another lady who looks after you at home, what relation is she to you? _____
5. How much education, if any, has your mother had? _____
6. What languages can your mother speak? Pidgin _____ English _____ Mission language _____
Tok Ples _____ Other (specify) _____
7. What kind of work does your mother do? _____
8. What places (Districts, States, Countries) has your mother visited? _____
9. If your mother belongs to any women's groups, what are these? _____
10. If your father has more than one wife, what number is your mother? _____
of how many wives? _____

ABOUT THE REST OF YOUR FAMILY:

1. Put a tick after the names of the people who lived with you most of the time you were growing up: mother _____ father _____ step-mother _____ step-father _____ grandmother _____ grandfather _____ mother's brother _____ father's brother _____ mother's sister _____ father's sister _____ cousin _____ other _____
2. On the back of this sheet make a list of all your father's children. You don't need to put their names - just their sex and age. List them by order of birth. And if your father has more than one wife, list the children of each wife separately. After you have made the list, say for each child what schooling - if any - it has.

EXAMPLE: Suppose your father has 6 children and 2 wives. Your list might look like this:

1st wife

1. boy 20 standard 6
2. girl 18 no education
3. girl 13 form 1
4. girl 3 no education

2nd wife

1. boy 16 form 3
2. boy 11 standard 6

THEN UNDERLINE THE PERSON IN THE FAMILY WHO IS YOURSELF

Appendix J

Occupations questionnaire for data on work preferences and expectancies

NAME _____ SCHOOL AND FORM _____
 I COME FROM: (VILLAGE OR TOWN) _____ (SUB-DISTRICT) _____
 (DISTRICT) _____

HOW I FEEL ABOUT CERTAIN KINDS OF JOBS

DIRECTIONS: Below on the left are listed some kinds of jobs. Opposite each one there are some blank spaces with 'very easy' and 'very hard' written outside them. For each kind of job, you are to think about just how difficult it would be for a person like yourself to get. You are to choose one blank space and put a tick in it to show how easy or hard it would be to get each job. The teacher will explain how to do this.

<u>Kinds of Jobs</u>	<u>How Difficult Jobs Are to Get (for a Person Like You)</u>
1. Carpenter	very easy _____ very hard
2. Pilot	very easy _____ very hard
3. Agricultural Officer	very easy _____ very hard
4. Plumber	very easy _____ very hard
5. Teacher, secondary	very easy _____ very hard
6. Clerk, store	very easy _____ very hard
7. Police	very easy _____ very hard
8. Mechanic	very easy _____ very hard
9. Doctor	very easy _____ very hard
10. Manager, store or bank	very easy _____ very hard
11. Labourer	very easy _____ very hard
12. Patrol Officer	very easy _____ very hard
13. Clerk, bank	very easy _____ very hard
14. Army Officer	very easy _____ very hard
15. Medical Assistant	very easy _____ very hard
16. Start my own business	very easy _____ very hard
17. Driver	very easy _____ very hard
18. Teacher, primary	very easy _____ very hard
19. If you could do anything at all, what is the one thing you would choose as your kind of work: _____	
20. Why did you choose this kind of work? _____	
21. To get the kind of work I have chosen above would be: _____	
	very easy _____ very hard
22. The kind of work my parents want me to do is _____	
23. They would like me to do this because _____	
24. To get the kind of job my parents want me to get would be: (tick the one)	
	very easy _____ very hard
25. I do _____ do not _____ think my parents' choice of a job for me is a good one because _____	

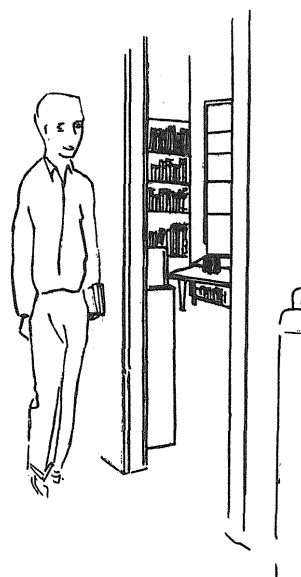
26. Some people don't get to do the kind of job they want to do. I think I will _____
will not _____ get to do the kind of job I want (tick one).
27. Compared to most people like myself, I think I am better qualified _____ just the
same in qualifications _____ less well qualified _____ for the job I want (tick one).
28. The kind of job I think I will really have in the future is _____
29. I think I will have this job because _____
- _____
- _____
- _____

