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Dynamics of precolonial agriculture: an exploratory essay

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The following essay is taken from one of a series of studies on the history of Papua New Guinea. These studies, which explore ways in which the history of the indigenous people of this country may be written, were begun during study leave when the author was a visitor in the Pacific Studies Programme at the University of Victoria, British Columbia, Canada. The author wishes to thank the Director, Staff and students of that programme for the support and encouragement they gave to these ideas and writings, as well as the University of Papua New Guinea for its study grant which assisted during that time. Since returning from study leave in June of this year a number of colleagues have read and responded to the original rough drafts of the studies and have suggested that they be taken further. Warmest thanks to them. This essay has incorporated parts of an earlier paper on subsistence affluence, 'Feasts and Famines', presented in the history Department in August 1976.

SOURCES OF EVIDENCE ON PRECOLONIAL ECONOMIES.

What were precolonial economies like? Three bodies of evidence are assisting us in answering this question, archaeological data and their interpretation; the writings of foreign visitors interacting with villagers in early encounters; and oral sources from villagers about different aspects of their ancestral heritage. A brief word seems in place on what each of these reveals about aspects of precolonial economies.

Archaeological evidence is revealing that human settlement and hunting and gathering practices have a long history in this region stretching back to 28,000 years B.P. and probably beyond. Inquiry into the shift from hunting and gathering to horticulture is still in process, but it seems that we are talking about a shift which dates back to around 6,000 years B.P. What archaeologists are not able to recount in any detail are answers to questions about whether the idea of cultivation was indigenous or imported, whether it spread rapidly once it began and what changes followed the shift from a hunting and gathering economy to a gardening economy. But though these changes may seem very remote in time from the point when colonial administration began in the 1880's, I think it is important to note that archaeological evidence is indicating that within this region there was a quite ancient shift to agriculture. By the time of the arrival of the writers of the documents it is clear, from the fragmentary indications in these records, that most areas in this region were involved in cultivation as the major productive base of their subsistence economies.

Archaelogical evidence is very useful for indicating another characteristic of many precolonial economies, their involvement in trade and exchange. Archaeological inquiry has recovered the widespread and complex nature of trading networks evidenced in the distribution of

surviving remnants of pottery, obsidian and various other artefacts and resources. For instance, obsidian fragments, traced back chemically to their original quarry sites in New Britain and islands south east of Papua, have been found in sites in the Solomon Islands and in the Central Province, sometimes tied with pottery styles such as Lapita. This evidence shows (with the aid of carbon dating) networks stretching from New Guinea and Melanesia into the western edge of Polynesia and flourishin for a thousand years on either side of the date of Christ's birth. Fragments of marine shell scattered through Highlands sites deep into mainland New Guinea and coming from coastal shores, have been dated to as far back as 9,000 years B.P. Our understanding of the broad sweep of economic change through many centuries of precolonial history is becoming clearer and already there have been attempts to integrate evidence into broad surveys e.g. Bulmer and Bulmer (1964) and S. Bulmer (1975).

The writing of European visitors about the nature and workings of the indigenous economies which they encountered provides another source o evidence. Early mariners often traded with the people for local resources like wood, water or garden produce in order to continue their voyages. This may have given them opportunities to record, consciously or unconsciously, the state of the economies. With careful interpretation, their accounts can assist in the process of reconstructing some basic features of these economies.

Written sources are available from around the world which recorded these encounters, beginning for coast and outer islands from the 1520's and extending into the decades from the 1930's to the 1960's for the interior.

Captain John Hunter writes that in the first half of 1791, a Dutch

transport ship by the name of Waaksamheyd, on which he was sailing, put into a fine harbour at the northern tip of Duke of York Island. This harbour was later named Port Hunter after Hunter. The crew was in search of water. When the waterers made their first attempt to go ashore to fetch this necessity they were harassed by the owners of the land. Hunter wrote:

> they were so very troublesome, that very little work could be done in the watering. An old man, who was powdered all over with a white powder and who seemed to possess great authority and influence among his countrymen, disposed them to be more and more troublesome; presents were offered him but he rejected everything with a very surly determined air; in short, he seemed resolved that we should not fill water, or remain on their territory ...

The sailors on land replied to an armed challange by the people with musket shots and the ship's guns also shot into the water among the warriors' canoes:

> Many leaped from their boats overboard, and swam under the water as far as they were able ... This firing occasioned a a general dispersion of the natives, and the filling of water was carried on with ease and expedition;

Hunter records the peace ceremony and trading which took place after the watering party had successfully completed its work.

