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MISCELLANEOUS PAPERS ON THE OROKAIVA OF NORTH EAST PAPUA

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Transferring the cash
Cognitive capacity among the Orokaiva

George E. Kearney
Preface

In this study, carried out between February and April 1963, seven groups of adult male Orokaiva were tested using a culture-fair test of cognitive ability. There were 20 men in each group, making a total sample of 140.

Differences were found between some of the groups; one village obtained significantly higher test results than the other groups and another significantly lower test scores than all others except one.

Some of the total samples were divided into three groups according to productivity or ownership of cash crop trees. There was found to be a significant difference between groups. Those who were most productive tended to have the higher test scores.

A principal components factor analysis revealed three factors. Tentative identification suggests a memory factor, a gestalt factor and a less certain third factor.

Gratitude is expressed to the New Guinea Research Unit of the School of Pacific Studies, Australian National University, for the financial support which covered field expenses and the cost of travel to Papua.

Special thanks are due to Mr Cromwell Burau of the staff of the Unit whose company, assistance and help matched with his special skills made the field work so profitable and enjoyable.

Gratitude is also expressed to Mr I.G. Ord, Chief Psychologist of the Public Service Commission in Port Moresby, for his interest and encouragement in this project. It was his initial research that developed the test and made this project possible.
Introduction

The New Guinea Research Unit of the School of Pacific Studies of the Australian National University invited the author to evaluate the cognitive ability of groups of subjects who were being studied as part of a larger project. These were the Orokaiva people of the Northern District of Papua. Other related studies in the area had been or were being carried out at Inonda (Crocombe and Hogbin 1963), Gona (Dakeyne 1965), Sivepe and Borugasusu (Rimoldi 1966a, b), Ongoho (Crocombe 1964), the ex-servicemen's settlement scheme (Cheetham 1963) and in expatriate plantations (Howlett 1965).

The Orokaiva live on the Popondetta plain and in the Mt Lamington foothills, and share mutually understandable languages. They have been described by Crocombe (1963) as follows:

The Orokaiva people number roughly 26,000 and are divided into about twelve tribes. The tribes are very loose units and recognise no single leader and before European contact, warfare within the tribe was not uncommon. ...there are no land rights at a tribal level. Each tribe is divided into a number of named clans. A clan is seldom localised, and usually it is divided into a number of sub-clans which are dispersed over various parts of the tribal territory. Each sub-clan holds rights over a specific area or areas of land.

There has been European contact of some form over a long period. The people are perhaps best known by the work of Williams (1928 and 1930) in which he describes the earlier cult movements and the attempts to master and control new contact situations. Two of these were the cult of the Baigona men and the Taro cult. The former was concerned with healing and sorcery through a type of priest who was in communication with the spirits of the dead and now resident in various reptiles, particularly the snake. The latter was evidenced in sorcery through a priest who was possessed with the spirit of the Taro. Violent dancing or ecstatic movements often accompanied by a trance were not unlike the dance of St Vitus or St John which swept Europe in the fourteenth century (Sargant 1957).

The initial Japanese occupation of Papua took place in the Northern District as the Japanese marched towards Port Moresby via
Kokoda. The invasion brought a much higher degree of cultural contact and upheaval by both the occupation of the Japanese and the counter-occupation by the Australian forces. Another dramatic upheaval took place in 1951 when Mt Lamington erupted, killing some 4,000 Orokaiyas and Europeans. This caused a mass evacuation from the traditional home villages and the temporary settlement in collective camps outside the declared contaminated area. The temporary resettlement caused much friction (Keesing 1951).

Mission influence is strong in the Northern District. This is provided almost exclusively by the Anglican church and is of a fairly orthodox nature. Mission influence is mixed somewhat with traditional beliefs and there is an air of mysticism about the resultant religious system. Education is predominantly through a system of mission schools, partly financed by the Government Department of Education. The schools are staffed by both European and Orokaya teachers and use an approved syllabus. The teachers are dedicated but often not substantially better educated than their pupils. Many of the Papuan teachers are educated only to Standard 4.

There is currently some covert aggression towards the European settlers, some of whom reciprocate in a more overt manner. The history of European contact has not always been happy. Frequent misunderstanding and misinterpretation by both sides has led to strained social relations in many cases. The initial settlement of Europeans in the area resulted in bloodshed and ill-feeling. Early miners and police both had cause to fear the Orokaya. Later government attempts to enforce cash cropping met strong resistance in some areas. The Japanese invasion and its subsequent defeat led to many confusing and bewildering Orokaya deaths. Since the last war there has been some improvement of the race relations - but they are still basically seen in some type of dominance relationship, e.g., master - labourer, teacher - pupil, etc. The Anglican church has ordained a few priests and in general has congenial relations with the Orokaya, yet this does not necessarily suggest a closer empathy with or understanding of the people. The Orokaya regard some resident Europeans as welcome and fairly warmly received and others as being unwelcome trespassers. More Europeans appear to be in the latter category than is generally realized.

Like any enclave in a foreign country the European settlers attribute stereotyped characteristics of personality and temperament to particular local groups. This process of one group classifying another into psychological types provides a working basis for interaction. The Orokaya were quickly allotted a stereotype and this came to be reinforced as the ascribed characteristics were searched for and found. The Orokaya were classed as being 'surly', 'resentful', 'sulking', 'good policemen but need
to be kept under control'. Europeans now living in the Northern District tend to make such wide generalizations. They also tend to allot unique stereotypes to subgroups such as villages or tribes.

The process appears to be one of social spacing in a psychological field thus allowing relationship between broad groups to be defined and fixed. Such a process tends to cause less anxiety in social interaction. Instead of the necessity to formulate a new social relationship with each person, relationships are already defined and the task is simply to find which relationship is applicable. The tribal group is very convenient for this purpose. There exists a strong body of opinion concerning the Orokaiva and his nature, habits, ability and personality, though very little of this has been substantiated by scientific enquiry.

History of psychological testing in Papua-New Guinea

The first report of psychological research in Papua-New Guinea is that of the Cambridge Anthropological Expedition to Torres Strait Islands in 1898. The expedition, under A.C. Haddon, consisted of Sidney M. Ray (linguistics), Anthony Wilkins (archaeology and anthropology), C.S. Seligman (native medicine and disease) and three young psychologists each of whom was to achieve prominence: W.H.R. Rivers (who became Chairman of the Medical Section of the British Psychological Society), C.S. Myers (who became Director of the National Institute of Industrial Psychology) and William McDougall (later Professor of Psychology at Harvard University then Duke University). Volumes of reports were published intermittently from 1901 to 1935. The most relevant psychological material is found in the Introduction to Vol.I and in Vol.II, Parts I and II.

Rivers (1901) described the subjects investigated as:

- visual acuity and sensibility to light differences, colour vision, including testing for colour blindness, colour nomenclature, the thresholds for different colours, after-images, contrast and the colour vision of the peripheral retina; binocular vision, line dividing; visual illusions, some of which were investigated quantitatively; acuity and range of hearing; discrimination of tone-differences; rhythm; smell and taste; tactile acuity and localisation; sensibility to pain; temperature spots; discrimination of weight and illusions of weight; reaction time and choice time, estimation of intervals of time; memory; mental fatigue and practice; muscular power and motor accuracy; drawing and writing; blood pressure changes under various conditions etc.
The work reported was of an anthropometric nature. It follows in the tradition of Galton (1883) and Cattell (1890) who, in their anthropometric laboratories sought to investigate cognitive functioning by measuring psychomotor and sensory capacities.

The importance of this work is less in the significance of the data accumulated than in the fact that 'this was the first occasion on which trained psychologists provided with what apparatus they needed have worked among a primitive people in their natural surroundings' (Haddon 1901-35, Vol.I). No attempt was made to meet the strong criticism made three years earlier by Binet and Henri (1895), concerning the anthropometric orientation of current psychological research, with its emphasis on sensory and simple specialized abilities. A more pragmatic approach to assessment of abilities led to the development of the famous Binet-Simon Scale (1905) which was commissioned in 1904 by the French Ministry of Public Instruction. It was revised in 1908 and translated for American use by Goddard in 1910 and later adapted by Terman in 1916. This proved to be an impetus to the testing movement, which led to the rapid development of applied psychology.

Thus, although the Cambridge Expedition did not have the use of the powerful tool developed by Binet and Simon seven years later, they did have the advantage of the earlier criticism by Binet and Henri which they ignored. The Torres Strait Study, although interesting, and claiming to examine important functions such as memory (1901-35 Vol.II, Part 1:2), neglected much data which might have proved of value to subsequent investigators in the field of pre-literate cognitive ability.

The study of the cognitive capacities of pre-literate people in Papua-New Guinea was neglected until Roscoe's (1953) study, although Porteus (1931) in Australia, Mann (1935) in Fiji, Leiter (1936) in Hawaii, Fowler (1940) in Australia, Havinghurst and Hilkevitch (1944) in Alaska, Biesheuvel (1949) in South Africa and Bhatia (1955) in India, did substantial work in the development of tests of cognitive capacity of pre-literates. Roscoe's work in Papua-New Guinea was not continued. Research into the cognitive capacity of the indigene was delayed until McElwain and Griffiths were asked in 1957 to advise on the feasibility of introducing psychological selection into the recruiting procedure for the Pacific Islands Regiment (PIR) in a manner similar to that employed by the Australian army. Their report (1958) proved favourable and Ord (1959) commenced the design of a test suitable for this purpose in 1958). Ord's work was primarily concerned with the selection of recruits for the PIR although he also studied the performance of school children and Papuan secondary school pupils in Australia. A total of 993 people were tested between July 1957 and October 1958. Reference to this work is also made in the appendix to a survey carried out into the
mental health of the indigenes of Papua-New Guinea by Sinclair, McElwain and Campbell (1958). In 1960 van den Hout, McElwain and Ord visited the Schouten Islands in West New Guinea and outlying areas to assess the suitability of the test for these areas. The test was found to be useful, and was employed by the Dutch administration for educational selection.

Ord's work was the first attempt at the construction of a suitable test using modern psychometric techniques. It was, in fact, the first successful construction of a major test of general cognitive ability ever constructed outside Europe or the United States. Most other tests have been specific and have not been put into more general use.

**Rationale**

Intelligence or cognitive capacity is mediated through behaviour and is manifest in performance. All behaviour is a function of innate ability compounded with environment. It is impossible to measure one in isolation from the other. However, it is considered sufficient to infer differences in innate ability from differential test performance where environmental influences are held reasonably constant for the members of any group.

The ability of the testee to adopt an intellectual approach congruent with that of the tester will often determine his performance on a test. This was shown by Runkel and Damrin (1961) in the context of university teaching and examining. The method used to find the solution may vary for the one person from time to time and vary widely from person to person. This method is different from the solution itself. It is the tactics or the method of attack on the problem. The testee will usually have available a repertoire of such tactics for problems which he perceives to be of a certain type; one or more of which he will prefer, probably since they have been successful in the past. The testee whose preferred tactic is, in fact, an efficient one for the particular kind of problem will score well because he can solve more difficult problems faster than a testee whose preferred tactic is not so efficient.

It is probably generally true that when the person who constructs the problem and the testee who attempts to answer it have the same cultural and experiential background, then the testee is more likely to have the appropriate tactics available to solve the problem than when the tester and testee have different backgrounds. This intellectual empathy or like-mindedness between the tester and the testee; or more strictly, between the demands of the problem and the preferred mental tactics of the testee, has been referred to as 'serendipity' by Campbell (1963).
Thus, one important factor to be considered when designing tests for cross-cultural use is degree of serendipity or congruence. Another concern is the physical aspects of testing, e.g., the way in which testees perceive certain materials and patterns and manipulate spatial forms, and the way in which test requirements are communicated.

Some test designers who have specified their tests as culture free, have meant either implicitly or explicitly that the test is constructed so as to reduce the undue influence of cultural elements when testing cross-culturally. Others, such as Goodenough (1926), have used the term more specifically to mean mere reduction of verbal content (Goodenough and Harris 1950). Such specifications are obviously inadequate.

In addition, however, another source of error arises when testers use such scales inappropriately, with little apparent awareness of limitations suggested by the authors. An example of this is the use by Jordheim and Olsen (1963) of a test designed by Cattell (1944). Cattell designed the test for use in the United States on testees with a European background and validated his study on American, Australian, French and British samples. Jordheim and Olsen used this test with modification (which is itself an uncertain practice) on the islanders of the Trust Territory of Truk and Yap in the Pacific. They reported findings which have been criticized by Kearney (1964).

A more realistic approach is to construct a test which might be described as culture-reduced. Cattell later changed the title of his test to 'culture-fair'. Even with culture-reduced or culture-fair tests it is mandatory that they be standardized on a sample of testees representative of the population with which they are later meant to be used.

The present battery was designed to specifications prescribed by McElwain and Griffiths (1958) and standardized first by Ord (1959). The specifications were that each item type

(i) was known to be a good test of general intellectual capacity for a European population;

(ii) was to be free as far as possible from language skills, reading, writing, listening or speaking;

(iii) should not require bulky equipment;

(iv) should not involve fine manipulative skills.

Over 100 item types from well known and validated scales for European samples were tried. From these, four were found to discriminate well between known bright and known dull testees. Later, as the result of further investigation, another two tests were added.
It became evident that the best tests were those that depended least on the translations of test instruction but utilized miming procedures for maximum communication. The performance of the test items and the test itself are part of the progressive communication and elaboration of the task.

The present study

Seven different groups were tested. These had been selected previously by the New Guinea Research Unit for special study because of their different approaches to land tenure.

A description of the samples in order of testing is given in Table 1.

It was decided to take a sample of 20 adult males from each group. Many of these had already been included in studies planned by or undertaken in conjunction with the New Guinea Research Unit.

In the village of Inonda there were insufficient adult male testees, so numbers were supplemented by ten from the nearest related group, Hohota, about five miles away. In addition, at the time of testing three men were added to the Sivepe sample from the related village of Binduta to bring the sample size to 20. At Beporo a sample had already been selected from the Kurou clan and this was supplemented by testees from six other clans to complete the sample. The samples at Ongoho and Borugasusu were just sufficient in size to be complete. The ex-servicemen sample had been previously selected for fuller study. They came from Isevene, Sangara and Girua.

Plantation labourers were selected randomly from the lines of Orokaiva tappers and clearers. Plantations often draw upon one type of labourer who may or may not come from one tribe or region. Three plantations were used to reduce any bias. They were 'Awala' plantation, 'Kagana' plantation and 'Mayoh' plantation. These labourers were not the same individuals as those studied by Howlett.

The tests used

In this study an item is defined as a single unit in a series of similar units. It is complete in itself but when joined together with the other items forms a test. A test then, is a number of similar items following the same rationale. A battery is a number of tests that can be combined in any way, depending on the requirements.
Table 1

The samples and agricultural systems

<table>
<thead>
<tr>
<th>Village or group</th>
<th>Approximate population</th>
<th>Tribe</th>
<th>Type of terrain</th>
<th>Type of land tenure</th>
<th>Other research workers</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inonda</td>
<td>43</td>
<td>Sangara</td>
<td>inland plain</td>
<td>Higaturu Council scheme (low population density)</td>
<td>Crocombe and Hogbin</td>
<td>Supplemented by 10 from Hohota</td>
</tr>
<tr>
<td>Beporo (Gona)</td>
<td>500</td>
<td>Notu</td>
<td>coastal plain</td>
<td>Spontaneous resettlement</td>
<td>Dakeyne</td>
<td></td>
</tr>
<tr>
<td>Sivepe</td>
<td>120</td>
<td>Sangara</td>
<td>inland hilly</td>
<td>Higaturu Council scheme (high population density)</td>
<td>Rimoldi</td>
<td>Supplemented by 3 from Perekko</td>
</tr>
<tr>
<td>Ex-service-men settlers</td>
<td>150</td>
<td>various</td>
<td>inland plain</td>
<td>Individual proprietorship (with government loans for development)</td>
<td>Cheetham</td>
<td>From Isevene, Sangara and Girua</td>
</tr>
<tr>
<td>Plantation labourers</td>
<td>?</td>
<td>various</td>
<td>-</td>
<td>European plantations</td>
<td>Howlett</td>
<td>From Awala, Kagana and Mayoh</td>
</tr>
<tr>
<td>Ongoho</td>
<td>55</td>
<td>Asigi</td>
<td>inland plain</td>
<td>Communal tenure of cash crop land</td>
<td>Crocombe</td>
<td></td>
</tr>
<tr>
<td>Borugasusu</td>
<td>180</td>
<td>Aiga</td>
<td>riverine</td>
<td>Traditional tenure</td>
<td>Rimoldi</td>
<td></td>
</tr>
</tbody>
</table>
(i) The battery

There were seven tests. Tests 1, 2, 3, 5, 6 in the following list were adaptations by Ord of tests which have been used in a number of test batteries. In this study the original Ord versions have been used except for some minor changes.

1. **The Knox Cube Imitation Test.** This test is essentially the same as that used in the Arthur Point Performance Scale (1943). Four red \( \frac{3}{4} '' \) cubes are attached at equal intervals to a grey base frame 8'' long. Two detached red \( \frac{3}{4} '' \) cubes are used for tapping.

   The tester gives the testee a detached cube and with another taps a sequence on the frame and then invites the testee to tap the sequence on the frame.

2. **Bead Threading.** This test is a modification of the Stanford-Binet 'copying a bead chain' item. The tester displays a pre-constructed bead chain for a predetermined period, the time depending on difficulty level. After the original bead chain has been removed, the testee is required to make a similar pattern by threading the beads on a length of plastic string. Three types of beads are used - cubic, spherical and cylindrical.

3. **Passalong Test.** This test was originally devised by Alexander (1932) and is a version of the sliding block puzzles. The sizes of the tiles, frames and stimulus cards have been altered so that the patterns on the stimulus cards are identical in area to those of the completed tile patterns. Both are larger than the original.

   The testee is required to make a pattern in a white plastic frame, similar to that on a stimulus card. This is done by sliding the tiles about on the frame.

4. **The Form Assembly Test.** This form board, although a completely new design, departs very little from the general pattern of form boards following Seguin's original work. A single plastic board, measuring 14'' x 5'' with seven designs (square, triangle, etc.) glued to it, is presented to the testee. A square plastic stencil measuring 4'' x 4'', with an area missing, is placed on the right hand side of the board, and the testee indicates by pointing which piece or pieces could fill the missing area to complete the square.

   The early designs in the series have simple one-piece solutions, the later designs require complex three-piece solutions.

5. **Picture Matching Test.** This test is a variation of the cube construction test designed by Kohs (1923). The three-dimensional cubes have been replaced by thin tiles of which two surfaces are relevant. The tiles are the same on both surfaces, being either all red, or all white, or half red and half white.
A testee is presented with a printed design and asked to match this design on a plastic frame. The early patterns require 4 tiles, the next 9, and the final ones 16.

6. The Kim Game. Rudyard Kipling in *Kim* suggested an observation test suitable for selection purposes. This test involves memory for objects. The testee is required to look at some objects on a board for a specified time, and then cover his eyes while new objects are added to the original ones on the board. There is no change in the position of the original objects. He is then required to remove the new items.