Appendix K

Pictures used in the $\bar{n}$ Ach test¹

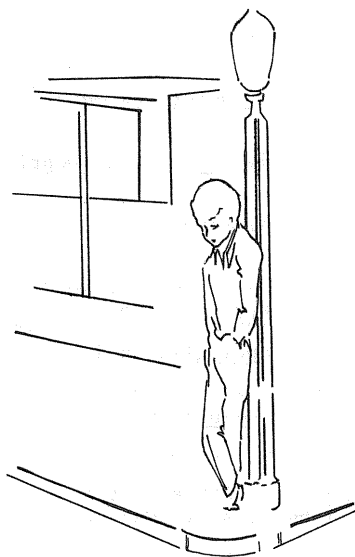


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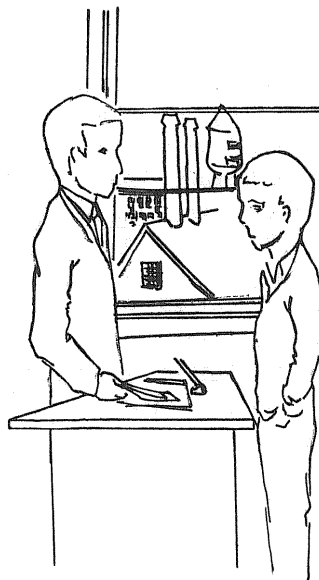


2

¹ The pictures are adopted from Merbaum (1961). The line quality in ones given to New Guinea students was weaker than in these reproductions. Faint, 'broken' lines were intentionally used in order to make the pictures more ambiguous than they would otherwise have been.



3



4



5



6

Bibliography

- Andrews, J.D.W., 1967. 'The achievement motive and advancement in two types of organizations', Journal of Personality and Social Psychology, vol.6, no.2, pp.163-8.
- Arndt, H., 1969. 'An answer to Crocombe - 1; too many invidious and invalid comparisons?', New Guinea, vol.4, no.2, pp.54-9.
- Atkinson, J.W. (ed.), 1958. Motives in Fantasy, Action, and Society: a Method of Assessment and Study, Van Nostrand, Princeton.
- Ausubel, D.P., 1961. Maori Youth, a Psychoethnological Study of Cultural Deprivation, Holt, Rinehart and Winston, New York.
- Berndt, R.M., 1952. 'A cargo movement in the Eastern Central Highlands of New Guinea', Oceania, vol.23, no.1, pp.40-65.
- Brookfield, H., 1962. 'Local study and comparative method: an example from Central New Guinea', Annals of the Association of American Geographers, vol.52, no.3, pp.242-54.
- Brown, P., 1963. 'From anarchy to satrapy', American Anthropologist, vol.65, no.1, pp.1-15.
- Bulmer, R.N.H., 1960. 'Political aspects of the Moka ceremonial exchange system among the Kyaka people of the Western Highlands of New Guinea', Oceania, vol.31, no.1, pp.1-13.
- Burridge, K., 1960. Mambu: a Melanesian Millennium, Methuen, London.
- Chowning, A., 1967. 'Lakalai religion and world view and the concept of seaboard religion', unpublished seminar paper, The Australian National University, Canberra.
- Clignet, R. and Foster, P., 1966. The Fortunate Few: a Study of Secondary Schools and Students in the Ivory Coast, Northwestern University Press, Evanston, Illinois.
- Coles, R., 1967. Children of Conflict; a Study of Courage and Fear, Little, Brown, Boston.
- Crocombe, R.G., 1964. 'Communal cash cropping among the Orokaiva', New Guinea Research Bulletin, no.4, The Australian National University, Canberra.
- 1965. 'The M'buke co-operative plantation', New Guinea Research Bulletin, no.7, The Australian National University, Canberra.
- 1968-69. 'That five year plan: for New Guineans - token development', New Guinea, vol.3, no.4, pp.57-71.
- Districts of Papua and New Guinea 1966, 1967. Government Printer, Port Moresby.
- Eisenstadt, S.N., 1963. 'The need for achievement', Economic Development and Cultural Change, vol.11, no.4, pp.420-32.
- Epstein, A.L., 1967. 'Occupational prestige on the Gazelle Peninsula, New Britain', Australian and New Zealand Journal of Sociology, vol.3, no.1, pp.111-21.
- Epstein, T.S., 1968. Capitalism, Primitive and Modern, Some Aspects of Tolai Economic Growth, The Australian National University Press, Canberra.
- 1969. 'The plan and its assumptions', New Guinea, vol.4, no.3, pp.59-63.
- 1970. 'The role of the Tolai "Big Man" in political and economic development', paper delivered at Bismarck Archipelago Conference, South Pacific Study Centre, University of Santa Cruz, 20 June 1970.
- Fairbairn, I.J., 1969. 'Namasu: New Guinea's largest indigenous-owned company', New Guinea Research Bulletin, no.28, The Australian National University, Canberra.