> ...A number of natives having piled up upon the beach their peace-offering; which consisted of yams, coconuts, plantains, bananas, sugar-cane, and some other articles; on the top of this pile was laid a small living male and female dog, with their mouths and feet tied.... they also brought many things to barter, and were pleased with such trifles as we had to give them in return. They are, I believe, the only people in those seas, who do not set a value upon iron work, in preference to any other things...rags of white linen, strips of scarlet cloth, or anything of gay colours, they were anxious to have:...nails they would not accept at all.. (Whittaker (1975) 290, 91)

A close examination of Hunter's record reveals the following evidence about the local economy:

i. The Europeans, were seen by the inhabitants as encroaching upon their territory.

ii. The beach dwellers challenged this invasion of their land, but were themselves driven away by the Europeans' arms.

iii. To seal their peace with these invaders, the beach people engaged in an elaborate peace making ceremony. This entailed offerings of staple food crops (yams, coconuts, plantains, bananas, and sugarcane) among other gifts. As part of this celebration the beach dwellers were joined by the inhabitants of other settlements around the bay.

iv. Exchanges between the Port Hunter communities and these foreigners then took place. In this exchange the seamen offered products of European industry and the Port Hunter people were independent enough to choose from among the rather limited range of goods offered.

Hunter's vivid account reveals something about the agricultural productivity of beach and, possibly, inland communities in the Port Hunter region - about the latter because they seem to have contributed to the peace offerings piled on the beach. It also records the way in which a selection of manufactured goods were introduced into these communities by trade.

Hunter's account gives little direct evidence about the local economy he encountered. That is not surprising: the people were in no mood to allow these foreigners very close to their villages and gardens. Other foreign travellers were more fortunate and were in a position to leave behind a diverse range of accounts. A close study of the documents would

open the way for exploring what may have been situations of 'subsistence affluence.'

Finally in this overview of types of evidence on precolonial economies, what do the oral sources reveal? Most communities have traditions about origins and migrations, and about changes in settlement patterns in the past. These traditions can reveal evidence about demographic changes, about adaptations to new environments, about the acquisition or loss of land and other valuable resources and about changes in production. Such traditions can reveal important local and comparative evidence about these basic elements in the people's economic history.

Warfare has been a constant and familiar theme in the history of many people of Papua New Guinea. There are two obvious distortions possible in the oral testimonies about wars in precolonial times: on the one hand there is a very human tendency that victories rather than defeats will be memorialized, and distortions are inevitable about the glories, the frequency or the scale of those wars.

Taking these potential distortions into account, and noting that some oral sources (in Manus and in Northern Province) are showing shifts in the character and intensity of war among some peoples, possibly in the later decades of the 19th century, it seems reasonable to argue that traditions about these phenomena are significant in a study of economic change. Preparations for making war and for mobilizing allies were occasions in which production of food resources increased, rationing occurred and new gardens or sources of new stock were tapped. Victory may have led to an expansion and redistribution of resources; while defeat brought loss of vital manpower and resources. So changing fortunes in war bred changes in resources and their use.

Trade and exchange (often blended with war compensations and peace

ceremonies) played an important role in the people's economic life. Songs, rituals, legends which tell of the growth and spread of exchanging systems within specific communities may also contain evidence about innovations or technical changes which flowed to the people through exchanging networks. As with warfare, but perhaps in the reverse direction, new or increased forms of trade suggest that communities were expanding their resource base and moving upward economically. An illustration will help here.

The Enga mountain people cultivate sweet potatoes and are also keepers of pigs. Their eastern clans engage in an elaborate cyclic exchange system, the tee, a key element in their economic life which may have operated for a number of centuries. The major public events in these periodic cycles are assemblies at local clan and sub-clan dancing grounds at which powerful friends exchange pigs, pearlshells and other valuables with each other. Complex bodies of knowledge pertaining to these exchange events are carefully transmitted through the generations. There are also a series of praise poems which belong to purification rites performed at regular intervals to ensure that young men would become strong and so bring power, wealth and protection to their communities. One such poem, which I recorded in early 1972, commemorated the bringing into the clan of sacred plants necessary for the purification rites.

By estimates of genealogical timing these plants could have come into the community some time in the 1880's or 1890's. Among the most interesting consequences of the coming of this plant and its power into these clans was an increased inflow of valuables as a result of a more active participation in tee exchanges. One refrain tells about the clan's part in tee exchanges with neighbours to the east, southeast and south of

their territories. In each of these regions they gained the local valuables. These included oil for bodily decoration, pigs for breeding new herds, stone axes, blackwood palm spears and salt. With the refrain which catalogues the valuables won in exchange there goes another which extols their great wealth. For, the poem tells, they had such affluence that these goods were heaped up in their men's houses and on their dancing grounds like piles of rubbish, heaps of river sand.