The first item has 10 original and 6 new objects and the second item has 25 original and 15 new objects.

7. Gestalt Continuation Test Form A. This test is the only test in the battery requiring the use of pencil and paper. It was designed by Hector (1960) of the National Institute of Personnel Research in South Africa who found it suitable for use amongst illiterate mine workers. The patterns used here are the same as Hector's. Hector presented testees with printed half patterns which had to be completed. However, in the present case, the first section only of the pattern was drawn by the tester in the view of the testee who was required to complete this pattern in the remaining space.

(ii) Practice items

The battery can be administered without the use of spoken language by simple miming procedures. The Kim Game is probably the most difficult but can be managed if careful attention is paid to the practice items.

Each test begins with a number of simple practice items. The testee repeats these items until he has mastered the process involved. The items increase in complexity so that more elaborate strategies are demanded for their solution. The number of practice and test items in each of the tests is presented in Table 2.

<table>
<thead>
<tr>
<th>Practice items</th>
<th>Test items</th>
<th>Timed</th>
<th>Approximate testing time (mins)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cube Imitation</td>
<td>1</td>
<td>10</td>
<td>No</td>
</tr>
<tr>
<td>Bead Threading</td>
<td>2</td>
<td>6</td>
<td>Yes</td>
</tr>
<tr>
<td>Passalong</td>
<td>1</td>
<td>7</td>
<td>Yes</td>
</tr>
<tr>
<td>Form Assembly</td>
<td>2</td>
<td>12</td>
<td>No</td>
</tr>
<tr>
<td>Pattern Matching</td>
<td>2</td>
<td>11</td>
<td>Yes</td>
</tr>
<tr>
<td>Kim Game</td>
<td>1</td>
<td>2</td>
<td>Yes</td>
</tr>
<tr>
<td>Gestalt Continuation Form A</td>
<td>0</td>
<td>4</td>
<td>No</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>52</td>
<td></td>
</tr>
</tbody>
</table>
(iii) Test administration

Testing was done individually during daylight hours at the testees' home villages. The time spent in testing varied considerably depending upon the quality of the response.

Establishment of adequate rapport is important in all psychological testing. A number of factors contributed to its establishment in the present case. The field staff and the New Guinea Research Unit were well known to the testees, personally in the majority of cases, and at least by reputation in the remainder. This led to a readiness to co-operate in the research programme. The physical material of the test is itself attractive and appealing. Testees do not become bored or stressed during testing as the item type changes fairly rapidly.

A card table approximately 3 feet square was used to provide a flat surface on which testing took place.

(iv) Scoring systems

There are currently a number of scoring systems available for use with this battery. The first of these was devised by Ord (1959). This utilized time bonuses and credit for partially correct responses. Other systems were developed by Kearney (1962). Test scores derived from the different scoring systems were correlated by the product-moment method in a $27 \times 27$ matrix. When one marking system is correlated with any other marking system for the same test, the correlation did not fall below $r = 0.9$ except in one case where $r = 0.85$.

One system of analysis used simple binaries (i.e., 1 mark if totally correct, 0 marks if incorrect) to avoid any contamination of the results by a marking effect. It might have been thought that deletion of time bonuses and part marks would render results less sensitive to small changes in performance, but the above results have not borne this out. There were time limits but these did not make the task rely on speed but were imposed so as to have a standard discontinuation time when the testee was unable to complete the item.

The simple binary system makes no assumption about the relative weightings of various items or ideal time bonuses. In this analysis this system has been used.

Results

The means and standard deviations of the test score are presented in Table 3.
Table 3

Means and standard deviations of the test data and rank order of mean test results

<table>
<thead>
<tr>
<th>Village or sample</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Rank order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beporo</td>
<td>33.85</td>
<td>8.83</td>
<td>1</td>
</tr>
<tr>
<td>Ex-servicemen settlers</td>
<td>27.40</td>
<td>10.13</td>
<td>2</td>
</tr>
<tr>
<td>Borugasusu</td>
<td>23.95</td>
<td>7.76</td>
<td>3</td>
</tr>
<tr>
<td>Inonda</td>
<td>22.55</td>
<td>10.23</td>
<td>4</td>
</tr>
<tr>
<td>Plantation labourers</td>
<td>21.95</td>
<td>9.14</td>
<td>5</td>
</tr>
<tr>
<td>Sivepe</td>
<td>20.50</td>
<td>10.24</td>
<td>6</td>
</tr>
<tr>
<td>Ongoho</td>
<td>16.25</td>
<td>7.97</td>
<td>7</td>
</tr>
</tbody>
</table>

The inter-correlations of all test scores, age and educational background tests are presented in Table 4. The correlation statistic was Pearson's product-moment coefficient.

It must be pointed out that the supplementary data in the last three columns are very rough approximations only. Age had to be estimated, as most testees were unaware of birth dates. Often such events as the eruption of Mt Lamington or the Japanese invasion were used to estimate approximate age. In the initial analysis, age was found to correlate negatively with every other variable. The signs of correlations could be changed, and the variable called 'youth' if so desired. The standard reached at school and the number of years spent at school were also unreliable, but not to the same degree as age.

An analysis of variance was computed to find whether the difference between the groups was significant. The results in Table 5 below show that it was.

The F ratio indicated that there was a real difference between the samples $F = 6.931$ ($p<0.01$); therefore t tests were calculated to investigate which samples were contributing to this significance, i.e., which samples were really different.

The t values are included in Table 6 below.
Table 4

Correlations for each test

<table>
<thead>
<tr>
<th></th>
<th>Cube Imi tation</th>
<th>Bead Threading</th>
<th>Passalong</th>
<th>Form Assembly</th>
<th>Pattern Matching</th>
<th>Kim Game</th>
<th>Gestalt Continuation</th>
<th>Total test score</th>
<th>Age</th>
<th>Standard reached</th>
<th>Years at school</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cube Imi tation</td>
<td>-</td>
<td>542</td>
<td>273</td>
<td>554</td>
<td>334</td>
<td>413</td>
<td>397</td>
<td>687</td>
<td>-186</td>
<td>394</td>
<td>339</td>
</tr>
<tr>
<td>Bead Threading</td>
<td>-</td>
<td>337</td>
<td>460</td>
<td>244</td>
<td>251</td>
<td>255</td>
<td>569</td>
<td>-213</td>
<td>237</td>
<td>239</td>
<td></td>
</tr>
<tr>
<td>Passalong</td>
<td>-</td>
<td>261</td>
<td>435</td>
<td>364</td>
<td>386</td>
<td>610</td>
<td>-338</td>
<td>383</td>
<td>350</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Form Assembly</td>
<td>-</td>
<td>494</td>
<td>265</td>
<td>448</td>
<td>650</td>
<td>-166</td>
<td>411</td>
<td>358</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pattern Matching</td>
<td>-</td>
<td>415</td>
<td>613</td>
<td>720</td>
<td>-309</td>
<td>639</td>
<td>584</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kim Game</td>
<td>-</td>
<td>405</td>
<td>790</td>
<td>-331</td>
<td>379</td>
<td>329</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gestalt Continuation</td>
<td></td>
<td>-</td>
<td>682</td>
<td>-385</td>
<td>492</td>
<td>416</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total test score</td>
<td>-</td>
<td>-</td>
<td>-410</td>
<td>597</td>
<td>530</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-</td>
<td>-</td>
<td>-575</td>
<td>-530</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard reached</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>906</td>
<td></td>
</tr>
</tbody>
</table>

Decimal points have been omitted.
Table 5

Analysis of variance between the samples

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of squares</th>
<th>d/f</th>
<th>Variance estimate</th>
<th>F ratio</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between samples</td>
<td>3,737.2</td>
<td>6</td>
<td>622.866</td>
<td>6.931</td>
<td>**</td>
</tr>
<tr>
<td>Within samples</td>
<td>11,951.0</td>
<td>133</td>
<td>89.857</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>15,688.2</td>
<td>139</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** denotes significance p<0.01.

Table 6

The t values between the samples

<table>
<thead>
<tr>
<th>Sample</th>
<th>Beporo</th>
<th>Ex-servicemen settlers</th>
<th>Borugasusu</th>
<th>Inonda</th>
<th>Plantation labourers</th>
<th>Sivepe</th>
<th>Ongoho</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beporo</td>
<td>-</td>
<td>2.09*</td>
<td>3.67**</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Ex-servicemen settlers</td>
<td>-</td>
<td>1.17</td>
<td>1.5</td>
<td>1.7</td>
<td>2.1*</td>
<td>3.8**</td>
<td></td>
</tr>
<tr>
<td>Borugasusu</td>
<td>-</td>
<td>&lt; 1</td>
<td>&lt; 1</td>
<td>&lt; 1</td>
<td>1.2</td>
<td>3.0**</td>
<td></td>
</tr>
<tr>
<td>Inonda</td>
<td>-</td>
<td>&lt; 1</td>
<td>&lt; 1</td>
<td>&lt; 1</td>
<td>2.1*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plantation labourers</td>
<td>-</td>
<td>&lt; 1</td>
<td>&lt; 1</td>
<td>&lt; 1</td>
<td>2.1*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sivepe</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>Ongoho</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The samples have been arranged here in descending order of magnitude.

* denotes significance at p<0.05.

** denotes significance at p<0.01.
The task of adequately assessing the productivity of each individual proved more difficult than anticipated. The field data forms did not give ready access to information which could be coded or scaled as to productivity. There were considerable differences in the manner in which the various field workers collected and recorded information. There was also a disparity between the sample of the author and that of other research workers. The New Guinea Research Unit was asked to rate the testees for whom information was available. They divided them into three categories of those having more than 500 cash crop trees, those with some cash trees but less than 500, and those without cash crop trees.

Altogether only 46 testees were able to be so categorized. Of these 5 were placed in the first category, 20 in the second category, and 20 in the third category. Another testee who had no trees but was in paid employment as a clerk was placed in the first category bringing the total to 6. The data for these categories are shown in Table 7.

<table>
<thead>
<tr>
<th>Category</th>
<th>500 plus trees</th>
<th>1-500 trees</th>
<th>No trees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of testees</td>
<td>6</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Mean no. of trees</td>
<td>1035.6</td>
<td>134.3</td>
<td>0</td>
</tr>
<tr>
<td>Mean test score</td>
<td>36.0</td>
<td>24.5</td>
<td>18.4</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>9.62</td>
<td>9.34</td>
<td>10.63</td>
</tr>
</tbody>
</table>

Three t tests were calculated to determine whether the differences between the mean scores were significant. It was predicted that there would be a positive relationship between categories and test score, therefore it was decided to use one-tail tests of significance. The t value between the first and second categories was 2.522 which is significant at p<0.01; between the second and third categories, a t value of 1.879 was found which is significant at p<0.05; and between the first and third categories, a t value of 3.499 was obtained which is significant at p<0.001.

A principal components factor analysis was used to examine the factor content of the test. Only the test correlations (the first seven variables in Table 4) were used. Three factors were extracted. These are shown in Table 8.
Table 8

Unrotated factor loadings

<table>
<thead>
<tr>
<th>Test</th>
<th>Factor I</th>
<th>Factor II</th>
<th>Factor III</th>
<th>Communalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cube Imitation</td>
<td>80</td>
<td>-36</td>
<td>-28</td>
<td>85</td>
</tr>
<tr>
<td>Bead Threading</td>
<td>-</td>
<td>-22</td>
<td>92</td>
<td>90</td>
</tr>
<tr>
<td>Passalong</td>
<td>59</td>
<td>-54</td>
<td>-</td>
<td>64</td>
</tr>
<tr>
<td>Form Assembly</td>
<td>83</td>
<td>32</td>
<td>-</td>
<td>81</td>
</tr>
<tr>
<td>Pattern Matching</td>
<td>68</td>
<td>28</td>
<td>36</td>
<td>67</td>
</tr>
<tr>
<td>Kim Game</td>
<td>72</td>
<td>-37</td>
<td>-</td>
<td>66</td>
</tr>
<tr>
<td>Gestalt Continuation</td>
<td>69</td>
<td>63</td>
<td>-</td>
<td>88</td>
</tr>
<tr>
<td><strong>Variance</strong></td>
<td>44.8%</td>
<td>17.0%</td>
<td>15.4%</td>
<td></td>
</tr>
</tbody>
</table>

Decimal points have been omitted and loading of less than 0.20 left blank for ease of reading.

These factors were rotated using the varimax unadjusted method and are shown in Table 9.

Table 9

Factor loading rotated to a varimax unadjusted solution

<table>
<thead>
<tr>
<th>Tests</th>
<th>Factor I</th>
<th>Factor II</th>
<th>Factor III</th>
<th>Communalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cube Imitation</td>
<td>89</td>
<td>21</td>
<td>-</td>
<td>85</td>
</tr>
<tr>
<td>Bead Threading</td>
<td>-</td>
<td>-</td>
<td>95</td>
<td>90</td>
</tr>
<tr>
<td>Passalong</td>
<td>78</td>
<td>-</td>
<td>-</td>
<td>64</td>
</tr>
<tr>
<td>Form Assembly</td>
<td>46</td>
<td>77</td>
<td>-</td>
<td>81</td>
</tr>
<tr>
<td>Pattern Matching</td>
<td>27</td>
<td>69</td>
<td>34</td>
<td>67</td>
</tr>
<tr>
<td>Kim Game</td>
<td>78</td>
<td>-</td>
<td>-</td>
<td>66</td>
</tr>
<tr>
<td>Gestalt Continuation</td>
<td>-</td>
<td>92</td>
<td>-</td>
<td>86</td>
</tr>
<tr>
<td><strong>Variance</strong></td>
<td>33.0%</td>
<td>28.4%</td>
<td>15.7%</td>
<td></td>
</tr>
</tbody>
</table>

Decimal points have been omitted and loading of less than 0.20 left blank for ease of reading.

**Discussion**

In this paper the term cognitive ability is used in preference to the more commonly used term intelligence. The latter term has come to have a connotation by common usage which leads to ambiguity. Cognitive ability is used to mean 'thinking' or 'reasoning' abilities in their broader sense.
From the results in the previous section two important facts are evident. Firstly, there is a difference in cognitive ability between the seven samples and, secondly, there is a definite relationship between productivity and cognitive ability.

The analysis in Table 6 indicates that the majority of the variation between the samples is caused by the high test scores of the Beporo sample and by the low test scores of the Ongoho sample. The Beporo sample has significantly higher test scores than any of the other samples and the Ongoho sample has significantly lower scores than any other sample except for the Sivepe sample. In the latter case, although there is a difference in the mean or average test score of 4.25, this fails to reach the required significance level and the variation within each of these samples is too large to warrant any conclusion that there is a fundamental difference, although there is a trend in this direction.

The only other difference that is significant is between the ex-servicemen settlers sample and the Sivepe sample. The difference in mean test scores here is 6.90. There are differences between the other samples but these do not reach the required level of significance to be certain that these differences are, in fact, real.

The question then arises as to why the Beporo sample is better than all the others and why the Ongoho sample is poorer than all the others except one. It is not within the scope of this paper to discuss the possibilities that cause this effect. It is interesting to note that the village of Beporo is situated beside the Gona Mission which was established approximately sixty years ago. On the other hand, the Ongoho sample have had very little schooling and only one person had spent any time at school. There is an indication that education may have had some influence on the development of these people.

It had often been suggested to the author that people from Beporo were amongst the best workers in the district. The people from Ongoho, on the other hand, have experienced a long history of failures in attempts at communal cash cropping and other ventures. They have not established a clear reputation as they have not participated as fully in the plantation economy as many other villages.

Thus the Beporo people have a record of success and the Ongoho people one of failure. It is suggested that the ability to perform well in the plantation economy may be related not so much to particular opportunities but more to the cognitive ability of the people.

This is brought out more forcibly in the second finding, i.e., the relationship of higher productivity with higher test scores.
There were three categories: those who owned more than 500 cash crop trees and were regarded as being highly productive; those who owned less than 500 cash crop trees who were regarded as being in the 'low' to 'medium' productivity range, and those without any cash crop trees (zero productivity). From Table 7 it can be seen that the first category has a mean test score of 36.0; the second category has a mean test score of 24.5 and the third category has a mean test score of 18.4 These scores are sufficiently different from each other (see t tests) for them to be from statistically different groups.

The relationship is not surprising as it would be expected that persons with higher ability would tend to be more productive. The measure of cash crop tree ownership used here is not the best measure of productivity but it does reflect productivity to some degree. If a more accurate measure of productivity had been found the effect might possibly have been more pronounced.

The factor analysis was carried out to allow examination of the factors that the test was measuring. This is an examination of the test rather than of the testees. Three factors were found and those were rotated to a varimax unadjusted solution (Table 9). The interpretation of what the factors represent is not as definitive as the interpretation of other statistical techniques. Below is an attempted interpretation.

The first factor, which accounts for 33 per cent of the variance, loads on all the tests except the Bead Threading and the Gestalt Continuation. It would appear that this is a general memory type factor. This particular ability encompassed the ability to assess the task, learn the goal and then reproduce the information. The tests that gave the highest loadings on this factor were the Cube Imitation, the Passalong Test and the Kim Game. In these tests memory plays an important part, as is obvious in the Cube Imitation and the Kim Game. In the Passalong, the remembering of the correct solution to one item means that the next item is relatively not much more difficult. Each item is a progressive building upon the principles used in the preceding item.

The second factor, which accounts for 28.4 per cent of the variance, loads heavily on the Form Assembly, the Pattern Matching and the Gestalt Continuation tests. It would appear that it is a spatial-closure-Gestalt type of factor. This is the ability to form whole from parts - to synthesize from components.

The Form Assembly requires the completion of a missing area by a combination of shapes fixed to the board. The Pattern Matching requires a testee to make a complex geometric pattern from a number of 1" tiles. The Gestalt Continuation test requires a testee to complete a design by joining dots with a pencil. In all these,
there is the ability to visualize the 'whole' and how the parts fit together or to complete the Gestalt.

The third factor which accounts for 15.7 per cent of the variance presents a more difficult task of interpretation. Because it has a very high loading on the Bead Threading test and only a smaller loading on the Pattern Matching and an absence of any loadings on all other tests, it is indicated that the factor is almost specific to the Bead Threading test. It could perhaps be associated with some type of manipulative ability, i.e., threading the beads or manipulating the tiles. Definite conclusions cannot be drawn at this stage.

From the factor analysis, the structures of the elements of cognitive ability measured by the tests emerge more clearly. This is due to the use of more accurate statistical methods than an a priori assumption that each test measures some particular aspect of cognitive functioning. The overall ability level of the seven samples and the three categories are therefore seen in more detail.

The interlocking matrix of cognitive ability is complex but some elements of this are measurable. They do reflect the variation in ability from person to person. People also vary in other facets of behaviour and one examined here in a crude and simple form is productivity in the cash crop economy. The relationship of these abilities has been demonstrated. It would have been better if a more intricate and exacting measure of this productivity had been obtained. Even though productivity is sometimes related to specific influences such as economic, agricultural or even social fluctuations, these may be beyond the control of any particular person. There is also a level of cognitive ability specific to a person that tends to influence the outcome of his personal endeavour.