- Finney, B.R., 1968. 'Bigfellow man belong business in New Guinea', Ethnology, vol.7, no.4, pp.394-410.
- 1969. 'New Guinean entrepreneurs', New Guinea Research Bulletin, no.27, The Australian National University, Canberra.
- Finney, R.S., 1970. 'Europeans do not know what is happening in the minds of the people', in The Politics of Melanesia (M. Ward, ed.). Papers delivered at the Fourth Waigani Seminar, Port Moresby, 9 May 1970. The Australian National University and the University of Papua and New Guinea, pp.15-35.
- 1971. '"We are not bush-kanakas": New Guinea's angry young men', paper delivered at the Conference on Culture and Mental Health in Asia and the Pacific, Social Science Research Institute and East-West Center, Hawaii, March 1971.
- Fisk, E.K., 1969. 'An answer to Crocombe - III; how fast do you go?', New Guinea, vol.4, no.2, pp.64-71
- Flierl, J., 1927. Forty Years in New Guinea: Memoirs of a Senior Missionary John Flierl, translated by M. Wiedersenders, Wartburg, Chicago.
- Ford, E., 1965. 'Territory of Papua and New Guinea Administration and local government organization in relation to population distribution', Australian School of Pacific Administration, Mosman, New South Wales.
- Gallimore, R., 1969. 'Variations in the motivational antecedents of achievement among Hawaii's ethnic groups', unpublished paper presented at the Conference on Culture and Mental Health in Asia and the Pacific, Honolulu Social Science Research Institute, University of Hawaii.
- Gallimore, R., Bloch, L.E., and Finney, R.S., 1970. 'Preference for immediate gratification among Hawaiians: reality or artifact?', unpublished manuscript, University of Hawaii, Honolulu.
- Hagen, E., 1962. On the Theory of Social Change, Dorsey, Homewood, Illinois.
- Hogbin, H.I., 1942-43. 'A New Guinea infancy: from conception to weaning in Wogeo', Oceania, vol.13, no.4, pp.285-309.
- 1945-46. 'A New Guinea childhood: from weaning till the eighth year in Wogeo', Oceania, vol.16, no.4, pp.275-96.
- 1958. Social Change, Watts, London.
- Horton, W.R.G., 1963. 'The boundaries of explanation in social anthropology', Man, vol.43, pp.8-11.
- Howlett, D., 1962. 'A decade of change in the Goroka Valley, New Guinea: land use and development in the 1950s', unpublished Ph.D. thesis, The Australian National University, Canberra.
- Inselman, R., 1944. 'Letub, the cult of the secrets of wealth', M.A. thesis, Hartford Seminary Foundation, Hartford.
- Jacobs, M., n.d. 'History and organisation of government in German New Guinea', Encyclopedia of Papua-New Guinea, Melbourne University Press, Melbourne. In press.
- Kaputin, J., 1969. 'Australia's carpetbaggers: after the apple - a miserable core?', New Guinea, vol.4, no.2, pp.33-42.
- Kiki, A. Maori, 1968. Ten Thousand Years in a Lifetime; a New Guinea Autobiography, Cheshire, Melbourne.
- Kock, S.E., 1965. Management and Motivation. With a discussion and summary in English. Helsingfors, Affärsekonomisk Förlagsförening (Ekonomi och samhälle, 13), Helsingfors, Finland.
- Kunkel, J.H., 1965. 'Values and behaviour in economic development', Economic Development and Cultural Change, vol.13, no.3, pp.257-77.