Put into their own and a wider historical context we may be better able to understand something about the dynamics of precolonial economics from these oral sources. Enga traditions reveal new and increased interactions between clans from the 1850's, or at least the 1880's onwards. This growth in exchanging reflects a growth in prosperity. The oral traditions themselves do not indicate the causes of this increase in exchanging and wealth. Since many of the major valuables in these Enga exchanges, like shells, stone axes and oil come through trade channels, from outside the Enga region, a 'boom' in Highlands trading from around the 1890's onwards would provide a suitable explanation.[1]

There are two further themes from oral traditions which reveal evidence of value for charting precolonial socio-economic changes. There are significant traditions about the culture heroes in each community who brought new resources, skills and wealth to those people who claim descent from them. Often these heroes laid down basic patterns and features in the local environment and landscape.[2]

The culture heroes were not only creators of landscapes and environments and of specific landmarks within their region. They also established the economy, began the exploitation of the environment, and initiated the means by which the people gained their livelihood. In their fantastic journeys these heroes brought new forms of knowledge, new crops and technology and skills necessary to cultivate those crops. In that sense, they were considered the bringers of what could be called 'civilization.' Through the gifts they brought, their people achieved basic socio-economic transformation: the change from being hunters, gatherers, or fishermen to being cultivators and keepers of pigs.

The final theme which is common to many oral traditions in this region refers to the ravaging monsters who are slain by heroes and founders. These monsters, whether pigs, snakes or giant ogres, sweep through the landscape laying waste to gardens, forests and villages, devour people and force the remnants of village populations who have lived in terror of their depredations to flee to another place.[3]

These kinds of tradition, in highly symbolic and compressed images, reflected dramatic shifts in economic history.

Since the archaeological record indicates that economic changes of this importance have occurred, then these oral traditions need further systematic study. It seems that these traditions demonstrate, that, whatever the details of local economic history may have been, their tellers have a dynamic view of their past. These traditions point to beginnings and foundations, but also to significant changes. Sometimes foreigners assume too readily that, because of the scale of economic changes which came from outside, all before was static and unchanging. These oral traditions show a different pattern; people recognising and remembering important shifts in their economic past and viewing that past as changing or, more importantly, as open to change.

ECONOMIC ACTIVITY IN PRECOLONIAL TIMES.

This brief review of some of the more salient sources of evidence about precolonial economies provides a background from which to sketch some broad features of these economies. For the purposes of this survey we will focus on two broad aspects:

(1) resource production, management and distribution (what is done with the resources available) and

(2) the dynamics of human interactions and groupings which are connected with these resources and their use (what happens to people in their relations with each other through their use of these resources).

There were four major economic activities: cultivation (or production), feasting, warring and trading. A word about each will show these major features of precolonial economic life at work.

i. Cultivation

By the time the colonial age was formally ushered in by the German and British annexations of the mid 1880's, it seems that most local economies relied upon the cultivation of staple crops as the basis of their livelihood. The major staples were sweet potato, taro, yams, and sago, with bananas, greens and sugar cane acting as supplementary sources of food. By the beginning of sustained European penetration into village economies, most villagers lived by cultivation, and not principally by hunting and gathering, though all engaged in some forms of foraging and hunting for nuts and bush animals. In coastal regions and along the rivers there were important fishing activities and in many regions pigs were kept, not only as a food source but as a valuable commodity for use in feasting and exchanging. So the shift to cultivation, which may have begun 5000 to 6000 years ago, by the 1880's seems to have become the dominant means for acquiring food. [4]

The key issue for an exploration of the character of precolonial economies with respect of cultivation and production would be regional differences marked by reliance upon particular staples. For example the structure and style of highland sweet potato economies are different from those of the sago cultivators and producers in lowland swamps. Another difference is touched upon here, namely, the difference in economy based not simply on staples, but upon the ecological niches in which the cultivation of these crops took place. [5]