It would be foolish to assume that all high producers are of necessity of a high level of cognitive ability or that all low producers are of low cognitive ability. However, the trend is clear and significant.

It is often the case that external influences are circumscribed in their effect on agricultural outcome and that personal attributes such as individual cognitive ability are thought to be of only minor importance.

The ability to differentiate between successful and non-successful categories implies the ability to predict such categories and therefore select with higher probability than chance those who are likely to succeed in any venture.

Economic, agricultural and other external influences are important as are individual, social and internal emotional
Influences. Motivation is of considerable importance but tends to be confused. It is easier for a person to say that he won't do something than to say that he can't. This is certainly the case in the European culture where being poorly motivated is more acceptable than being of poor cognitive ability. The former state can be altered from time to time but the latter state is relatively unchangeable.

It is suggested that in those cases where there is a need to choose between a number of applicants, those with the greatest probability of success should be selected. Close attention should be paid to the individual's cognitive ability and this, together with knowledge of other background and environmental influences, can increase the possibility of success in any selective procedure.

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Changes in land use and settlement among the Yega

R.B. Dakeyne
The Yega, who inhabit a strip of the coast of northern Papua, are a small tribe numbering approximately 900. They are one of the tribes of the Orokaiva, a group of peoples with linguistic affinities who live on and around Mt Lamington. The Yega are divided into a number of normally exogamous patrilineal clans each of which includes a number of sub-clans and patrilineages. The traditional Yega settlement pattern was one of small villages containing one or more patriclans. Clans in the same village were linked to each other and to other Yega clans by ties of kinship and marriage.

![Location Diagram](image-url)
When the Japanese landed at Gona Mission in July 1942, all the Yega - men, women and children - fled into the bush and made their way to Ambasi, 30 miles to the north-west. There they lived for the next two years, returning to the Gona area in 1944. By 1950 they had settled down again on their seven traditional village sites along the coast between Cape Killerton and the eastern end of Holnicote Bay. One new village was established at Surilai on Cape Killerton.

Clan membership determined the village of residence of each family in the Yega tribe. In some instances, place of residence was determined by membership of a particular sub-clan. Of the eight Yega villages, four were inhabited by male members of more than one clan. The remaining four villages were each occupied by members of only one clan and their wives and children.

After an abortive attempt at communal farming in 1947-52, the large village of Beporo was brought into existence under the direction and guidance of two educated young men who taught that a large village close to the mission church, school and hospital was the 'civilized' form of settlement. Some three quarters of the Yega people, apart from those in wage-work away from home, moved to Beporo village which was expanded to accommodate them. Although a broad pattern of clan residence could still be recognized in Beporo, the clans themselves began to lose their functional identity within the tribe. There was a weakening of traditional kinship patterns of co-operation in everyday activities.

Although their earlier communal farming venture had failed, the Yega were still very much attracted to the idea of making money from cash crops. Accordingly, with the advice of the District Agricultural Officer (D.A.O.), they cleared 15 blocks during 1957-8 and planted them with coffee trees. These blocks ranged from a quarter of an acre to two acres in area; one was planted by a group of six relatives, the remainder by individuals of various clans.

For the most part these coffee blocks were cleared in areas of secondary forest which normally formed part of the land rotation cycle for food crop production. Although they were located at distances of up to four miles from the blockholders' villages, only one man changed his place of residence as a direct result of establishing a coffee block. This man moved to Gatara, two and a half miles inland from his previous home and established a single-family homestead, a settlement quite out of keeping with traditional Yega practice. The coffee scheme failed, partly on account of low prices received for early pickings, and partly because in 1960 a much more ambitious cocoa-planting scheme, the so-called Yega Scheme, was begun. It absorbed most of the energies of the Yega during the following two or three years.
Genesis of the Yega Scheme

The term Yega Scheme has been applied by the Administration to the cocoa-planting enterprise undertaken by the Yega people at Ononda, four miles inland from Gona Mission.

On several occasions prior to 1960, the Yega people discussed with the D.A.O., Mr M.H. Belfield, their desire to plant extensive areas of cocoa. Suitable land was not available near the coast, and it was not until early 1960 when an old pre-war road was re-opened between Gona and Popondetta that access was provided to suitable forest country further inland.¹ In March 1960 Yega representatives advised the D.A.0. that land was now available and sought his advice and assistance in promoting cocoa production. The land available was mature rain forest situated about four miles inland, just north of Ononda Creek (see Fig.5). This land was part of an area over which the Bowori clan of Yega had exercised rights until they were completely wiped out in inter-tribal fighting with the neighbouring Ahora people. Their land was never reallocated among the remaining Yega clans, but was used as communal hunting land to which no one Yega clan had any stronger claim than others. No complex pattern of clan rights applied in the area so there was no need for compromise among clans during the allocation of blocks.² Allocation of this land, whether for subsistence gardens or for cash cropping, was vested in the chief Yega land custodian, Nixon Kairembora, who fully approved of the cocoa project.

The land was inspected by the D.A.O. and pronounced suitable for growing cocoa. Investigations by the Department of District Administration showed that ownership of the area specified for the cocoa project was not disputed.

Agriculture and administration officials tried to avoid some of the problems inherent in the Higaturu Council Land Registration Scheme (see Crocombe and Hogbin 1963:89-96) by suggesting that plantings be contiguous rather than in scattered plots of irregular size and shape. Contiguous planting would make all blocks

¹ The road was built pre-war by the Rev. Henry Holland and was used by the Japanese. Its reopening was mainly due to the efforts of the Anglican missionary in charge at Gona, Rev. E. Kelly.

² This exceptional circumstance and its bearing on the accord among clans which had prevailed, at least up to the time of writing, is relevant not only to studies of the Yega Scheme but also to the possible use of this scheme as a 'pilot' for future projects.
accessible by road, enable more efficient agriculture extension services, facilitate pest and disease control, and permit a centrally located cocoa fermentary.

To ensure competent local supervision of the establishment of the cocoa plantings, the Agriculture Department Extension Service built a village on the north bank of Ononda Creek. Here trainee agricultural field-workers lived while they worked with the Yega advising and assisting them in the unfamiliar tasks of laying out their blocks, 'lining' the shade trees and ensuring correct spacing of the cocoa trees. The D.A.O. entrusted a local Yega man (Napoleon Aiga of Sambori clan) with the supervision of this work. Although he is not a trained agricultural worker (he was a clerk in the agriculture office at Ioma when selected for the job), Napoleon is a man of great drive and ability; he had the confidence of the Yega and was able to direct and control the trainees who worked with the villagers in the early stages of the scheme.

Beginning in May 1960, an area approximately 7 by 120 chains was rapidly cleared by communal labour with most of the men of all Yega clans taking part. Provision was made for a road down the centre of the cleared area; 48 blocks were marked off, 24 on each side of the central road on 5-chain frontages. The number of blocks was based on the number of men who originally showed interest in participating in the project, plus two special blocks: one was allocated to the mission and one beside the Gona-Popondetta road was reserved as the site for a future fermentary. The remaining 46 blocks were allocated by ballot to participants in the work. The 46 men to whom blocks were allocated represented almost all Yega lineages; those lineages not represented were ones in which only old people remained in the villages, the young men having left home to work in paid employment elsewhere. After the ballot, one week was allowed for voluntary exchanges before a firm list of blockholders was drawn up. This firm list was, however, still subject to alteration within the framework of the traditional Yega land tenure system. Any cultivator considered to be unsatisfactory could be disciplined by the land custodian; if a blockholder failed repeatedly to comply with the standards expected he could be dispossessed, and his block reallocated to another cultivator. One such reallocation did, in fact, take place late in 1960.1

1 The blockholder ignored three warnings from Nixon about his laziness. As a result he was dispossessed and his block allocated to another cultivator; compensation of $3 for work done already was paid by the new blockholder.
The Land (Tenure Conversion) Ordinance of 1963 altered the tenure position by permitting the granting of individual title to any blockholder who desires it. By July 1964, 17 blockholders had applied for registration of their blocks as the first step to obtaining individual title. When conversion orders were made in favour of these applicants, their blocks were no longer subject to traditional tenure.

With the establishment of individual titles, a pattern seemed likely to develop of dispersed homesteads on smallholdings. In the original clearing no demarcation had been made of the fourth (rear) side of each block since by common agreement each blockholder was permitted to extend his area of cultivation by clearing additional forest on that side. Limits to such clearing were set by Epa and Ononda creeks to the south, and by the Gena and Seseko clan boundary markers to the north. This meant that there was room for extension of each block to a maximum of seven to ten acres.

The initially cleared area of each block, about one and a half acres, was ready for planting with shade trees (*leucaena glauca*). By August 1964 each block had been planted with about an acre of shade and cocoa trees. In some poorly-drained sections, numbers of trees of both types had died but the drainage problem could, it was thought, be overcome by deep-ditching. Late in 1962 and early 1963 many young cocoa trees suffered a severe setback as a result of infestation by army worm (*tiracola plagiata*). Marked irregularity was noticeable in the growth of the cocoa trees: this may be attributed to the depredations of army worm and, to some extent, to micro-variations in soils or topography.

The irregularity of tree growth was reflected in the wide variation in production from block to block. Production of cocoa had commenced at Ononda almost exactly four years from the inception of the scheme. Many blockholders had not, in August 1964, started to pick their cocoa but others were already harvesting regularly and systematically. No attempt had yet been made to establish a co-operative fermentary on the site provided. Instead, the Popondetta Cocoa Fermentary Pty Ltd made a monthly trip to collect wet beans from Ononda and two other centres. The price in August 1964 for wet beans at the fermentary was 5½ d. per pound. The price paid at the villages was 3 d. per pound, 2½ d. per pound being deducted for collection expenses.

Cash income earned by the Yega from cocoa was still very small. Work time expended by Yega villagers varied widely. In a few instances pods were picked the previous day but most people picked and opened pods on the morning of the collection. Pods were opened under the trees on the blocks; the wet beans were then carried in cooking pots, basins or sacks about half a mile to the collection
point at Ononda bridge. Production details for the two occasions observed are given in Table 1.

<table>
<thead>
<tr>
<th>Name</th>
<th>Picking of 1 July 1964</th>
<th></th>
<th>Picking of 29 July 1964</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Picking</td>
<td>Pods*</td>
<td>wt. received</td>
<td>$</td>
</tr>
<tr>
<td>Wilfred 3rd</td>
<td>3rd</td>
<td>86</td>
<td>16</td>
<td>0.40</td>
</tr>
<tr>
<td>Timothy 3rd</td>
<td>3rd</td>
<td>810</td>
<td>143</td>
<td>3.58</td>
</tr>
<tr>
<td>Dick Shepherd 3rd</td>
<td>3rd</td>
<td>519</td>
<td>116</td>
<td>2.90</td>
</tr>
<tr>
<td>Ethelbert 2nd</td>
<td>2nd</td>
<td>205</td>
<td>45</td>
<td>1.12</td>
</tr>
<tr>
<td>Livingstone 2nd</td>
<td>2nd</td>
<td>408</td>
<td>79</td>
<td>2.08</td>
</tr>
<tr>
<td>Spencer 2nd</td>
<td>2nd</td>
<td>136</td>
<td>30</td>
<td>0.75</td>
</tr>
<tr>
<td>Wilson 1st</td>
<td>1st</td>
<td>123</td>
<td>21</td>
<td>0.52</td>
</tr>
<tr>
<td>Needham 1st</td>
<td>1st</td>
<td>96</td>
<td>16</td>
<td>0.40</td>
</tr>
<tr>
<td>Reginald 1st</td>
<td>1st</td>
<td>62</td>
<td>18</td>
<td>0.45</td>
</tr>
<tr>
<td>Roy 1st</td>
<td>1st</td>
<td>14</td>
<td>3</td>
<td>0.08</td>
</tr>
<tr>
<td>Geoffrey 1st</td>
<td>1st</td>
<td>60</td>
<td>12</td>
<td>0.30</td>
</tr>
<tr>
<td>Randolph 1st</td>
<td>1st</td>
<td>36</td>
<td>8</td>
<td>0.20</td>
</tr>
<tr>
<td>Hubert Murray 1st</td>
<td>1st</td>
<td>176</td>
<td>30</td>
<td>0.75</td>
</tr>
<tr>
<td>John Livingstone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bruce **</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aubrey 3rd</td>
<td>3rd</td>
<td>103</td>
<td>27</td>
<td>0.68</td>
</tr>
<tr>
<td>Faithful 4th</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dewhurst 1st</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Average 100 pods for 21 lbs wet beans; average beans per pod is 31 (count of 13 pods selected at random).

**Bapa man, not member of Yega Scheme.

Incentives and income distribution

The Yega Scheme provided the middle-aged men in particular with an opportunity to increase their incomes. The younger Yega men working for wages away from the village were not attracted back home by the prospects of cash crop planting. Only one unmarried man left his job (in the police force) to return home and obtain a block in the scheme.
Yega Scheme cocoa blocks looking N.W., January 1963.

Harvesting cocoa pods, July 1964.

Yega workers resting under shade trees. Cocoa trees 18 months old, February 1962.

Selling wet cocoa beans to fermentary representative, July 1964.
Table 2

Ages of blockholders in the Yega Scheme compared to other Yega men of working age

<table>
<thead>
<tr>
<th>Age grouping</th>
<th>Men with cocoa block</th>
<th>Men without cocoa block</th>
<th>Men working away from villages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
</tr>
<tr>
<td>Under 30</td>
<td>7</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>Over 30 and under 40</td>
<td>16</td>
<td>35</td>
<td>17</td>
</tr>
<tr>
<td>Over 40 and under 50</td>
<td>17</td>
<td>37</td>
<td>17</td>
</tr>
<tr>
<td>Over 50</td>
<td>6</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>100</td>
<td>65</td>
</tr>
</tbody>
</table>

Note. Ages are in most cases estimates and for the last category estimates by informants.

Table 2 indicates that, of the 46 cocoa blocks in the Yega Scheme, 33 (or 72 per cent) were held by men aged 30 to 50, slightly more than half of whom were over 40. Only 28 per cent of the persons allocated blocks were either under 30 or over 50 but nearly half the persons not allocated blocks were in these groups. The larger number of old men without blocks is understandable. They had few needs other than food and betel nut and the cost of small luxuries like sugar and rice could usually be provided by their sons. On the other hand, there was a very strong desire to obtain cocoa blocks on the part of middle-aged men who did not yet have them. There were few men aged 40 years or over working away from the village, though most of them had been away during their youth. The table emphasizes the distinct preference of young Yega men to work for wages away from home rather than to remain in the village: 89 per cent of the men working away from the village were under 40. Other data showed that 79 per cent of all bachelors over 16 years of age were working away from home or had recently returned from wage employment.

In addition to their earnings from cocoa production, Yega villagers had four sources of income.

i. Exchanging surplus agricultural produce with the mission, which gave tobacco, razor blades, needles, fish hooks, salt, etc. in exchange to the value of one penny per pound weight of produce. This mission barter enabled the Yega to obtain small useful items with no loss of time, for even though prices at the Popondetta market were about three times higher, to get there required about half a day's walk in each direction carrying the produce.

ii. The marketing of agricultural and marine products and handicrafts. Yega participation in the Popondetta market held
each Saturday morning doubled in the 18 months prior to this study but still only about 15 families per week sent in produce for sale. Larger numbers of Yega attended on Saturdays following the fortnightly administration pay day than on the alternate Saturdays. Cash income obtained by Yega also more than doubled in the same period (from a weekly average of $1.35 per participating family in January 1963 to $2.80 per family in July 1964).

iii. Gifts from relatives in paid employment. In 1964 this was the main source of cash income of most Yega villagers. Almost invariably the young men in paid employment sent monetary gifts home to their relatives in the village. A sample group of 18 such workers earning an average $610 per annum in cash or kind remitted an average of $90 per head per annum to their relatives in the villages.

iv. Gambling. As gambling is illegal, people were reluctant to divulge details. Nevertheless, for some men gambling constituted an important source of income. The stakes in domestic games of 'Lucky' were usually betel nuts, but in games with outsiders always cash. Yega gamblers aimed particularly to relieve the workers on nearby plantations of their wages. On one observed occasion a Yega man won $86 in one night in such a game.

Sources of additional income for two sample groups are summarized in Table 3 below:

Table 3

<table>
<thead>
<tr>
<th>Classification</th>
<th>Personal effort</th>
<th>Gifts</th>
<th>Other*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holders of cocoa blocks (sample of 25)</td>
<td>8</td>
<td>17</td>
<td>2</td>
</tr>
<tr>
<td>Non-holders of cocoa blocks (sample of 14)</td>
<td>8</td>
<td>9</td>
<td>Nil</td>
</tr>
</tbody>
</table>

* This includes savings and gambling (one informant in each).

Some persons received income from two sources.

The holders of blocks received more gifts than non-holders of blocks. The main reason for this is that most blockholders had sons or brothers of working age. Many of these worked in paid employment and, by making gifts to blockholders, were ensuring reciprocity of gifts in the future. Table 3 shows only gifts received by people living at home. Monetary gifts were rarely given by the village people but when the 'outside workers' returned for holidays in the village they were fed, boarded and feasted free.
Traditionally among the Yega members of one lineage worked together to clear the forest in preparation for planting food gardens. The cleared patch was subdivided among those who helped with the work. Planting and caring for the growing crop was the responsibility of the individual and his family. This traditional pattern was modified when clearing rain forest for the Yega Scheme when the able-bodied men of all lineages worked together. The cleared blocks were then allocated by ballot and the individual concerned was responsible for planting shade trees, laying out a seed bed, planting out the young cocoa trees, 'lifting' shade as the trees increased in size, and keeping down the weed growth. In most instances, relatives who helped the blockholder with these tasks were compensated. For example, the cocoa pickings on 29 July (see Table 1) by Aubrey and John Livingstone were made from the same blocks as those by Ethelbert and Livingstone on 1 July. Aubrey is a member of the same lineage as Ethelbert and John Livingstone is a son of Livingstone. As part payment for work done previously on the blocks these two men were permitted by the blockholders to harvest one month's cocoa production. Other relatives who had helped with the work would be given a similar privilege.

Late in 1962 and early in 1963 many Yega moved their homes to the new villages of Ononda and Binjapada (see Table 5), the reason given in every case being to live closer to their cash-crop areas. In January 1963, however, the move had not resulted in a significant increase in the amount of time spent on the cocoa blocks. This was because of the time spent building their new houses. Only one man out of 12 spent any time working on his cocoa block during the period 14-28 January. The remainder divided their time about equally between building and work in their food gardens, which were scattered between the coast and the new cocoa blocks.

Several attempts were made to introduce communal labour into the production of cocoa. The first was organized by a blockholder, Wilfred Upena, early in 1963. He and 17 others belonging to five different Yega clans agreed to do a day's communal work clearing rain forest to extend each man's block in turn. As the originator of the scheme, Wilfred's turn was first and an acre of rain forest was cleared on his block on the first day. But on my return a year later no further communal work had been done by the group.