- Lawrence, P., 1964. Road Belong Cargo, Manchester University Press, Manchester.
- 1965-66. 'The Garia of the Madang District', Anthropological Forum, vol.1, nos 3-4, pp.373-92.
- 1967. Road Belong Cargo, Melbourne University Press, Melbourne.
- Lawrence, P. and Meggitt, M., 1965. Gods, Ghosts, and Men in Melanesia, Melbourne University Press, Melbourne.
- LeVine, R.A., 1966. Dreams and Deeds: Achievement Motivation in Nigeria, Chicago University Press, Chicago.
- McClelland, D.C., 1958. 'Risk-taking in children with high and low need for achievement' in Motives in Fantasy, Action and Society: a Method of Assessment and Study (J.W. Atkinson, ed.), Van Nostrand, Princeton.
- 1961. The Achieving Society, Van Nostrand, Princeton.
- 1964. 'A psychological approach to economic development', Economic Development and Cultural Change, vol.12, no.3, pp.320-4.
- 1965. 'N Achievement and entrepreneurship: a longitudinal study', Journal of Personality and Social Psychology, vol.1, no.4, pp.389-92.
- McClelland, D.C., Atkinson, J.W., Clark, R.A. and Lowell, E.L., 1953. The Achievement Motive, Appleton-Century-Crofts, New York.
- McClelland, D.C. and Winter, D.G., 1969. Motivating Economic Achievement, Free Press, New York.
- Mager, J.F., n.d. Education and Social Change in a New Guinea Society, American Lutheran Church, Columbus.
- Maxwell, A.E., 1961. Analysing Qualitative Data, Methuen, London; Wiley, New York.
- Mead, M., 1931. Growing up in New Guinea: a Comparative Study of Primitive Education, Routledge, London.
- 1934. 'Kinship in the Admiralty Islands', Anthropological Papers of the American Museum of Natural History, vol.34, part 2, pp.181-358, New York.
- 1956. New Lives for Old, William Morrow, New York.
- Meggitt, M.J., 1965. The Lineage System of the Mae-Enga of New Guinea, Oliver and Boyd, Edinburgh.
- 1967a. 'The pattern of leadership among the Mae-Enga of New Guinea', Anthropological Forum, vol.2, no.1, pp.20-35.
- 1967b. 'Uses of literacy in New Guinea and Melanesia', Bijdragen tot de Taal-, Land- en Volkenkunde, vol.123, no.1, pp.71-82.
- Merbaum, A., 1961. 'Need for achievement in Negro and white children', doctoral dissertation, University of North Carolina, Ann Arbor, Michigan University Microfilms, no.62-3140.
- Mingione, A.D., 1965. 'Need for achievement in Negro and white children', Journal of Consulting Psychology, vol.29, no.2, pp.108-11.
- Minturn, L. et al., 1964. Mothers of Six Cultures: Antecedents of Child Rearing, Wiley, New York.
- Mischel, W., 1961. 'Delay of gratification, need for achievement, and acquiescence in another culture', Journal of Abnormal and Social Psychology, vol.62, pp.543-52.
- Neverman, H., 1934. Admiralitäts-Inseln, II Ethnographie: A. Melanesien, vol.3, Ergebnisse der Südsee-Expedition, 1908-1910 (G. Thilenius, ed.), Friederichsen and De Gruyter, Hamburg.
- Newman, P.L., 1965. Knowing the Gururumba, Holt, Rinehart and Winston, New York.