---

1 An unsupervised record of daily work was kept by a man living at Ononda from 14.1.63 to 28.1.63, but it was of only limited value.
The second attempt at communal labour was by the men of Kurou clan, who agreed to work on specified days on the two cocoa blocks allocated to Kurou members. This scheme was initiated in mid-1963, but only two days' work was done.

The third attempt at communal labour, in July-August 1964, owed its origin to a suggestion made by the Yega councillor in the newly-formed Oro Bay Local Government Council that the Yega should perform communal work on the cocoa blocks on Tuesday each week. The work to be performed was only cutting grass and clearing additional forest, not harvesting cocoa. The first two work periods under this system were observed and the workers counted by a Papuan assistant. The results were remarkable. On both occasions over 60 adults worked for times ranging from 3 to 8½ hours, with a mean time on the two days of 6½ and 8 hours respectively. No matter what time people started work, 'knock-off' time was by whistle at 4.30 p.m.

Cocoa was harvested by individuals. Details of the work times of two men harvesting cocoa for sale to the fermentary representative were observed as follows:

**Ethelbert, 1.7.64** (assisted by son aged 6 and daughter aged 8)
- Walk from village to cocoa block: 25 minutes
- Harvest 205 cocoa pods and collect in one spot: 55 minutes
- Remove beans from pods: 50 minutes
- Await arrival of fermentary vehicle, weigh produce, await payment: Total 1 hr 35 minutes

**Aubrey, 29.7.64** (unassisted)
- Walk from village to cocoa blocks (including visit to friend on way): 45 minutes
- Harvest 103 cocoa pods: 1 hr
- Remove beans from pods: 40 minutes
- Await arrival of vehicle, weigh produce, await payment: Total 2 hrs 10 minutes

The cash reward for labour performed may be seen in Table 1. Ethelbert received $1.12 while Aubrey received $0.68.
Influenced by rapid changes in land use, the location of Yega residences radically altered after 1950. Figs 1, 2 and 3 illustrate the evolution of settlement up till 1950. In 1950 the Yega lived in small villages spread along four miles of coastline. In 1952-3 occurred the major amalgamation of dwellings into Beporo village already mentioned (p. 29). Members of all clans took part in this move. Although none of the other villages went out of existence at this time, all diminished in size while Beporo grew rapidly. Table 4 shows the estimated distribution of population in 1960, 1962, and 1964.

### Table 4

<table>
<thead>
<tr>
<th>Village name</th>
<th>1960</th>
<th>1962</th>
<th>1964</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Coastal</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surilai</td>
<td>60</td>
<td>52</td>
<td>61</td>
</tr>
<tr>
<td>Niniyanda</td>
<td>44</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Kanaunjje</td>
<td>15</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>Basabuga</td>
<td>17</td>
<td>19</td>
<td>14</td>
</tr>
<tr>
<td>Tarebosusu</td>
<td>7</td>
<td>10</td>
<td>Nil</td>
</tr>
<tr>
<td>Banumo</td>
<td>14</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Gombe</td>
<td>19</td>
<td>15</td>
<td>19</td>
</tr>
<tr>
<td>Siumbago</td>
<td>9</td>
<td>13</td>
<td>Nil</td>
</tr>
<tr>
<td>Beporo</td>
<td>335</td>
<td>275</td>
<td>164</td>
</tr>
<tr>
<td>Gona Mission</td>
<td>7</td>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>527</td>
<td>424</td>
<td>302</td>
</tr>
<tr>
<td><strong>B. Inland</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gatara</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Konje</td>
<td>Nil</td>
<td>6</td>
<td>97</td>
</tr>
<tr>
<td>Otobejare</td>
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<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Imangada</td>
<td>Nil</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Mumburada</td>
<td>Nil</td>
<td>17</td>
<td>47</td>
</tr>
<tr>
<td>Ononda (D.A.S.F.)*</td>
<td>Nil</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Ononda</td>
<td>Nil</td>
<td>41</td>
<td>66</td>
</tr>
<tr>
<td>Binjapada</td>
<td>Nil</td>
<td>51</td>
<td>61</td>
</tr>
<tr>
<td>Jamberoda</td>
<td>Nil</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>6</td>
<td>137</td>
<td>314</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>533</td>
<td>561</td>
<td>616</td>
</tr>
</tbody>
</table>

*Department of Agriculture, Stock and Fisheries indicated that these informants had made no attempt to build houses of their own but were using the facilities available at the D.A.S.F. Ononda settlement.*
in 1960\(^1\) compared with the distributions determined by personal interview in November 1962 and July 1964.

Table 4 and Figs 4 and 5 illustrate the movement of people away from the coastal villages and the rapid increase in number and size of inland villages which followed the implementation of the Yega Scheme in mid-1960. The men interviewed gave two main reasons for this move inland. The men who were allocated a cocoa block moved so that they would be closer to this new field of work; those who were not allocated blocks moved in order to remain near to their relatives.

The movement inland began immediately after the start of clearing the cocoa blocks. In July 1960 a young unmarried man of Seseko clan moved from Beporo and took up residence in the D.A.S.F. settlement. He was soon followed by others from Seseko clan, many of them from Kanaunje and Niniyanda villages. These villages are furthest from the cocoa blocks and, being backed by swamps, have more difficult routes of access than other Yega villages. Convenient village sites were available for the newcomers on two patches of grassland known as Ononda and Binjapada. Seseko clan claimed hunting rights to Binjapada and a Seseko lineage claimed cultivation rights to Ononda which had been used by Seseko members as a food garden some years previously. There was therefore no dispute over building sites. Even when some members of clans other than Seseko desired to move from the coast in 1962-3, they were allocated building sites on Seseko land close to the houses of Seseko members. The growth of Binjapada and Ononda villages is shown in Table 5.

The result of the migration inland was the development of a 'ribbon' pattern of settlement along the Gona-Popondetetta road (Fig.5). Binjapada was likewise a ribbon pattern on a side road. The houses in Binjapada were much farther apart than in the coastal villages. This is because the house sites were located close to cocoa blocks (Fig.6).

A development which might have far-reaching effects upon the future Yega settlement pattern was the attempt by several holders of cocoa blocks to locate their dwellings upon the projected extensions to their blocks (Fig.6). As early as November 1962 the holder of block 16 had moved his home from Beporo village to a site on Binjapada grassland which he calculated would be the extension of his block (see Fig.6). By July 1964 his example had been

\(^1\) Calculated from the census taken by the author in 1964. Some degree of error is possible because of the movement of paid employees and their families.
Table 5
Permanent residents of new villages of Binjapada and Ononda
As at December 1962 (to nearest month)

<table>
<thead>
<tr>
<th>Informant present</th>
<th>Village of last move</th>
<th>Village of last residence</th>
<th>Village of birth</th>
<th>Clan</th>
<th>Marital status</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 Binjapada</td>
<td>24 Beporo</td>
<td>Kanaunjje</td>
<td>Seseko</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>&quot;</td>
<td>Niniyanda</td>
<td>Kanaunjje</td>
<td>Seseko</td>
<td>M</td>
</tr>
<tr>
<td>9*</td>
<td>&quot;</td>
<td>Niniyanda</td>
<td>Kanaunjje</td>
<td>Seseko</td>
<td>S</td>
</tr>
<tr>
<td>2</td>
<td>&quot;</td>
<td>2 Niniyanda</td>
<td>Kanaunjje</td>
<td>Seseko</td>
<td>M</td>
</tr>
<tr>
<td>4</td>
<td>&quot;</td>
<td>2 Kanaunjje</td>
<td>Kanaunjje</td>
<td>Seseko</td>
<td>M</td>
</tr>
<tr>
<td>5</td>
<td>&quot;</td>
<td>2 Kanaunjje</td>
<td>Kanaunjje</td>
<td>Seseko</td>
<td>M</td>
</tr>
<tr>
<td>6**</td>
<td>&quot;</td>
<td>2 New Garara</td>
<td>Old Garara</td>
<td>Andere</td>
<td>M</td>
</tr>
<tr>
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<td>M</td>
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<td>Gombe</td>
<td>Kurou</td>
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</table>

* Brother of informant No.1, whom he helped. He was a deaf mute and had not been allocated a cocoa block.

** He is a non-Yega man who was accepted into the Seseko clan of Yega. He was allocated a cocoa block in the Ononda Scheme and his son was adopted by a Seseko man from whom the boy could inherit land. At the time of the second visit to Yega in July-August 1964 this man had rejoined his own people and his block was reallocated to a Yega man.
Figure 4

YEGA SETTLEMENT
DECEMBER, 1962

Buildings occupied or under construction

Clan of householder

Village or locality

Non-Yega settlements

1000 500 0 yards 1000

0 mile

48°20'S.
Ja

m

ba

pa

.. • ••

BANUMO

• •

GOMBE

• •

Jambapa

Emoie

all clans represented except Kurou

Sa.seko

Kurou

Rest House

Jambapa

Seseko

Sambori

IMANGADA

Sambori

Seseko

Seseko

MUMBURADA

BINJAPADA

Sambori

Seseko

Jambapa

JAMBERODA

Popondetta

8 miles

1000 500 0 yards 1000

148°30’E.

YEVA SETTLEMENT

JULY, 1964

Buildings occupied or under construction

Clan of householder

Village or locality

Non-Yeva settlements

Ja

m

ba

pa

Figure 5
Figure 6

BINJAPADA VILLAGE - July, 1964

Forest areas cleared since February, 1963
Dwellings occupied or under construction
Name of occupant indicated thus
Clan
Cocoa block number of occupant (where applicable)
Social meeting platforms

[Diagram of Binjapada Village with symbols indicating forest areas, dwellings, social meeting platforms, and other features.]
Figure 7

ONONDA VILLAGE
JULY, 1964

Dwellings
Mature Rain Forest
Social Meeting Platforms

Creeet
Olomon
(Sambon)

Dominic
(Seseka)

Wilson
(Sambon)

John Guy
(Seseka)

John Murray
(Ruhu)

Henry
(Seseka)

Thomas
cocose
1-46ac.

cocose, no shade
many dead trees

Solomon
cocose
1-38ac.

Dominic
cocose
1-66ac.

Dominic swidden

Solomon swidden

John Jumambo
swidden

John Guy
swidden

John Guy
coocose
160ac.

Lived for
1000ac.

Henry
cocose
20ac.

Cocose, no shade
poorly kept

JAMBEROJA
(new village)

Roderick
swidden

Roderick
Koloma
(Jambasa brother)

Eustycheus
(Jambasa)

Eustycheus
(Jambasa)

Roderick
swidden

Roderick
Koloma
(Jambasa brother)

JAMBEROJA
(new village)

John
Murray
(Eupu)

swidden

Robinson
(Konomebo)

swidden

Michal
(Jambasa)

swidden

Dominic
(Jambasa)

swidden

Solomon
swidden

Solomon
swidden

Cocose, no shade
many dead trees

To Rapanautasi
2 miles

50 0 50 100 yards
followed by the holders of blocks 14, 18 and 46. In the development of the new settlement pattern at Binjapada, the existence of an elongated grassland area lying roughly parallel to the cocoa blocks cannot be ignored. The absence of such a grassland area in the vicinity of the western section of the cocoa blocks was one of the main reasons why no similar 'shoestring' village developed there. Holders of blocks in the western section built their new homes either in the village of Ononda or in smaller hamlets beside the Gona-Popondetta road at distances up to two miles from their blocks. Those who built in Ononda were in general men with no previous cultivation rights to garden land close to the cocoa blocks. After establishing their homes in Ononda village most of these villagers cleared rain forest in the Ononda area, thus establishing their cultivation rights to nearby areas of land. Villagers who established new homes along the road, on the other hand, in most instances built upon or near to land over which they possessed cultivation rights. To the men in this group, proximity to food gardens was a powerful subsidiary reason for moving inland.

Extension of the Yega Scheme

The foregoing description shows that the Yega Scheme was a major factor in recent changes in Yega land use, land tenure, cash income, work organization and place of residence. The process begun by the Yega Scheme generated further change, particularly amongst those Yega who did not obtain cocoa blocks at Ononda.

In February 1963 many Yega were disappointed because they had no individual area of cocoa. It had already become apparent to most of them that a half or quarter share in the block of a relative would return them very little income; all those who had missed allocation of one of the Ononda blocks were, therefore, very eager to clear a further block. Clearing did, in fact, begin on a new block parallel to and south of the Ononda block, the week the author left the area in mid-February 1963. However, very soon after this, the Yega organizer of cocoa planting, Napoleon Aiga, was posted by D.A.S.F. to another district, and instead of continuing with another 'block' development, people began clearing and planting in scattered blocks. Seven blocks totalling about eight acres were planted in this manner. Several aspects of these plantings require comment.

According to the author's rough pace and compass traverses, two of these men had in fact built their dwellings on neighbouring blocks. Accurate surveys were therefore needed in order to avoid future difficulties.
All plantings were made on the south side of Ononda Creek in the area which the Yega claimed because it was their Bowori (extinct) clan land but which the Ahora also claimed by right of conquest. The Yega decided to reinforce their claim by occupying at least a portion of the disputed territory (Fig. 7).

A large area of rain forest was cleared for food gardens in addition to the cocoa blocks planted. Permission to clear was in all instances given by the land controller, Nixon Kairembora. Swiddens were cleared by members of Sambori (1), Jambapa (5), Konambo (1), Eupu (1) and Seseko (3) clans. Cultivation rights to the land on which these swiddens were made would then be vested in the lineages to which the individual gardeners belonged.

One instance of change of residence as a result of these new clearings was noted. Three Jambapa brothers built their homes on Jamberoda grassland near which they had cleared a swidden and planted food crops and cocoa (about half a mile south of Ononda village and well into disputed Yega/Ahora territory). These houses were the furthest extension of the ribbon pattern of settlement developing along the Gona-Popondetta road; this hamlet typified the Yega trend away from large nucleated settlement to a farmstead pattern in which homes were dispersed on or near the main garden and cash crop areas.

In March 1964 a group of 23 Yega men, only one of whom had been allocated a cocoa block at Ononda, decided to clear another large tract of rain forest which would then be divided equally among the participants in the scheme. The site chosen for this new block-type development was Berojou near the south-west Yega/Beuru boundary. This boundary had been declared by the Land Titles Commissioner, surveyed, and marked by cement boundary posts. Though final siting arrangements for the individual blocks had not been completed it was expected that blocks would be approximately 10 chains frontage by 20 chains depth (frontages double those of the Ononda blocks).

The Berojou scheme differs in two major respects from the earlier Yega schemes at Ononda. Firstly it was sited on land over which certain clans, Jambapa and Kurou, had recognized rights of allocation and secondly all members of the group concerned in the development were members of these two clans or had close affinal ties with them. Men related to Jambapa were allocated blocks on Jambapa land while men related to Kurou were allocated blocks on Kurou land. These relationships illustrate the way in which rain forest was traditionally cleared by the Yega. A close affinal tie was usually essential before a person could be invited to join another group and clear rain forest belonging to another clan.¹

¹ Ten men in this group planted the land of other clans. In six cases their mothers were members of the clans on whose land they
Work on this scheme had not progressed far at the time of observation because of unseasonable weather. Underbrush and small trees had been cut by each individual on his block but it was decided to wait for dry weather before cutting the big trees by communal effort. All Yega would then be invited to help and helpers would be compensated after the clearing of each block by a feast given by the blockholder and his family.

As with the Yega Scheme, the advice and help of Agricultural Extension Service officers was requested and given. The site was inspected and soil suitability evaluated before the Yega started clearing. However, although the layout of the Berojou blocks closely resembled the Ononda blocks, they are half an hour's walk along narrow footpaths from the Gona-Popondetta road, the only vehicular road in the area.

The people concerned in the scheme lived in various places. Most lived in the Konje area, one at Mumburada, one at Gatara, while eight lived in Beporo and one further away at Gombe. However, it was likely that the Beporo and Gombe people would move inland in the near future. There was at the time no talk of moving home sites to the new cocoa blocks at Berojou.

Conclusions

The clearing of rain forest for planting blocks with permanent tree crops whose produce was to be sold for cash was a radical departure from traditional Yega land usage. The Yega Scheme incorporated traditional principles of land tenure and work organization with modifications to meet the changed circumstances of today. Features deriving from traditional precedents were:

(i) the use of communal labour to clear the forest, and the subdivision of the cleared area among those who helped in the work;

(ii) the absence of any documentary record of the transference of rights to individual right holders (although this was later provided under new legislation);

(iii) the organization of group labour for certain tasks even though recruitment of members might not necessarily be based on purely traditional criteria;

(continued)

planted, in one case the wife was, in one case the father's sister's husband, in another the half-brother by a different father and in the last case, the father of a half-brother.
(iv) the strong desire of individual members of extended families each to have personal control of a piece of land and of useful trees on that land.

The aspects which had little precedent in traditional custom were

(i) the systematic layout of blocks;
(ii) the production of crops for sale;
(iii) the supervision and guidance of Agricultural Extension officers and workers, most of whom had no kinship ties with the Yega;
(iv) the provision for the location of a blockholder's dwelling on the block itself rather than in a village.

The value of the Yega Scheme is this combination of old and new which was achieved by basing the scheme on traditional precedents in so far as they were appropriate and incorporating innovations where necessary. The main innovations were organizational and technological - involving new crops, new husbandry techniques, new processing methods and equipment. There was an increase in some forms of group activity, for example bush clearing by all the Yega (whereas bush clearing was traditionally carried out by sub-clan groups), and the proposed co-operative fermentary and marketing facilities. On the other hand, a greater dispersal of residence and the adoption of new mores were responsible for some diminution of traditional forms of group activity. In pre-contact times the family was the basic unit for garden work but larger groups formed for other activities. With the addition of cash crops, agricultural work took more time and many of the larger groups for fishing and social activities atrophied.

The rights of the individual in cash cropping land will become more marked in relation to those of the sub-clan and tribe. Whereas food gardens were held by individuals or small descent groups and rights at this level were flexible due to rapid demographic changes and the system of land rotation, cocoa is a relatively permanent crop and the planter is associated all his life with the land on which the trees are planted. With change in the legal status of the land the rights of the social group to the cash crop lands are certain to diminish in favour of individual rights.

The new pattern of residence, showing tendencies towards 'ribbon' development and particularly towards the dispersal of homesteads, varied markedly from the traditional form. Most significant of all variations from tradition was the location of homesteads by individuals on potential extensions to their cocoa blocks. With the registration of individual title to these lands it seems likely that this trend will continue. If the trend towards dispersion
continues, a pattern of farmsteads set in consolidated, individual holdings may well replace today's villages and hamlets with their fragmented, widely-scattered landholdings.

Acknowledgments

This paper is portion of a wider study of Yega land use and settlement. The author gratefully acknowledges assistance and advice from colleagues in Australia, from officers of the Administration in Papua and from members of the A.N.U. New Guinea Research Unit. Field work was financed by research grant from the University of Sydney.

Bibliography


Co-operatives at Yega

R.B. Dakeyne
Introduction

Since the end of World War II there has been a rapid development of co-operative marketing and retailing and in some cases production amongst the indigenous people of Papua.

This paper describes the origin of the co-operative movement in the Northern District and its subsequent development and modification particularly as applied to Yega.1 The Yega were one of the first groups to organize a producers' co-operative, under the guidance of the local Anglican Mission. The movement rapidly extended to other groups of Orokaiva.

The development of agricultural co-operatives

As early as 1940 the Reverend James Benson of the Anglican Mission at Gona had begun to preach the virtues of co-operation. Benson was imprisoned by the Japanese but returned to Gona in 1946. The first mention of any co-operative in the district comes as a brief entry in his diary on 6 October 1946, 'Foundation of Gona Public Trust' (G.P.T.). The functions of the G.P.T. are not clear beyond the fact that it was organized as a committee or board - entirely Papuan in composition, with Father Benson as advisor - aimed at investigating ways and means of improving standards of living.

One of the most dynamic and influential members of the G.P.T. committee was Samuel Ungega from Gombe village. He was a member

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1 Acknowledgment is made to the following people who read this paper in draft and offered helpful criticism:
H.H. Jackman, Esq., Chief of Division (Business Training and Management), Department of Trade and Industry, Papua and New Guinea, formerly Registrar of Co-operative Societies (1960-2);
G. Morris, Esq., Kokopo, T.P.N.G., formerly Registrar of Co-operative Societies (1956-60);
Rev. J.L. Wardman, Mt Hawthorn, Western Australia, formerly Anglican missionary in charge at Gona (1953-61).
of Orewo lineage of the Kurou clan of Yega, who had been educated to Standard IV at Gona Mission School and had spent the year before the war working at Bunting's store at Cape Killerton. Just prior to the war he joined the Papuan Infantry Battalion and became a corporal. During the war an Australian soldier with whom he was friendly convinced him of the possibility of raising money from short-term crops. The Administration had introduced copra-making much earlier, but prices were low and there was little enthusiasm for the crop.

Even before the formation of the G.P.T., Samuel had convinced most of the Yega of the desirability of co-operative farming. Subscriptions were called for: money was available from war damage compensation and most Yega households subscribed from $10 to $20, each person contributing as much as he wished.

Clearing bush for the co-operative gardens was begun at four sites in mature rain forest at Ononda, Garara, Mumburada and Ingaba-Betari. Little information was available on the subsequent operations at Mumburada and Ingaba-Betari but some details were obtained for the Ononda and Garara projects.

Samuel placed an ex-service man comrade in charge at Ononda. A site was selected by Nixon Kairembora, the Yega 'land custodian', between Ononda and Epa Creeks.1 Meanwhile some of the neighbouring Beuru and Ahora people obtained Samuel's consent to join the Yega in their co-operative efforts, paid him money and were permitted by him to assist with the clearing of bush at Ononda.2

Crops were planted at Ononda by co-operative effort for two years. The man in charge says that good crops of peanuts were grown and sold to the Administration, being taken by headload to the coast, thence by canoe to Cape Killerton. The money from the sale of these crops was paid to Samuel Ungega who banked it at Higaturu. Unfortunately, no records of the amounts obtained are now available.3 Large quantities of sweet potatoes were also

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1 For the history of this land see pages 30 and 48 and Fig. 7 of the previous article.

2 When asked whether the fact that the Ahora and Beuru had cleared bush at Ononda would strengthen their claims to the land the Yega replied in the negative. They stated that non-Yega were employed only in the capacity of workmen: they were paid in produce at the time and had no further rights.

3 One of Samuel's brothers, who was a young boy at the time of Samuel's death in the Mt Lamington eruption, said he remembered numbers of Samuel's books being burned and thrown away in the bush when relatives went through his belongings.
grown. These were mainly used as food by the co-operative workers, but in times of local food shortage they were sold to other villagers. All workers, Yega, Ahora and Beuru, lived in garden houses on the Ononda garden site during the week and returned to their home villages only at week-ends.

The establishment of gardens and the work organization were similar at Garara. There also, peanuts and sweet potatoes were the main crops. According to an informant the value of the first harvest in 1947 was $190.

Unfortunately for the co-operatives, the mission organizers soon disagreed with Samuel, for the Rev. Benson's diary on 1 April 1947 speaks of him as a 'wife-deserter, and who in consequence has been put off the committee of the G.P.T.' (and presumably placed under Church discipline). It was also stated by informants that there was dissatisfaction among shareholders with Samuel's rather secretive management of the money.

At this point the G.P.T. ceased to function and the co-operative efforts of the Yega proceeded in different directions. The Anglican Mission sponsored a Christian co-operative which became known as the Gona Co-operative Society, while Samuel Ungega organized the Gombe Co-operative. He was supported by most members of his own clan (Kurou), some members of his new wife's clan (Jambapa), a few members of other Yega clans (Seseko and Konambo) and also by five members of the neighbouring Bapa sub-tribe. Four of the Bapa men were married to women of Kurou Dunembu sub-clan which joined the Bapa people in past times but with whom Yega Kurou still maintained exogamous relations. The fifth man was a brother of one of these four, having no direct affinal link with Samuel or other members of Kurou clan.

Early in 1948 the foreman in charge at Ononda was sent by the mission authorities to Boreo to instruct people in co-operative techniques. At about the same time the Ahora and Beuru labourers were forced by the Administration to return to their villages because of labour problems at home. Samuel's Gombe Co-operative then abandoned farming at Ononda and restricted its operations to the Garara site, where all land rights were held by members of the Jambapa clan, the clan of Samuel's wife.

All members of the Gombe Co-operative workforce, including the Bapa men, lived in garden houses on the Garara site from Monday to Friday each week. The Jabapa landholders permitted the members of other clans and the Bapa men to use nearby secondary forest for their food gardens. This saved travelling time and permitted the maximum time to be spent on the co-operative gardens.

The Gombe Co-operative continued operations during 1948-9 but because of opposition from the mission it never gained popular
support, a peak number of 19 households being engaged during 1949. In 1950-1 Samuel attended a nine months training course in Port Moresby at the invitation of the Administration Co-operative Officer. Samuel attempted to ensure the continuity of his scheme by appointing and training three men to oversee operations during his absence. Two of the men chosen were Yega men with close affiliations with Samuel, the third was a Bapa man having only a remote kinship link but particular ability. The scheme continued to function smoothly during 1950. Samuel's plan was to grow annual cash crops and to build up a reserve fund for the first few years, then to undertake tree-cropping. He bought cocoa pods and had the seeds planted in a nursery in January 1951. During his training period Samuel made two trips to Gona to observe the progress of the co-operative. On the second of these visits he took his daughter to the hospital at Higaturu and was among the 4000 killed when Mt Lamington erupted on 21 January. After his death no more cash crops were planted at Garara. No one knows what became of the money received but none was ever distributed to members of the Gombe Co-operative.

The mission-sponsored Christian co-operative embraced more people and a much greater area than the Gombe Co-operative. The Anglican Mission at Gona is responsible for an area that stretches approximately 30 miles north and 15 miles south and extends in a rough arc 5 to 10 miles inland. Little information was available from the mission records, but it seemed likely that the Christian co-operative, named the Gona Co-operative Society, was launched during April or May 1947, that membership among the Yega was almost universal (apart from the members of the Gombe Co-operative) and that there was no fixed share payment, each adult male contributing what he could afford. A large store was built.

In September 1947 Mr John Millar, government officer in charge of co-operative development in the Territory, visited Gona and addressed a meeting of 500 people in the new store, explaining the Administration's plans for co-operatives in the area. He suggested that the present Gona Co-operative Society be split into an association of eight smaller societies, each centred in its own local community. The meeting agreed and Mr Millar departed. The committee assumed that theirs would be among the first co-operatives to be registered when the necessary legislation had been passed and this was the position when Father Benson departed on home leave at the beginning of December 1947.

Mr Millar's advice was implemented after April 1948 by Rev. Alfred Clint who undertook to organize and co-ordinate the

1 The eight societies within the association were to be centred at Gona, Garara, Bakubari, Gombe, Soputa, Buna, Huhuru and Hamburata.
development of each of the small local co-operatives. These were all organized along similar lines but the following description applies specifically to the Gombe Co-operative which (to distinguish it from Samuel Ungega's venture) was renamed the Yega Co-operative.

The executive committee of the co-operative consisted of five members: a chairman who was a well-known elder and later became the acknowledged leader of the Yega, a secretary who was a younger man of some education and in good standing with the mission authorities, and three young and energetic members, two of them ex-servicemen who had had some post-war agricultural training at Dogura. This committee was elected by a general meeting of Yega people. Its function was to decide which land to use, when to change areas of cultivation and when to work: co-operative work days were Tuesdays and Saturdays when all people (even school children on Saturdays) were supposed to work on the co-operative gardens. At certain times, such as harvesting, extra work was necessary. The committee made the decision when to call for such extra efforts. In addition, the committee appointed people to other set duties and supervised the performance of these duties. Such positions were:

i. jobmaster, who allocated work;

ii. farm leaders, who kept farm records, supervised sowing, harvesting and other technical aspects - these men had all had some agricultural training;

iii. huller operator. A rice huller was acquired and installed at the western end of Beporo village;

iv. toolkeepers and timekeepers. They kept tools in good repair, and rang the bell at 8 a.m. for starting work, at mid-day for prayers and at 5 p.m. for knocking off and prayers. Although people then lived in villages stretching along about three miles of coastline, and the only bell was in Beporo village, it was stated that in the early days of co-operative work most people were punctual; after the first year there was a gradual slackening in enthusiasm.

The secretary kept a roll book in which the names of all workers were entered. Each work day he walked round the gardens and ticked off the names of those present. There was no attempt to discriminate between hard workers and slackers. The person who worked for one hour received the same credit for attendance as one who

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1 Unfortunately no written records of the co-operative were located.
worked for eight. This became an important basis for resentment and discontent among the workers.

The arrival of Rev. Clint in 1948 ushered in a period of dynamic growth in the co-operative movement in the district. He had a deep interest in co-operatives, and had been associated in Australia with the Christian Socialist Movement. He was specifically recruited by the mission to organize agricultural co-operatives and within three weeks of his arrival he had held meetings with the members of three of the co-operatives and had discussed future development with the District Agricultural Officer, Mr Cockshott. In mid-May he commenced a weekly co-operatives instruction class covering co-operative leadership, history of co-operatives, basic techniques, book-keeping and English.

Rev. Clint was insistent that Christian ritual be associated with co-operative action. Educational and committee meetings always closed with a special prayer, there were church services at which tools were blessed and newly planted seed was blessed in the gardens. This aspect of the co-operative movement was regarded with some apprehension by Administration officers who felt that it could be misunderstood by the Papuans and possibly lead to the development of a cargo cult. There was some evidence to suggest that a cult did in fact begin. Money was collected surreptitiously (its disposal was never explained), and in the opinions of some observers there was a belief among some participants that the mere formation of co-operatives and the routine performance of the work required would magically raise the Papuans in a short time to the status of Europeans. On the other hand, there was evidence to support the view that the people in their desire to improve their economic position saw co-operatives as the channel and adopted the idea wholeheartedly. There is something of both these views in the statement of the ex-chairman, who said: 'We wanted to be like other civilized countries and earn money by working together.'

In November 1948 there were 25 acres under dry rice at Gona No.1, and 10 acres under taro, 6 acres of rice and one acre of peanuts at Gona No.2. Similar areas were under crop at the other co-operatives. The first harvest in early 1949 appears to have been a success. On his return from leave in March 1949, Rev. Benson spoke of 'barns and storehouses bursting with rice, people happily busy...true comradeship and Christian co-operation'.

In August 1949 the first four co-operatives in the Territory were registered. They were, in order: Yega, Gona, Garara and

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1 This registration was made under the terms of draft legislation. It was not confirmed by the Registrar of Co-operatives under the finally approved legislation, the Co-operative Societies Ordinance 1950.
Buna. The registering officer stated that 'the co-operative movement in this district is the only one yet far enough advanced for registration'.

About this time, discussions were held between Rev. Clint and the local agricultural officers regarding the practicability of planting tree crops - especially coffee and cocoa - as eventual replacements for the annual crops then being grown. The problems associated with the establishment of these tree crops were not solved, however. Had they been solved, a serious difference of opinion regarding policy would have been avoided. The divergence of views was between Rev. Clint, who saw the production of rice by co-operative methods mainly as a way of improving the subsistence diet of the people, and the people themselves, who saw it as a way of earning money. As time went on, it appeared to the villagers that Rev. Clint's interests lay only in subsistence crops and their enthusiasm began to wane. Towards the end of 1949 Rev. Clint became ill and he had to return permanently to Australia in January 1950.

In Rev. Clint's view Christian co-operatives had 'grown naturally out of the teachings of the Christian faith' (Clint 1950). Unfortunately he did not recognize that material considerations weighed at least as heavily as spiritual values in the minds of the people among whom he was working. The people had readily accepted a departure from the traditional practices of land tenure, an entirely different system of work organization; and the cultivation of a new crop, rice, which involved radical changes in their gardening techniques. The Yega, anticipating a substantial cash income, had welcomed these changes, but soon discovered that rice could not be converted readily to cash. There was no possibility of rice being grown in sufficient quantity in any one locality (for reasons of land availability and manpower) to justify the establishment of central milling facilities, and inadequate transport facilities prevented combination with other areas, even had these existed at that time. Without central milling, which would have produced a brown rice, properly dried, and saleable to the Administration and plantations, the only means of converting 'paddy' rice into a storable product was to use smaller semi-portable mills to produce white or polished rice. The milling, however, whilst converting

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1 Quoted in the Gona Anglican Mission Diary.
2 Specifically, lack of knowledge of the soils in the area, lack of any experimental plantings, and a shortage of trained staff.
'paddy' to food, prevented the conversion of the food to cash, though it was quite suitable for village consumption as a supplementary food. In fact, imported white rice has now become an important 'status' food at feasts.

Rice continued to be grown for about a year after Rev. Clint's departure; small quantities were sold by the cupful but the income received would have been negligible. In 1951 the crop was attacked by a species of 'army worm' and on the recommendation of the District Agricultural Officer was destroyed. No further plantings were made and all co-operative agricultural activity lapsed.

By 1952 co-operative agricultural activity had ceased among the Yega. The death of Samuel Ungega (the only man in the co-operative who had any training in co-operative work and the only man capable of directing activities on a long-term basis), removed from the Gombe co-operative the main driving force.

The basic reason for the failure of the Christian co-operative seems to have been that Rev. Clint's aim was to produce a storable food crop whereas the Yega wanted a cash crop. The scheme was established on an inadequate business basis and with insufficient understanding of the people's deep-seated desires.

The modern co-operative and the extent of Yega participation

A subsequent co-operative, organized by the Administration and known as the Gona Villages Native Society Limited, came into being in May 1953. In that month share capital amounting to $2542 was repaid by the Administration to 332 members of the old Gona, Gombe (Iaga) and Garara co-operatives, most of whom immediately became shareholders, at a uniform $10 per share, in the new society. The new co-operative was to serve different purposes from the earlier ventures. There was to be no attempt whatever at communal production. Functions were to provide marketing facilities for the agricultural produce of individual members and to conduct a retail trading store.

Operations were begun in a store previously owned by A.H. Bunting Ltd on the Popondetta-Killerton Road, half a mile from Cape Killerton. Originally built from local materials and with a tin

1 Only brown unpolished rice is issued as rations to the Administration and plantation labour. The endosperm and much of the vitamin content are removed in the production of white rice, so that employers issuing white rice would have to supply additional vitamins, an uneconomic proposition.
Gona villages co-operative store. Calculation of shareholders' rebates, December 1962.

Gona villages co-operative store at Cape Killerton.
roof, the store had to be rebuilt by the co-operative in 1954, on a site adjacent to the original one; it was replaced by a permanent building, constructed on a new site only 100 yards from the wharf at Cape Killerton.

Marketing was of minor importance for the first ten years of the store's operation. Although there were numerous coconut palms in the shareholders' villages, the subsistence demands on them were heavy. Very little copra was offered for sale at the store before 1962 but production increased following a renewed emphasis on the crop by the Department of Agriculture's Extension Service. Copra turnover increased from nil in 1961-2 to $254 in 1962-3 and $1104 in 1963-4. There were at the time of this study few other cash crops in production but labour was an important source of cash.

By contrast the store's retail function was rapidly established. It was for 11 years under the competent control of its first appointed manager, Mr Hankin Kombega, a local Yega man who was also secretary of the society. Within two and a half years from the start of retail trading, a net profit of over $2000 was disbursed to shareholders at the rate of $0.25 for every $2 spent. Only two other rebates were paid – in November 1960 and December 1962; the rebate which would normally have been paid about the end of 1957 or early 1958 was diverted to the construction of the new store. The average rebate paid to shareholders in December 1962 was approximately $3 per head and for Yega shareholders the average was $5.10 per head. Although these amounts may sound small, it should be borne in mind that the share basis was only $10 per head. In addition, the rate of rebate (in 1964, $0.10 per $1) was much higher than that paid by co-operative societies in Australia. The inducement offered by the rebate system did influence Yega purchasers in their choice of a retail store. Of a sample group of eight men questioned, two claimed that all their purchases were made at the co-operative store, four others estimated that over half their purchases were made there, one estimated less than half and one was uncertain.

The Gona Villages Native Society Ltd was managed by a chairman, secretary and board of nine directors, all Papuans, elected by the shareholders. The board met each month and its minutes were sent to the Co-operatives Inspector in Popondetta for approval or veto. If decisions were vetoed, adequate explanation was given.

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1 See p.65.

2 An example was the rejection of a board decision to increase the purchase price of copra from 3½d. to 4d. per lb. Detailed costs were calculated to show the board that at 4 d. (3 cents) per lb. they would make too small a profit margin.
The finances of the store were under continual surveillance both by the local inspector and by the Assistant Registrar of Co-operatives in Port Moresby to whom regular reports were submitted by the inspector. A general reserve fund was maintained and was fully invested. Provision for depreciation was made every six months; this money was banked so that the provision of a new store building would be possible within about ten years.

The Cape Killerton store operated as a normal retail trading store but over three quarters of its business was conducted with its shareholders. In January 1963 there were 578 shareholders in the Gona villages co-operative store, of whom 108 (19 per cent) were Yega people. Yega shareholders purchased 34 per cent of all goods sold while non-shareholders bought 13.5 per cent.²

The high rate of spending of Yega shareholders relative to the total membership was because the Yega people live nearest to the store at distances ranging from nil to four miles, and because the Yega probably received a higher cash income than the other groups.