- Oliver, D.L., 1955. A Solomon Island Society: Kinship and Leadership among the Siuai of Bougainville, Harvard University Press, Cambridge.
- Paliau (Maloat), 1970. 'Histori bilong mi taim mi bon na i kamap tede' in The Politics of Melanesia (M. Ward, ed.). Papers delivered at the Fourth Waigani Seminar, Port Moresby, 9 May 1970. The Australian National University and the University of Papua and New Guinea, pp.145-61.
- Powell, H.A., 1960. 'Competitive leadership in Trobriand political organisation', Journal of the Royal Anthropological Institute, vol.90, pp.118-45.
- Powell, W., 1883. Wanderings in a Wild Country; or Three Years amongst the Cannibals of New Britain, Lampson, Low, Marston, Seale and Rivington, London.
- Rappaport, R.A., 1967. Pigs for the Ancestors, Yale University Press, New Haven.
- Read, K.E., 1954. 'Cultures of the Central Highlands, New Guinea', Southwestern Journal of Anthropology, vol.10, no.1, pp.1-43.
- 1959. 'Leadership and consensus in a New Guinea society', American Anthropologist, vol.61, no.3, pp.425-36.
- Reay, M., 1959. The Kuma, Melbourne University Press, Melbourne.
- Rogers, E.M. and Neill, R.E., 1966. Achievement Motivation among Columbian Peasants, East Lansing, Michigan, Department of Communication, Michigan State University.
- Rosen, B.C. and D'Andrade, R.G., 1959. 'The psychosocial origins of achievement motivation', Sociometry, vol.22, no.3, pp.185-218.
- Sahlins, M., 1963. 'Poor man, rich man, big-man, chief: political types in Melanesia and Polynesia', Comparative Studies in Society and History, vol.5, no.3, pp.285-303.
- Salisbury, R.F., 1962. From Stone to Steel. Economic Consequences of a Technological Change in New Guinea, Cambridge University Press, New York.
- 1964. 'Despotism and Australian administration in the New Guinea Highlands' in 'New Guinea: the Central Highlands' (J.B. Watson, ed.), American Anthropologist, vol.66, no.4, part 2, pp.225-39.
- Schwartz, T., 1962. 'The Paliau movement in the Admiralty Islands, 1946-1954', Anthropological Papers of the American Museum of Natural History, vol.49, part 2, pp.211-421, New York.
- 1963. 'Systems of areal integration: some considerations based on the Admiralty Islands of Northern Melanesia', Anthropological Forum, vol.1, no.1, pp.56-97.
- Shand, R., 1969. 'An answer to Crocombe - II: in defence of nucleus estates', New Guinea, vol.4, no.2, pp.60-3.
- Siegel, S., 1956. Nonparametric Statistics for the Behavioral Sciences, McGraw-Hill, New York; Kōgakusha, Tokyo.
- Sloggett, B.B., 1969. Behavior Modification of the Under-achieving Rural Hawaiian: an Experimental Classroom, Pacific Anthropological Records, no.5, Bernice P. Bishop Museum, Honolulu.
- Strathern, A.J., 1966. 'Despots and directors in the New Guinea highlands', Man, vol.1, no.3, pp.356-67.
- Territory of Papua and New Guinea, 1967. Annual Report for the Territory of New Guinea, 1966-1967, Government Printer, Port Moresby.
- 1968. Programmes and Policies for the Economic Development of Papua and New Guinea, prepared by direction of His Honour the Administrator, Government Printer, Port Moresby.
- Bureau of Statistics, 1967. Rural Industries Bulletin No.9, Konedobu, Papua.
- Department of Information and Extension Services, 1969. Districts of Papua and New Guinea 1969. Government Printer, Port Moresby.

- Territory of Papua and New Guinea, Department of Public Works, 1968. Territory of Papua and New Guinea Road System (1:1,000,000), 4 sheets.
- Directorate of Transport, 1968. 'Pyrethrum study, January 1968', Port Moresby.
- Thomas, C., 1970. 'Different strokes for different folks', Psychology Today, September, pp.49-80.
- United Nations, 1968. 'Report of the United Nations Visiting Mission to the Trust Territory of New Guinea 1968', roneoed.
- Wagatsuma, H., 1967. 'The social perception of skin colour in Japan', Daedalus, issued as vol.96, no.2 of the Proceedings of the American Academy of Arts and Sciences, pp.407-34.
- Ward, M.W., 1970. 'The Rigo Road. A study of the economic effects of new road construction', New Guinea Research Bulletin, no.33, The Australian National University, Canberra.
- Watson, J.B., 1967. 'Tairora: the politics of despotism in a small society', Anthropological Forum, vol.2, no.1, pp.53-104.
- Wedgwood, C.H., 1934. 'Report on research in Manam Island, Mandated Territory of New Guinea', Oceania, vol.4, no.4, pp.373-403.
- Whiting, J.W.M., 1941. Becoming a Kwoma; Teaching and Learning in a New Guinea Tribe, Yale University Press, New Haven.
- 1969. 'Egoism and altruism', unpublished manuscript, Harvard University, Cambridge.
- Wilson, R. Kent and Garnaut, R., 1968. 'A survey of village industries in Papua-New Guinea', New Guinea Research Bulletin, no.25, The Australian National University, Canberra.
- Winterbottom, M.R., 1958. 'The relation of need for achievement to learning experiences in independence and mastery' in Motives in Fantasy, Action, and Society: a Method of Assessment and Study (J.W. Atkinson, ed.), Van Nostrand, Princeton, pp.453-79.
- Worsley, P.M., 1957. The Trumpet Shall Sound: a Study of 'Cargo' Cults in Melanesia, MacGibbon and Kee, London.