The Yega had since the early 1930s been within walking distance of one of the best mission schools in the Northern District, with a European teacher permanently on the staff. In consequence young Yega men, who almost without exception left the villages to enter paid employment, were able to obtain skilled and semi-skilled jobs. In a sample group of 18 such wage-earners interviewed, the average remittance to relatives and friends in the village during 1962 was $110 p.a. As 40 per cent of the adult male work force was absent in wage-employment, a considerable amount of cash was being injected into the Yega economy. In addition, some Yega obtained a regular cash income from produce sold in Popondetta market (see Dakeyne 1965:102 ff.).

Expansion of membership in the G.V.N.S. Co-operative had almost ceased in 1964: 561 members in 1958 increased to 578 in 1961. As a branch store was opened at Buna in 1962, effective shareholder support for the Killerton store seemed likely to diminish. In any event there could be no major increase in shareholder numbers among the Yega, for nearly every adult Yega man resident in the area was already a shareholder in the co-operative. The bulk of the store's business was done with its shareholders but non-shareholding friends, such as members of a shareholder's family or visitors from the towns, were asked by shareholders to use their share numbers when making

¹ Calculated from the rebates given in December 1962.
² Calculated on the basis of sales for the months October-December 1962.
Note. At the time of joining the society Yega members lived in eight small villages but total Yega membership is shown as Beporo. In 1964 the Yega were dispersed throughout their territory in 17 localities varying in size from 30 houses to single homesteads.
purchases. In this way the shareholders obtained additional rebate benefits. In general, however, sales to non-shareholders correlated fairly closely with the presence or absence of small coastal trading vessels at the wharf.

Most of the buying at the store was done by men. There were no women shareholders, but wives and daughters used their husbands' and fathers' share numbers when purchasing goods.1 The men were discriminating buyers and a man who had walked some miles to the store to buy a specific item would usually stand for a while surveying the goods displayed and asking a question or two about prices. After the purchase was made, usually of only one or two items, the buyer left the store, but usually stopped to chat at Surilai village on the northern side of the store before going home.

An analysis made of the spending patterns of a group of 27 Yega shareholders over a two-year period (January 1961-December 1962) showed that of a total expenditure of $1148, 49 per cent was spent on food (mainly tinned meat, tinned fish, rice and sugar), 11 per cent on tobacco, 11 per cent on clothing, 7 per cent on kitchen utensils, 3 per cent on garden tools and 17 per cent on miscellaneous items including torches, soft drinks, kerosene, matches, fishing gear, etc.

The most sought after foods were those with high protein content - tinned meats and fish. Only one bicycle (costing $52) was sold during the two years surveyed. The low rate of spending on garden tools is noteworthy, considering the importance of gardening in the Yega economy; but axes and bush knives were carefully guarded and, being very durable they needed only occasional replacement.

Almost every Yega child over six years of age and every adult of both sexes owned at least one item of European-type clothing. On working days, cotton skirts were worn by the girls and women, and shorts or cotton loin cloths by the men, but tapa (bark cloth) skirts were preferred by the adolescent girls and tapa boavo (bark loin cloth) by the older men for Sunday wear. Most people preferred to purchase their clothing requirements from the wider range available in the larger Popondetta stores rather than from the co-operative.

Retail trading showed a remarkable increase from 1961-2 to 1962-3. The turnover doubled during the financial year but a fall-off in trade of about 12½ per cent occurred in 1963-4. This situation probably resulted from lower spending by Yega shareholders,

1 In the course of six or seven visits to the store I can recall only once having seen a woman at the counter.
many of whom moved their place of residence some three to five miles inland from the coastal villages along the Gona-Popondetta road during 1963-4, bringing them nearer to the larger Popondetta stores (see preceding article in this bulletin).

The rate of spending was remarkably constant throughout 1962 (the only year checked) except in December when 16 per cent of annual turnover was handled. Other months accounted for 6 per cent to 9 per cent of the annual turnover. The high figure for December was partly due to a shareholders' rebate being distributed on 12 December. Much of the money given in rebates was seen by the author to be immediately spent again in the store. Also, many men who worked outside the village returned for holidays at Christmas time with appreciable sums of money. Finally, the European custom of holding Christmas parties had been adopted by the Yega, resulting in increased spending on food.

The Yega were still predominantly subsistence cultivators with very limited financial resources. The co-operative store served a useful purpose in providing them with easily preservable proteins as well as a range of other foods, clothing, consumer goods, tools and domestic equipment.

Bibliography


A modern Orokaiva feast

R.G. Crocombe
In pre-European times, according to present-day informants, the most important feasts held by the Orokaiva people were associated with initiation, marriage, death (though apparently not birth), and the enhancement of prestige. Feasts were also held to mark the transfer of land, the re-establishment of peace between persons who had been quarrelling, resumption of residence after a prolonged absence, and the lifting of prohibitions between a man and his mother-in-law.

It is impossible to know with any certainty the scale of feasting prior to European contact for, though a detailed study of these people was made in the late 1920s (Williams 1928 and 1930). Government patrols had brought tribal fighting to a halt some years before. It is therefore quite likely that, with less time taken up in warfare and greater freedom of movement assured, the feasts and ceremonies of that day were more elaborate than those of the pre-contact era.

While feasts are still held today, the relative emphasis given to each category has changed considerably. Feasts associated with initiation are held on a greatly reduced scale and often omitted altogether, but those relating to marriage and death remain important. The taro festivals, the main function of which appears to have been the enhancement of prestige, are still held in some places but have been abandoned in others. The other feasts listed above are still held occasionally, with the exception of those relating to the lifting of prohibitions in relation to mothers-in-law.

Since the above was written, such a feast was held by a family from this village but now living on a government resettlement scheme about two miles away. The atypical circumstances of the new residence pattern may have caused the revival of the feast (known as peikari) because when the daughter of the settler married, the new husband was brought to live with them to help with cash cropping. This is contrary to the customary pattern of virilocal residence. Living in such close contact with his mother-in-law probably made the highly formalized relations between them difficult to maintain. The feast was thus invoked to sanction more relaxed relations between them.
On the other hand, some feasts held today have no precise traditional equivalent. These include those associated with festivals of the local church; those to farewell or welcome home children attending distant schools, migrant workers and others; those to mark the opening of new churches, schools and medical aid posts; and finally and most recently, feasts or 'parties' to celebrate the birthdays of favoured children.

A birthday feast held in Inonda village in July 1962 illustrates changes taking place in some of the social and economic values of the community, and persistence in others. The celebration was held to mark the birthdays of the two adopted children (actually the illegitimate issue of two daughters) of a prominent local citizen, a retired mission teacher. It was the first such party held in this village, though similar parties had been held in neighbouring villages. Several villagers mentioned that they intended holding birthday parties for their first-born children. The idea was introduced by indigenous mission teachers who have attended birthday parties held by their European counterparts.

Few Orokaiva people are aware of the birth dates of their children and those few who are derive some satisfaction from the fact. In this instance, the children whose birthdays were being celebrated were a boy aged nine and a girl aged one. The party was said to be for both children, though 'mainly for the boy'. Their actual birthdays were said to have been 18 and 22 June respectively, but the feast was not held until the following Saturday as several of the villagers and many of those invited from outside the village work during the week as labourers for the Public Works Department, for a local engineering contractor and for local European planters. Almost all feasts and ceremonies conducted in this village today are held on Saturdays.

The host (the adopted father of the children) is not engaged in paid work and he and his wife, assisted by their three married daughters, spent the two preceding days gathering food from the gardens. Two of the daughters live in the same village as their father and the other in a village about six miles away. As all the host's male relatives in this village were employed at the time, he sent for his brother's grandson, a single man in a village about fifteen miles away, to come and assist. A small platform and a leaf shelter were built outside the host's house: the former to serve food on and the latter as shade for the visitors.

Taro was the main food provided, and of an estimated total contribution of 383 pounds, 128 pounds were brought by the host and his wife, 105 pounds by their three married daughters, 70 pounds by two clanswomen of the host's wife, and 80 pounds by three clanswomen of the host's eldest daughter's husband.
The two latter contributions require further explanation. Of the 70 pounds brought by the wife's kin, 40 pounds were given by a parallel cousin whose husband recognized a distant relationship to the host, and who had worked as a mission teacher with him. The remaining 30 pounds were given by a clanswoman (whose exact relationship we did not determine) who lives in a village a few minutes' walk away, and who frequently visits the host's wife. This woman's husband recognizes a distant relationship to the host. Of that given by the daughter's husband's relatives, 60 pounds were contributed by a mother and daughter whose husband and father had spent his life as a work associate of the host in a neighbouring village. The remaining 20 pounds were brought by a clanswoman whose kinship link was reinforced by her residence in Inonda and her marriage to another relative of the host.

With the exception of taro supplied by the host and his wife jointly, all taro was brought by females. They were all kin of either the host, his wife or his eldest daughter's husband. But of the many relatives of these people resident in the vicinity, only five contributed. Three of these had work associations with the host and the other two had subsidiary kinship links to the wife as well as being coresident or nearly so, and enjoying frequent social interaction with the host and his wife. 1

In former times, we were told, the men now engaged in paid work would have gone hunting to obtain meat for a feast, and would have constructed more elaborate shelters and platforms as well as erecting poles for the stacking of food contributions in such a way that they could be measured and compared. The role of the men in the preparation of this feast was negligible by comparison.

The host intended to kill a domestic pig for the feast but it escaped after being shot. A European contractor whose labourers had been invited to attend gave a pig which he had purchased for $30. The only other fresh meat was a large hornbill donated by the leader of the clan with which the eldest daughter's husband lived. 2 These two men have engaged in many exchanges over the past few years.

Of a total of $9.83 worth of store foods supplied, $2.60 worth were purchased by the host himself from his savings, $7.08 worth

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1 In addition to the above food, the husband of a daughter of the host used the occasion to give a pig and vegetables to one of his wife's mother's clansmen who had not shared in the bride-wealth previously given by the husband for his wife. The gift was taken back to the donee clansman's village for distribution.

2 This man does not live with his own clan, but with that of his classificatory brother's wife.
by the eldest daughter's husband from his current earnings, and
$0.20 worth by the husband of another of the host's daughters from
his current earnings. The only other foods contributed were three
bunches of bananas and sixteen lengths of sugar cane by the host
and four bunches of betel nut and one bundle of betel pepper by the
eldest daughter's husband and his son.

It is apparent that the men's traditional role of supplying
fresh meat is being replaced by an obligation to supply store foods.
In addition, informants confirmed that the range of men participat-
ing in the contributions had decreased markedly. The reason for
the large donation of store foods and betel nut by the eldest
daughter's husband was that as his family had all been killed and
his property destroyed in the Mt Lamington eruption, he had not
paid any bride-wealth at the time of his marriage.

A blackboard was displayed bearing a notice to the effect that
all persons who were in receipt of wages were expected to contribute
fifty cents and all others twenty cents. The host sat at the end
of the food table and collected the cash (while a research assis-
tant recorded the details of contributions and contributors). While
most visitors expected as a matter of course to make some offering,
they were not prepared for a fixed fee. There was therefore some
delay and it was not until it was announced that those who did not
have the full amount could contribute whatever they had that the
people could be persuaded to make their contributions and partake
of the food. Over half of those present had no money and conse-
quently refrained from eating, though some close relatives who did
not contribute were fed in the background. Several visitors
privately expressed resentment at being asked for a money contribu-
tion.¹

Contributions were received from 64 persons and ranged from
eight cents to a dollar. Of a total of $12.15 received we were
able to account for $10.88. Those who had brought food did not
bring money with the exception of the labourers from the contrac-
tor's camp on whose behalf their employer had contributed a pig,
and the husband of one of the host's daughters (who had given
twenty cents worth of food) who gave ten cents in cash. Over half
the money ($5.78) came from 31 persons who had no kinship ties
with this village but were employees of European planters and of
a contractor in the area or were indigenous settlers from a govern-
ment resettlement scheme nearby. Of the balance, $2.10 was given
by 15 relatives of the host from three different villages and

¹ The labourers and settlers had been specifically invited to
attend, but I am not aware of the extent of invitations sent to
other villages.
£2.90 by 16 relatives of the host's eldest daughter's husband (the one who had not been able to pay bride-wealth at the time of his marriage). The latter 16 relatives came from four different villages. All but one of the total of 64 contributors of cash came from villages other than Inonda.

Contributors came from eight different localities within a range of 16 miles. There were also approximately 70 other adults who attended but did not eat or contribute. Some were from this village but the majority came from other villages in the vicinity. There were also some 30 or so children present who were not included above.

The majority of the persons present attended because of their residence in neighbouring communities and claimed no kinship links with the hosts. In earlier times, informants say, it would have been unusual for persons to attend a feast unless they were linked to the hosts by ties of kinship, marriage, or residence in the same village. Moreover, they claim, even in pre-war days it was unusual for persons from so far afield to attend a relatively small personal feast. Cash payment, it appears, is becoming an acceptable substitute for kinship links as a qualification to attend certain ceremonies.

Transfers of property at this feast differed markedly from those in feasts of the traditional type. Firstly, the food was contributed by a more restricted group, and was consumed not by all, but only by those who paid. Secondly, cash was given in place of traditional valuables (feather head-dresses, shells, arm-bands, necklaces, etc.); and thirdly, there was no reciprocal exchange for the whole of the cash was retained by the host who apparently does not acknowledge any obligation to give reciprocal help to those who brought cash, though he does recognize such an obligation to those who brought food.

In this village many of the older people wear only loin cloths made of tapa, but at the feast all but four men wore imported clothing. The four who did not were older men who remained in the shadows. A few men wore cotton lap-laps, but the majority wore short trousers. All but three wore shirts - an item of clothing that is rarely seen in the village. Quite a number wore plastic sandals, though the majority were barefooted. All the women wore cotton skirts and blouses, though in their daily work an in festivals of the traditional type they almost never wear any garment above the waist. Four young men were daubed with face powder and one wore a spring of leaves in his hair. There were no other personal adornments. At taro festivals today, and at marriages, funerals and

1 See p.74.
other rites which are still based largely on traditional precedents, tapa cloths, arm-bands, necklaces and head-dresses are de rigueur, but informants stated that a birthday party was different, as it was an European institution.

The language most frequently used was Pidgin as most of the labourers came from various parts of New Guinea, but the local people spoke between themselves in Orokaiva. Police Motu, the official lingua franca of Papua, was heard quite frequently and the notice about donations was written in that language. While the non-Orokaiva people conversed freely in lingue franche, the less prominent of the Orokaiva people kept largely to themselves.

The only indigenous musical instrument present was a single drum, but it was not played. When asked why there were not more drums, those present expressed mild contempt for them and explained that there would be guitars. All the music, which continued almost nonstop from dusk on Saturday until daylight Sunday, was provided by six or eight guitars owned and played by the indentured labourers present. There were no skilled guitarists, and the band merely strummed a basic rhythm which changed little during the course of the evening. The repertoire of songs was not extensive and most were repeated many times. All of them were either popular Western or modern Polynesian tunes, some sung to Pidgin words, other to English words and a few to Orokaiva words.

Most of the young men danced, some of them almost constantly, but very few knew any pattern of steps. The majority were attempting to dance modern style Polynesian dancing which had been learned indirectly from the Samoan, Cook Island and Tongan missionaries who served along the south coast of Papua (though not in the Orokaiva area). The one man who could perform a particular Samoan men's dance quite well had learned it directly from a Samoan missionary several years ago. Some individuals tried to dance traditional Orokaiva steps but were not particularly successful owing to the foreign nature of the music. Several men from New Guinea attempted ballroom dancing which they had seen performed by Europeans in New Guinea, and in films.

Of a total of approximately 130 adults present, only about 20 were women. While the discrepancy was partly accounted for by the number of male contract labourers, most of the relatives of the hosts who attended were also men. Few of the settlers or other visitors brought their wives (unless the latter had relatives at Inonda). The cooking was done by a group of five women, while the others remained in the shadows.

The music and entertainment were almost exclusively the prerogative of the men. No woman joined the band of guitarists and singers at any time, and none attempted to dance until about 10 p.m.
when three young single women joined in, though each danced separately and without appearing to take any notice of the men or to be noticed by them. Only three mixed couples were seen dancing during the whole evening, the partners in each case being real or classificatory siblings. They danced ballroom style, which the girls had seen when away at work as nurses and domestics. On some occasions two men danced together, but for the most part each man danced individually, following his own style and apparently oblivious to those around him. Traditionally, married women do not dance, though single women dance in supporting roles.

It was clear that while music and dancing were based largely on a very limited conception of Polynesian patterns, dress and other behaviour was based on European models - even to the extent of several of the most prominent citizens handing out Rothman's king size filter cigarettes! Though traditional prohibitions (such as those against married women dancing) prevailed, there seemed to be a conscious effort not to behave as an Orokaiva, and some of the local people who did not participate explained that it was because they did not know how to dance in the modern style. Overall the men engaged in nontraditional activity much more than the women did.

Shortly after daybreak a church service was held, breakfast was served, and the party was over. The remains of the food was distributed to those relatives who had contributed most food and
those visitors who had given most cash. In former times, they said, feasts usually continued for two to five days, but today there is a tendency, particularly in areas where paid work is available, to get them over in a single night or week-end.

While the rationale for the party was the birthday of the two children, they were in fact conspicuous by their absence from any aspect of the celebrations, feasting or exchange. The changing modes of dancing, dress, entertainment and economic exchange showed a constant striving to acquire foreign behaviour patterns. The feast did serve to confirm the adoption of the children (which had not previously been formalized) and to affirm the bona fides of the son-in-law who had been unable to meet his bride-wealth obligations. But it appeared to me that the main motive of the promoter (a retired mission teacher whose prestige was considerable, but waning in his retirement, and whose status was marginal in a patrivirilocal society in which circumstances forced him to live in the village of two of his daughters' husbands) was to reaffirm his prestige and reinforce his stake in the village of his residence.

Bibliography

An Orokaiva marriage

G.R. Hogbin
Bride and groom outside the organizer's house on the morning of the first day of the bride-wealth exchange

Transferring the cash
The inclusion of cash in bride-wealth is now widespread in Papua-New Guinea. Before cash was introduced, ornaments made from shells, pigs' tusks, dogs' teeth, animal fur, etc., and feather head-dresses, household utensils, pigs and food were commonly exchanged for brides in most, if not all, parts of the country. These things are still given in the majority of bride-wealth exchanges, even when the people consider cash the most important component. Bride-wealth is usually exchanged between two groups, one associated with the bride and the other with the groom, with the result that a considerable number of people is associated with any one exchange.

We do not know the volume of cash exchanged annually in bride-wealth in the country nor the rate at which this volume is changing, but the information available suggests that a significant proportion of the cash in the indigenous sector of the economy is involved. For example, in Hanuabada village near Port Moresby (where the legal minimum cash wage is a little over $300 per annum) bride-wealth including more than $2000 in cash has been paid for a single marriage. In many rural areas, the ratio of cash in marriage payments to cash incomes is also high. In a Siane village in the Eastern Highlands, where the average annual cash income per household in 1965 was less than $100, I counted $240 cash in one bride-wealth exchange and $180 in another.

There is insufficient information to permit analysis of the implications which certain practices in the indigenous sector have for the growth and functioning of the cash economy of Papua-New Guinea. These practices include bride-wealth exchanges, cash gift exchanges, gambling and hoarding. They may be beneficial to economic growth in that they may provide incentives to produce goods and services for sale. Also they may facilitate cash

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1 The collection of data for this paper was made possible by the generous co-operation of numerous people from Inonda and nearby villages, especially Stephen Oriri and Jack Umbarapa. Dr R.C. Crocombe kindly assisted in the preparation of the report; Mr C. Burau explained marriage customs among the Orokaiva; and Miss P. Richardson, Mr M. Rimoldi and Mr P. Krinks gave helpful suggestions for revision.
investment in the villages, for there is scope for an astute and influential individual to use them to accumulate cash which may subsequently be invested. On the other hand, an institution such as bride-wealth may be detrimental in that an individual may consider it pointless to earn more cash if a large proportion is to be used to assist kin in exchanges which do not benefit him directly. Also an individual may have difficulty in accumulating cash for investment if social pressures force him to contribute a high proportion of his cash income to non-commercial exchanges.

In addition we have no clear understanding of the degree to which and circumstances under which an individual's participation in ceremonial exchanges involving cash affords him access to the land, labour and capital resources of the group to which he belongs. Some indigenous entrepreneurs minimize their participation in these exchanges while others apparently attempt to use them to advantage.

The following description of an Orokaiva marriage and bride-wealth exchange does not contain sufficient information to allow generalizations about economic implications but may be a useful contribution to a comprehensive study of customary exchanges. The activities associated with the marriage involved people from several villages and hamlets as well as a nearby land settlement scheme. The events spread over approximately two and a half months culminating in the payment and distribution of the bride-wealth at the end of August 1962.

II

Traditionally, an Orokaiva man could acquire a wife by payment of bride-wealth; by exchange of a girl from his lineage, sub-clan or clan for another from an outside group; by elopement; or by capture (Williams 1930:130). When Europeans gained control of the Orokaiva area early in the century, marriage by capture, which had been common, was no longer possible. Since then, other aspects of marriage among the Orokaiva have changed. People may now move freely within the Orokaiva area and elsewhere, and consequently the range of villages from which an individual may choose a spouse is wider than in the pre-contact period. Furthermore, many marriages now take place at least partly in accordance with church practices. Missions¹ have failed to suppress exchanges of bride-wealth and it

¹ The Anglican Mission has been operating in the area for over 50 years and has been the most influential evangelical institution there.
is still transferred in most marriages, including those which take place in a church.

Polygyny was accepted but probably not frequent in traditional Orokaiva society. In spite of mission opposition there are still instances of polygyny but the great majority of marriages are monogamous. Marriage outside the clan is considered preferable but there are numerous cases of marriage within the clan. The village is not considered an exogamous unit. Marriages are usually patrilocal but this is not a definite rule (cf. Williams 1930:130-3).

III

In this particular marriage the groom lived in Inonda, a village of approximately 45 people about 11 miles from Popondetta.¹ His was the only family of the Jegotumo lineage of the Andiriha clan in Inonda, although there were others at Hohota I and Kakendetta.² The groom was the eldest child by his father's first wife. His mother died several years before his marriage and his father remarried. The father died six weeks before the marriage payment described here took place.

The groom attended Anglican mission schools for eight years and reached Standard V. He was baptized in 1958. In 1960, when he was about 16, he left school to train as a medical orderly at a mission hospital at Embi about ten miles from Inonda. In 1962 he returned to his father's household in Inonda and was employed by the government for $3 per week to tend the ford where the road from Popondetta to Oro Bay crossed the Girua river. He also assisted with the production of coffee, from which the household earned approximately $16.00 annually, and with the household's food gardens.

The bride attended mission schools for four years and reached Standard III but was not baptized. Her father, who died during World War II, had been the head of Joremba'embo lineage and of the Andiriha sub-clan in Inonda as well as headman of that village. After her father's death the bride went with her mother, elder sister and brother to live with her mother's elder brother at Ajoro village about five miles away. In 1948 a parallel cousin of her father was demobilized from the army and married her mother, thereby becoming her adoptive father (to be referred to hereafter simply as her father). Subsequently she lived in his household in Inonda

¹ See map, p.84.
Diagram showing locations of Andiriha and Jego'undi clans and social units comprising Inonda

<table>
<thead>
<tr>
<th>Sub-clan at:</th>
<th>Hanakiro</th>
<th>Kakendetta</th>
<th>Jegerata</th>
<th>Hohota I and II</th>
<th>Inonda</th>
<th>Inonda</th>
<th>Sewa</th>
<th>Bofu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lineage representation</td>
<td>Darafa'embo (NP)</td>
<td>Jegotumo (C)</td>
<td>Jegotumo (C)</td>
<td>Jegotumo (C)</td>
<td>Jegotumo (C)</td>
<td>Jegotumo (C)</td>
<td>Pejari (R)</td>
<td>Lineage names not available (NP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>NP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

C  = contributed to bride-wealth
R  = received share of bride-wealth
NP = took no part in the exchange
X  = sole male representative was youth adopted into groom's father's household
where he was headman for about 12 years. In 1960 he moved his household to a block he was allocated in a land settlement project a short distance from Inonda across the Girua River, but he continued to exert strong influence in the affairs of Inonda.

A man from Sewa wished to marry the girl but her father and brother opposed the marriage because, they said, her married sister at Sewa was not happy there. When the present groom returned to Inonda in 1962 she was attracted to him and rejected the Sewa man in his favour. The Sewa man's family were displeased and it was rumoured that they were responsible for the sorcery which caused the groom's father to die.

Late in June, without her father's permission, the bride stayed in the groom's household for a few days and the couple made it known that they wished to marry. The bride's father and brother, especially the former, opposed the marriage. They gave several reasons, but it is difficult to know which was the most important. They said they were angry because she 'ran away' to live in the groom's father's house and that they wished her to marry a man of better prospects and from a family of greater prestige. Her brother, formerly a mission teacher, said she should be baptized so that she could have a church marriage, but this did not happen. Both bride and groom were of the Andiriha clan, but this deviation from the Orokaiiva preference for clan exogamy was never openly used as a basis for objection to the marriage.

The bride-wealth for the marriage was set, principally by the bride's father, at $200 in cash and the equivalent of $200 comprising a pig, traditional valuables,¹ household utensils and food. Villagers considered this an extremely high price and evidence collected in the village suggests this was so (see Table 1). An Orokaiiva research assistant who had travelled widely through the area said it was unusually high for a small clan such as the Andiriha, although not unusual for large clans.² Moreover, as the marriage was endogamous to the clan, the groom could not call on the entire clan's support.

The bride's father said he needed the money to establish a retail store and to buy a motor vehicle, but in September 1965 he had not realized these ambitions. His opposition to the marriage may have moved him to set a high price in the hope of discouraging the groom. However, informants said it was not unusual for a parent or guardian to make a display of anger towards a daughter's

¹ Traditional ornaments, and feather headdress will be referred to collectively as 'traditional valuables'.
² C. Burau, personal communication.
Table 1

Bride-wealth paid for three women married into, and two marrying out of Andiriha sub-clan, Inonda

<table>
<thead>
<tr>
<th></th>
<th>In 1</th>
<th>In 2*</th>
<th>In 3</th>
<th>Out 1</th>
<th>Out 2**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>$74</td>
<td>$22</td>
<td>$40</td>
<td>$22</td>
<td>$74</td>
</tr>
<tr>
<td>Pigs</td>
<td>2</td>
<td>?</td>
<td>1</td>
<td>?</td>
<td>nil</td>
</tr>
<tr>
<td>Traditional valuables,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>utensils, etc.</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>?</td>
</tr>
<tr>
<td>Food</td>
<td>Approx. $12</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>?</td>
</tr>
</tbody>
</table>

* Woman with illegitimate child.

** Required of a man from Madang District for a girl of Joremba'embo lineage.

The groom and his father complained about the price but accepted it as a challenge which must be answered by payment.

Between the time the price was set and the time it was paid, bride and groom spent much time together. For about three weeks the groom and a classificatory sister lived at the bride's father's farm where they helped with farm work. One weekend the bride, groom and bride's father went on a fishing expedition, indicating that the bride's father had consented to the marriage.

About a month before the bride-wealth was paid the groom's father died and the responsibility for organizing the payment passed to the head of the Darafa'embo lineage of the Andiriha sub-clan in Hohota II. This man will be referred to as 'the organizer'. Ideally the responsibility would have passed to a senior man of the Jegotumo lineage in Inonda, but the groom himself was the most senior. The responsibility could have devolved to the senior man of Jegotumo lineage in either Hohota I or Kakendetta, where Jegotumo was represented, but the only Jegotumo

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1 Bride-wealth exchanges in Hanuabada, Central District, at the time were mostly in the range $600-$1200 in cash plus an equivalent amount in traditional valuables (N.D. Oram, personal communication).
man in Hohota I was in his late twenties and had insufficient status in the Andiriha clan to organize the payment. There were two senior Jegotumo men in Kakendetta but the responsibility went to neither, probably because Kakendetta was 11 miles from Inonda and the groom's father's household had little contact with them. Inonda people said that the reason the position of 'organizer' passed to the head of the Darafa'embo lineage in Hohota was that about the turn of this century his father and the groom's paternal grandfather had fled together from Aramba to Hohota and that the common history of the two families placed the organizer in a special relationship with the groom (Crocombe and Hogbin 1963:14).

Several times during the two and a half months over which the bride-wealth was accumulated, the bride's father embarrassed the groom and his supporters by saying publicly that they were slow to meet the payment and that he thought they were incapable of doing so. About five days before the event the groom and his supporters arranged with the bride's father that the exchange should take place on Friday, 30 August at Hohota II.

On Thursday, part of the food contributed by Hohota people was stacked in a shade-house adjacent to the organizer's house. That evening four men from Hohota went to Inonda to assist the Inonda men to carry to Hohota a large and valuable pig which had belonged to the groom's father and was to be part of the bride-wealth.

At 6.00 a.m. on the day of the ceremony the groom's supporters began to gather at the organizer's residence at Hohota. All were assembled by 10.30 a.m. The food they brought was stacked near the shade-house and the traditional valuables on the veranda of the residence. Both bride and groom had spent the night at Hohota but they took only minor parts in the preparation of the bride-wealth.

At 6.30 a.m. a party of five women, including the bride's father's two wives (one of them the bride's mother) and the bride's mother's brother's wife, stood outside the organizer's house berating the groom's family for failing to have the bride-wealth completely ready. These women had come to collect a preliminary payment, kima, contributed by close relatives of the groom and distributed amongst close relatives of the bride to indicate to the bride's family that she is marrying into a family of wealth. Some cash, traditional valuables, household utensils, food and several pieces of bark-cloth were handed to the women, who stacked them into string bags and returned at 8.30 a.m. to the bride's father's house, two miles away.

At 7.30 a.m. other members of the Jegotumo lineage and people who had come to the ceremony smeared the groom, his stepmother, stepsister and other close relatives with a paste of mud, ashes
and leaves which irritates the skin. This was accompanied by
general merriment. It was said to be a tradition, though the
people gave no explanation of its significance. The women
chattered together while they prepared and cooked taro, and most
men sat in the shade-house chewing betel and talking. The groom
and the organizer collected firewood and erected a temporary
shelter of coconut fronds adjacent to the shade-house. From
9.30 a.m. to 10.30 a.m. some of the groom's close female kin
dressed the bride, decorating her with traditional ornaments,
fastening a bark-cloth sarong around her and spraying her hair
with fresh coconut oil. The groom's supporters expected the
bride's father and his party to arrive at Hohota at midday. When
they did not, the waiting group became restless.

The bride's father had summoned the people who were to share
the bride-wealth to his house to discuss the attitude they would
adopt towards the contributing party when the two groups met at
Hohota. They decided to irritate the groom's supporters by
delaying and did not arrive until 3.00 p.m. As they approached
the organizer's house, a man dressed in bark-cloth and ornaments
and carrying a spear emerged from amongst them. A similarly
attired man advanced from the organizer's party, who rose to their
feet. The two men faced each other about thirty yards apart and,
brandishing their spears, repeatedly rushed at each other and
retreated for approximately five minutes.\(^1\) During this time the
bride's father's party moved quietly towards the organizer's
house and the two groups sat on the ground outside.

Apart from the bride and the two men carrying spears, people
wore normal clothing, although some had armbands and necklaces
which may have been specially donned for the occasion.

The bride's father, who remained standing, asked whether the
bride-wealth was ready. The organizer replied that it would not
be ready until the bride's father sat down. This clearly offended
him and tension quickly mounted in both groups. An argument broke
out and climaxed when two of the groom's supporters accused the
bride's father of setting an unreasonably high price and of lacking
generosity by refusing to reduce it when the groom's father died.
Thoroughly aroused, the bride's father shouted that he would not
accept the payment, that he would take his daughter and in high
dudgeon stalked off. The bride's brother supported him by returning
$3.00 which had been given as part of the kima. Three people
who each contributed $2.00 to the main payment withdrew the money
during the dispute.

\(^1\) Williams (1930:141) notes that a similar manoeuvre, esu, which
involved many supporters of bride and groom, was 'highly charac-
teristic' of bride-wealth transfers in the 1920s.
A debate lasting two hours followed during which tensions subsided. The bride did not seem at all perturbed and while the dispute was in progress she set out quite cheerfully after her father. The groom stood silently at the back of the assembly and took little part in the dispute.

About 4.30 p.m. a Girua settler who was present and whom the bride's father greatly respected offered to mediate. He originally came from a village near Oro Bay which had only very distant kinship ties with Inonda and surrounding villages. He went to the bride's father who was waiting about half a mile away and persuaded him to allow the marriage to proceed. There was no formal presentation or acceptance of the goods. The groom's supporters had heaped the food outside the shade-house, placed the utensils and some traditional valuables on the veranda of the organizer's house and tied other traditional valuables to a bamboo pole standing near the house. While the crowd was dispersing, the bride's mother and a few members of her group loaded the pig, food and valuables into a vehicle for transportation to the bride's father's farm. The cash was not paid until the next day.

Next morning the organizer and four of the groom's supporters took the cash to the bride's father's farm. A mat was placed outside the house and a few of the bride's father's supporters sat on one side with the groom's on the other. Other men and a few women crowded round to watch. The young Jegotumo man from Hohota who had contributed most cash to the bride-wealth and who, by virtue of being a talented gambler, was adept with money, counted the notes and arranged them neatly on the mat. They were counted and carefully rearranged several times over about 15 minutes, after which the groom's supporters left. The people's interest in the payment of the money contrasted with the apparent lack of interest in the transfer of other components of the bride-wealth.

The bride-wealth was distributed on two days. Immediately after the cash had been presented a brother of the bride's mother and a relative of the bride's father placed the food, household utensils and less valuable feathers and ornaments into 16 piles, some comprised of food, some of food and utensils and some of food, utensils and traditional valuables. The two men then allocated the piles, each of a different value, to particular people. The bride's father held up the more valuable feathers and ornaments for all to see and offered each item to a specific man. If he did not accept readily, the item was offered to another man. The pig was killed, carefully cut into pieces of different sizes, and distributed.

Next day, without ceremony and when few people were present, the bride's father and brother distributed the cash, retaining just
under 90 per cent for themselves. The balance was shared amongst four men, two of whom were absent.

IV

In examining the factors which influenced the size of a particular household's contribution to, or share of, the bride-wealth, cash values have been assigned to the non-monetary components (see appendix). However, it should be noted that the cash value of a contribution is only an approximate indicator of the magnitude of obligation of a contributing household to the groom, because the wealth of the household must have influenced the quantity and type of goods it could contribute. Wealth per se would not have influenced the share of the payment received by a household.

Householders from more than 20 clans in eight villages took part in the exchange, but men of at least ten other clans in these villages did not. The multiple relationships between contributors and between recipients were too complex to record in detail.

The value of the kima was only $29.35 as against $172.20 for the main bride-wealth (compare Tables 2 and 3). The people who contributed to the kima were either closely related genealogically to the groom or had high status within the contributing group (e.g., the organizer and the head of the Jegotumo lineage in Kakendetta village). Unfortunately the distribution of the kima was not followed sufficiently closely to determine whether the goods went only to those closely related to the bride or of high status within the recipient group.

Details of the contributions to the total bride-wealth (main payment and kima) and the approximate genealogical relationships of the groom to the heads of the households which contributed are shown in Table 3. The physical distances of the households from Inonda are also shown. The households have been separated into seven categories.

1. Local households of the groom's lineage. These were the household of the groom's late father (in which the groom lived) at Inonda and that of his parallel cousin at Hohota I. Together they contributed approximately 80 per cent of the total value of the bride-wealth and just under 90 per cent of the cash component, with the groom's household making the larger total contribution. The cash contributed by the groom's household was approximately equal to one year's income for the household.

The household of the groom's parallel cousin contributed about a quarter of the total payment. As well as close genealogical ties, this man had a close personal relationship with the groom.
<table>
<thead>
<tr>
<th>Village</th>
<th>Traditional valuables</th>
<th>Bark-cloth</th>
<th>Household durables</th>
<th>Food</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Groom</strong></td>
<td>Inonda</td>
<td>7.90</td>
<td></td>
<td>0.50</td>
<td>8.40</td>
</tr>
<tr>
<td>Groom's stepmother</td>
<td>Inonda</td>
<td>3.75</td>
<td>0.80</td>
<td></td>
<td>4.55</td>
</tr>
<tr>
<td>Organizer</td>
<td>Hohota</td>
<td>1.80</td>
<td>0.20</td>
<td></td>
<td>2.00</td>
</tr>
<tr>
<td>Head of Jegotumo lineage at Kakendetta</td>
<td>Kakendetta</td>
<td>2.00*</td>
<td>0.70</td>
<td></td>
<td>2.70</td>
</tr>
<tr>
<td>Mother of groom's parallel cousin</td>
<td>Hohota I</td>
<td>0.40</td>
<td>2.25</td>
<td></td>
<td>2.65</td>
</tr>
<tr>
<td>Andiriha women closely related to groom's father</td>
<td>Hohota</td>
<td>1.00*</td>
<td>1.50</td>
<td>1.20</td>
<td>0.30</td>
</tr>
<tr>
<td>Groom's mother's eldest brother</td>
<td>Urió</td>
<td>1.40</td>
<td>0.50</td>
<td></td>
<td>1.90</td>
</tr>
<tr>
<td>Groom's stepmother's brother</td>
<td>Urió</td>
<td>0.40</td>
<td>2.25</td>
<td>0.50</td>
<td>3.15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>3.00*</td>
<td>11.90</td>
<td>9.75</td>
<td>3.10</td>
</tr>
</tbody>
</table>

* Returned by bride's brother at dispute at bride-wealth transfer.
2. **Distant households of the groom's lineage.** The two other households of the groom's lineage contributed only a little over 1 per cent of the total payment. They contributed a further $4.00 in cash but during the dispute the bride's brother returned $2.00 and the other $2.00 were withdrawn. Neither householder was genealogically close to the groom and he had formed no close personal relationships with them, probably because they were at Kakendetta, 11 miles from Inonda. The four households in categories 1 and 2 constituted the entire Jegotumo lineage.