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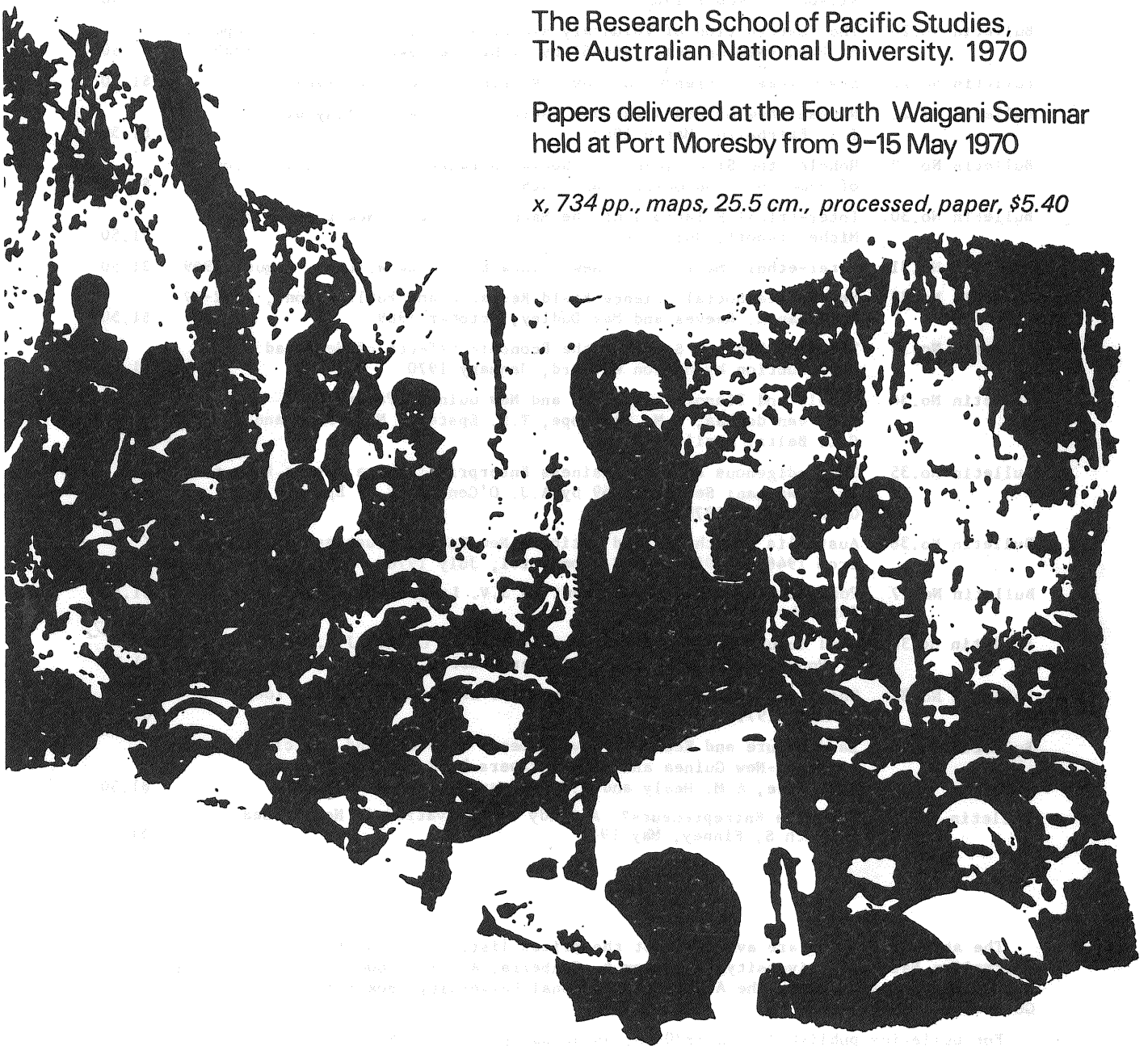
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