3. **Local households of the groom's clan (but not lineage).** These were the households of the organizer and of an Inonda man. Although the organizer's household gave only $4.00 in cash, the value of the food, ornaments, and feather head-dresses it contributed was greater than that of any household except the groom's. In terms of its assets and cash income the contribution was substantial, though small in relation to the contributions of the households of category 1.

   The head of the other household in category 3 was of the bride's lineage, Joremba'embo. He was in an ambiguous situation because when his father died, his mother remarried the groom's father who adopted him. He had genealogical associations with the bride's father's household as well as more distant genealogical links, close adoptive links and close physical association with the groom. Inonda people stated without reservation that he was a member of the bride's lineage. He stayed away when the bride-wealth was transferred, but his wife contributed a small quantity of food.

4. **Local households of other clans with wives from groom's clan.** The contributions of the three households in this category averaged $4.72.

5. **Local households of other clans (wives not Andiriha).** In contrast with the households of category 4, the average value of the contributions from the eight households in this category was only $1.16. This suggests that, because of agnatic and affinal links to the Andiriha, the households in category 4 were obliged to contribute more than those in category 5 which had only very distant genealogical links, if any, to the Andiriha.

6. **Other households of the groom's village.** Of the eight households in Inonda only three contributed to the bride-wealth. Two of the three which contributed have been included in categories above. The head of the third household was in an anomalous situation. He had been a school-teacher at a mission station formerly adjacent to Inonda. He remained after the station was closed and the Inonda people permitted him to live near the village where two of his daughters were married to Andiriha men, one being the wife of the bride's brother. His security in Inonda depended on acceptance by the villagers and possibly because of this he was
Table 3
Contributors to bride-wealth analyzed by physical and genealogical distance from the groom's household
(size and type of contribution shown)

<table>
<thead>
<tr>
<th>HOUSEHOLD HEAD IN ANDIRIHA CLAN</th>
<th>IN</th>
<th>KAKENDETTA</th>
<th>HOHOTA I</th>
<th>HOHOTA II</th>
<th>URIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Village</td>
<td>INONDA</td>
<td>KAKENDETTA</td>
<td>HOHOTA I</td>
<td>HOHOTA II</td>
<td>URIO</td>
</tr>
<tr>
<td>Distance by road from Inonda</td>
<td>1/8 mile</td>
<td>Nil</td>
<td>3 miles</td>
<td>5 miles</td>
<td>7 miles</td>
</tr>
<tr>
<td>Category</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household head</td>
<td>Temp. resident (2 grtr's married to Andiriha)</td>
<td>Man of bride's lineage adopted by groom's father</td>
<td>Groom (late father's household)</td>
<td>Jegotumo lineage</td>
<td>Groom's parallel cousin</td>
</tr>
<tr>
<td>No. of households</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Cash</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Pig</td>
<td>-</td>
<td>-</td>
<td>30.00</td>
<td>* 40.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Traditional valuables</td>
<td>2.00</td>
<td>-</td>
<td>7.90</td>
<td>- 2.40</td>
<td>4.20</td>
</tr>
<tr>
<td>Bark-cloth</td>
<td>-</td>
<td>-</td>
<td>3.75</td>
<td>- 2.25</td>
<td>-</td>
</tr>
<tr>
<td>Household goods</td>
<td>0.30</td>
<td>-</td>
<td>2.50</td>
<td>0.70</td>
<td>6.20</td>
</tr>
<tr>
<td>Food</td>
<td>0.25</td>
<td>0.45</td>
<td>1.65</td>
<td>0.75</td>
<td>1.30</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2.55</td>
<td>0.45</td>
<td>105.80</td>
<td>1.45</td>
<td>52.15</td>
</tr>
<tr>
<td>Average contribution per household in column</td>
<td>2.55</td>
<td>0.45</td>
<td>105.80</td>
<td>0.73</td>
<td>52.15</td>
</tr>
<tr>
<td>Per cent of total bride-wealth contributed by households in column</td>
<td>1% Negligible</td>
<td>53%</td>
<td>1%</td>
<td>26%</td>
<td>5%</td>
</tr>
<tr>
<td>Contribution by village (per cent of total in parenthesis)</td>
<td>108.80 (54%)</td>
<td>1.65 (1%)</td>
<td>52.15 (26%)</td>
<td>33.80 (15%)</td>
<td>5.35 (3%)</td>
</tr>
<tr>
<td>Contribution by Andiriha lineages (per cent of total in parenthesis)</td>
<td>Joremba' embo</td>
<td>Jegotumo</td>
<td>Daraf'a embo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.45 (negligible)</td>
<td>159.40 (80%)</td>
<td>10.35 (5%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contribution by Andiriha households (per cent of total in parenthesis)</td>
<td>ANDIRIHA HOUSEHOLDS</td>
<td>170.20 (85%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $4.00 contributed but $2.00 returned by bride's brother at dispute and $2.00 withdrawn after dispute.
** Another $1.00 contributed to kima but returned by bride's brother at dispute.
*** $4.00 contributed but withdrawn after dispute.
Table 4

Distribution of bride-wealth by household categorized by descent group of household head
(some items not recorded)

<table>
<thead>
<tr>
<th>Category number and description</th>
<th>Village</th>
<th>Distance from Inonda</th>
<th>No. of households by clan of household head</th>
<th>Cash</th>
<th>Traditional valuables</th>
<th>Bark-cloth</th>
<th>Household goods</th>
<th>Food</th>
<th>Total</th>
<th>Average per household in category (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Local household of Joremba'emo (bride's) lineage</td>
<td>Inonda</td>
<td>1 mile</td>
<td>1 Andiriha</td>
<td>70.00</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>in excess of 70.00</td>
<td>in excess of 35.00</td>
</tr>
<tr>
<td>2. Local households of Andiriha clan (but not Joremba'emo lineage)</td>
<td>Inonda</td>
<td>0</td>
<td>2 Andiriha</td>
<td>-</td>
<td>0.50</td>
<td>0.20</td>
<td>0.70</td>
<td>0.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Distant household of Andiriha clan (but not Joremba'emo lineage)</td>
<td>Jegerata</td>
<td>8 miles</td>
<td>1 Andiriha</td>
<td>-</td>
<td>0.10</td>
<td>0.10</td>
<td>0.10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Households affinally and matrilineally related to bride's father's lineage (and some to bride's mother's lineage)</td>
<td>Mosou</td>
<td>1 mile</td>
<td>2 Jego'undi</td>
<td>2.00</td>
<td>5.85</td>
<td>0.75</td>
<td>1.05</td>
<td>9.65</td>
<td>0.95</td>
<td></td>
</tr>
<tr>
<td>5. Households with affinal and kinship ties to bride's mother's lineage</td>
<td>Ajoro</td>
<td>5 miles</td>
<td>3 Tandai'undi</td>
<td>8.00</td>
<td>9.50</td>
<td>3.75</td>
<td>1.00</td>
<td>1.60</td>
<td>23.85</td>
<td>3.40</td>
</tr>
<tr>
<td>6. Households of bride's sister's husband and his father</td>
<td>Sewa</td>
<td>7 miles</td>
<td>2 Sauharupa</td>
<td>-</td>
<td>0.40</td>
<td>1.50</td>
<td>0.25</td>
<td>2.15</td>
<td>1.05</td>
<td></td>
</tr>
<tr>
<td>7. Household with no genealogical relationship to bride</td>
<td>G.L.S.S.</td>
<td>1 mile</td>
<td>1 ?</td>
<td>-</td>
<td>1.60</td>
<td>0.75</td>
<td>0.25</td>
<td>2.60</td>
<td>2.60</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL RECORDED DISTRIBUTION

| | 80.00 | 17.85 | 6.75 | 1.00 | 3.45 | in excess of 109.05 |

COMPARE WITH:

TOTAL CONTRIBUTION

| | 80.00 | 28.20 | 9.75 | 13.00 | 10.60 | 201.55 |

* Girua land settlement scheme.
notably generous with gifts. It might otherwise be expected that he would have avoided the ceremonies or aligned himself with the bride's group, especially as the husbands of his daughters received shares of the bride-wealth. However, he contributed goods worth $2.55.

Of the five households in Inonda which did not contribute, the heads of two were brothers from the Jeg'undí clan (not the Jegotumo lineage). Their mother was of the Joremba'emo lineage of the Andiriha and they therefore received a small share of the bride-wealth. The head of another of the five households was the bride's brother. The heads of the other two households were brothers and were considered by the villagers to be members of the organizer's lineage (Darafa'emo) because their father had been adopted into the Darafa'emo after being captured from a Managalasi tribe. In contrast with the organizer who had a dominant role in the contributing group, they received small shares of the bride-wealth at least partly because their mother was of the bride's lineage, and possibly because one of the brothers married the sister of the bride's brother's wife.

7. Households of the groom's matrikin. These were the households of the groom's mother's brother and his stepmother's brother, both from Uri village about seven miles from Inonda. No others of the groom's matrikin contributed.

Of the heads of the 20 households which contributed, only six were from the Andiriha clan and four of the six were of the Jegotumo lineage. If the bride had been a member of another clan, other Andiriha households probably would have contributed. Most of the 12 householders from Hohota II who contributed had no close genealogical relationship with the groom. They may have contributed because his father had lived there for many years before shifting to Inonda. However, the obligations could have been primarily to the organizer, a Hohota man.

The analysis of the distribution of the bride-wealth is not entirely satisfactory for two reasons. First, there were difficulties in observation. For example, some of the pork and other food was cooked and eaten while the distribution was taking place; some was handed to people to be given to others; and valuation of the pork cuts was impossible. All households which shared in other components of the bride-wealth were given pork, the choicest portions going to those which received the largest shares of other items. Some household utensils given in the bride-wealth were used
to cook and serve the food. The ultimate recipients of these were not ascertained. Secondly, most recipients were from Mosou and Ajoro, villages in which there were many clans. Complete analysis was not possible because detailed genealogies were not collected and because both the father and mother of the bride had genealogical links with Mosou village. Nevertheless, sufficient information was collected to indicate some of the principles underlying the distribution.

Households which shared in the bride-wealth have been categorized according to the head's approximate relationship to the bride (see Table 4).\(^1\)

Category 1 included the households of the bride's father and brother. These men controlled the distribution of the cash and retained just under 90 per cent, each taking $35. Although the father directly controlled the distribution of the more valuable traditional ornaments almost all the non-monetary components went to other households.

Two other local households of the Andiriha received shares of the bride-wealth (category 2). Their shares were small, possibly because they were of neither the bride's nor the groom's lineages and were therefore to some extent in a neutral position regarding the marriage (see also page 96).

Only one household of the Andiriha clan from a distant village (category 3) shared in the bride-wealth and the share was very small. This parallels the small contributions of the two distant households of the groom's lineage. The only Andiriha households known by the Inonda people to have taken no part in the marriage were from Hanakiro, a village about 20 miles away.

A large number of households with heads affinally and matrilineally related to the bride's father (category 4) received modest shares of the bride-wealth. The genealogical ties of three of these households were reinforced by assistance which the heads had given with the ceremonies performed when the bride attained puberty, at which time her father was absent from Inonda. Some households in the category had genealogical ties to the bride's mother as well.

\(^1\) It is possible that I was not aware of some cases where two or more recipients lived in the same household and if so, they have been listed in Table 4 as separate households. For example, an aged woman and her son may have received separate shares. Their relationships to the bride, as described to me, would not indicate whether they were in the same household and they would be recorded as separate households.
Householders with affinal and kinship ties to the bride's mother (category 5) received a larger share of the bride-wealth per household than all others except those of category 1. Moreover, the brother of the bride's mother, another close patrilineal relative of the mother and the husband of the bride's mother's sister (with whom the bride had stayed while her father was at the war) were given cash. These three men received comparatively large shares of other components of the bride-wealth. One of the reasons the households of this category received comparatively large shares may have been that the bride's mother's clan (Tandai'undi) from Ajoro village had formerly transferred rights to a substantial area of land to the Andiriha sub-clan in Inonda. The Inonda people are afraid that if the land is reclaimed, a court may uphold the claim and they therefore attempt to remain on friendly terms with Tandai'undi clan and Ajoro village. This appears to be manifested by generosity in their exchange relationships with Ajoro.

The bride's sister's husband and his father (category 6) received small shares.

The only man who received a share but who had no genealogical relationship to the bride was a settler on the Girua land settlement scheme where the bride lived (category 7). His inclusion indicates a flexibility in the exchange system wherein residential proximity without historical or genealogical relationship permits the establishment of exchange relationships.

VI

Less than half the cash demanded was paid and villagers considered that the value of other components of the bride-wealth was well below the target set by the bride's father. At the time they said that more cash would be paid when the groom's supporters sold land to the Administration, but by September 1965 no sale had been effected and no further bride-wealth had been paid. The bride's brother regarded the exchange as complete, but said that the bride's group would have demanded full payment if the groom's father had been alive.

The couple express intent to marry in a church but it is doubtful whether this will happen and even if it does, no additional payment will be made. In February 1964 the groom prepared a customary feast known as pene to mark the birth of his first child but this was not part of the bride-wealth. It was shared by the bride's father, brother, and the other household head of the Joremba'embo lineage in Inonda and her mother's brother from Ajoro.
These people were expected to return a feast of similar size for the groom, in contrast to the bride-wealth for which no return payment is expected.

VII

The economic consequences of the payment were greatest in four households - those of the groom and his parallel cousin, both of Jegotumo lineage, who contributed most; and those of the bride's father and brother, both of Jorembe'embo lineage, who received most. Other households' contributions to, and shares of, the payment were minor by comparison. Members of a lineage did not act as a unit for the purpose of the marriage, nor was each member expected to contribute to, or share equally in, the payment, or even to contribute in proportion to his wealth.

This was not an ideal situation in which to investigate the extent to which the Andiriha clan functions as a unit, because the marriage was within the clan. However, it was by no means a clan affair. On the one hand, Andiriha households from Hanakiro, a village distant from Inonda, took no part, and on the other, heads of households which participated in the exchange were drawn from about 20 different clans. Households from Andiriha lineages other than those of the bride and groom did not contribute significantly more to, or receive significantly larger shares of, the payment than households of other clans.

The range of genealogical connections between the groom and heads of contributing households was extremely diverse and there was a similarly wide range of relationships in the recipient group. It is therefore difficult to determine with accuracy the extent to which genealogical relationships influence obligations between households and also the extent to which a particular type of genealogical relationship implies a particular degree of obligation. Adoptive relationships and distance between households appear to modify the extent to which genealogical relationships entail obligations.

Co-residence in a village may also have some influence. Some people, though not all, from each of Kakendetta, Hohota I, Hohota II and Urio villages contributed to the payment, but nobody from these villages received a share. On the other hand, no member of Mosou, Ajoro, Sewa or Jegerata - villages which received parts of the payment - made a contribution. Inonda was the only village in which there were both contributors and recipients. This may indicate that membership of a particular village was a factor determining the group with which a household was aligned and may
even have been sufficient qualification for admission to a group, but without precise and comprehensive genealogical information this cannot be asserted. It is possible, for example, that some households could trace approximately equivalent but very distant genealogical relationships to both bride and groom, and that place of residence then determined the group with which they were aligned.

Williams (1930:137) describes a marriage payment typical of the mid-1920s. It included no cash and the traditional valuable would have been worth only $10.00 at 1962 prices. The traditional valuables in the bride-wealth described here were worth about three times as much and in addition $80.00 in cash was included. The people clearly regarded the cash as the most important component. Those genealogically and residentially closest to the groom contributed most cash; there was considerable formality associated with the payment of it; and in discussions of the bride-wealth the dominant topic was the cash component. The bride's father and brother received most of the cash but only a small proportion of the traditional valuables and they showed little interest in the latter. Households with lesser claims generally received items other than cash. The importance of traditional valuables in marriage payments has therefore declined markedly as a result of the introduction of cash to the economy.

Bibliography

### Appendix

**Assessed cash value of items in bride-wealth**

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Cash Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pig (large)</td>
<td>$60.00</td>
</tr>
<tr>
<td><strong>Ornaments and components of feather head-dresses</strong> (vernacular name)</td>
<td></td>
</tr>
<tr>
<td>Daremo</td>
<td>$6.00 ea.</td>
</tr>
<tr>
<td>Gajina</td>
<td>1.40 &quot;</td>
</tr>
<tr>
<td>Bati</td>
<td>1.00 &quot;</td>
</tr>
<tr>
<td>Samba</td>
<td>1.00 &quot;</td>
</tr>
<tr>
<td>Saima</td>
<td>0.50 &quot;</td>
</tr>
<tr>
<td>Ungai jawo</td>
<td>0.50 &quot;</td>
</tr>
<tr>
<td>Hono</td>
<td>0.50 &quot;</td>
</tr>
<tr>
<td>Hau</td>
<td>0.40 &quot;</td>
</tr>
<tr>
<td>Usege</td>
<td>0.20 &quot;</td>
</tr>
<tr>
<td>Hombori</td>
<td>0.20 &quot;</td>
</tr>
<tr>
<td>Ungai Jawo se)</td>
<td>less than</td>
</tr>
<tr>
<td>Pijama aku )</td>
<td>0.20 &quot;</td>
</tr>
<tr>
<td>Agena )</td>
<td>less than</td>
</tr>
<tr>
<td>Waiwa )</td>
<td>less than</td>
</tr>
<tr>
<td><strong>Bark-cloth</strong></td>
<td>0.75 per sheet</td>
</tr>
<tr>
<td><strong>Fibre mats</strong></td>
<td>1.50 ea.</td>
</tr>
<tr>
<td><strong>Household utensils</strong></td>
<td></td>
</tr>
<tr>
<td>Dishes and bowls</td>
<td>0.50 ea.</td>
</tr>
<tr>
<td>Clay pots</td>
<td>0.50 &quot;</td>
</tr>
<tr>
<td>Enamel plates</td>
<td>0.20 &quot;</td>
</tr>
<tr>
<td>Cups</td>
<td>0.10 &quot;</td>
</tr>
<tr>
<td>Knives, forks, spoons</td>
<td>0.05 &quot;</td>
</tr>
<tr>
<td><strong>Food</strong></td>
<td></td>
</tr>
<tr>
<td>Taro (<em>Colocasia</em>) ½ lb ea.</td>
<td>0.03 per lb</td>
</tr>
<tr>
<td>Taro (<em>Xanthosoma</em>) 1 lb ea.</td>
<td>0.03 per lb</td>
</tr>
<tr>
<td>Yams</td>
<td>0.03 per lb</td>
</tr>
<tr>
<td>Bananas</td>
<td>0.20 per bunch</td>
</tr>
<tr>
<td>Dry coconut</td>
<td>0.05 ea.</td>
</tr>
</tbody>
</table>

*The cash values of most ornaments and components of head-dresses are taken from Crocombe and Hogbin (1963:97-9). Estimates of the cash values of other items were given by villagers.*
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