The crops themselves and the ecological niche in which they were cultivated were key elements in the productive base of the people's economy. But cultivation requires an effective and constant application of technological skills and tools together with the continued practical application of complex bodies of knowledge about crops, environment, soils and climate. Once more we are in a region where little systematic study has been done. But see: Malinowski (1935), Serpenti (1965), Clark (1971) and Waddell (1972). We have an invaluable pair of studies in the work of Malinowski on yam and taro cultivation in the Trobriands in the early decades of this century and in Waddell's analysis of sweet potato mounding among eastern Enga in the 1960's. In the one instance, Malinowski records the ritual and magic which have been transmitted down the generations to Trobriand cultivators in Kitava. In the other, a modern scientific analysis reveals the complexities of the mounding technology (finely attuned to the high valley environment) and the large bodies of practical knowledge about crops, soils and weather which are part of the heritage of these mountain people. But the two approaches have not been married, both should be studied as part of a historical process of economic change. Both demonstrate the rich bodies of knowledge and the potential for technological adaptation which are part of village economies. Together they also demonstrate that oral cultures have means available for transmitting the agricultural knowledge necessary for effective and productive forms of cultivation. Malinowski's work shows that one important means by which this relevant and practical knowledge was transmitted was in the form of legends and incantations.

Those incantations formed part of ritual and ceremonial activities for ensuring rich harvests. It should also be noted that one core element in the religious life of many peoples in Papua New Guinea was rituals to do with ensuring fertility of soils and continuity of crops - not surprising in the lives of agricultural people. The presence of these rituals and the bodies of knowledge which were handed on through them or held by specialists, remind us that, in these contexts, such basic elements of economic activity cannot easily be separated from religious life.

ii. Feasting.

Religious life itself often provided circumstances in which feasting, the second economic activity with which we are concerned, could take place. Maori Kiki reminds us that the demise of the local economy in Orokolo had, as one of its most obvious symptoms, the disappearance of the cycle of feasting and ceremonies which made up the hevehe. This exemplifies the link between economy and religious life, (Kiki (1968) 46, 47-8, 54, 161-8). In the villages of Boang island, feasting was in a state of great vigour as indicated by the arel sigit funeral feast of 1933 (Bell in Whittaker (1975) 65-68). In another paper I have argued, that for the Siane Highlands people, their economic history, in the first stage of colonial life, was marked by a rapid movement from an expansion of warfare, through 'pacification' into an era of vigorous feasting.

So there is much evidence to suggest that feasitng was so essential a part of village life, that it is worth serious study in any investigation of economic change in the colonial period (though Young suggests that the character of feasting changed on Goodenough Island in the colonial period - see Young (1971) passim). This evidence reminds us that perhaps there may have been a close correlation between the decline of warfare through colonial pacification and the expansion of feasting as an alternative form of expressing rivalry and competition between individuals and groups. The almost universal explosion of feasting in the early stages of the colonial period should not, however, blind us to its reality as an essential feature in precolonial economies.

The ethnographer Thurnwald noted how varied was the range of feasting in Buin society:

> ...After a short stay (in Buin) you hear of feasts being held here or there...the feast may be connected with providing sacrifices for a dead person; for services rendered in garden work; for paying an ally for his assistance in battle; for doctoring diseases; for magical devices; remedies or incantations; it may terminate a minor dispute or seal the peace after a serious conflict; or it may be the pulic expression of an alliance (unu) concluded or affirmed between two chiefs. When a girl is married, gifts of pigs and abuta are exchanged constantly between the bride's and the bridegroom's families. After the birth of a baby all the stages of growth are marked by feasts for which pigs are killed. Through these feasts the child is brought into contact with the world, with the supernatural powers and with his community. In the life of the Buin people there is no incident which cannot serve as an occasion for

feasting upon pigs and pudding...

(Thurnwald, in Whittaker (1975) 63)

The catalogue of feasting in Buin is an impressive one. With such a variety of feasts and exchanges it is no wonder that the resources, manpower and intelligence of the community were geared to the production, rationing, mobilization and distribution of food from the gardens, pigs from their herds, and such valuables as shell ornaments and money. If Thurnwald is giving us an accurate impression of the variety and role of feasts in this society, and his evidence seems worthy of belief, and if this society is in some way like others in this respect, then feasting was an important feature in the precolonial economies of Papua New Guinea. Obviously the rate of feasting and its range would depend upon the state and style of local economies at any particular point in time.

There is some fascinating and impressive evidence from quite another quarter of Papua New Guinea, almost 80 years earlier.

Between September 1847 and November 1853 a group of French missionaries lived on Murua (Woodlark) Island in the D'Entrecasteaux group off the southeast Papuan coast. During 1849 and 1850 they observed the ravages of a major drought and famine which struck the islanders and left a record of its effects in their letters. Whilst the mission station at Guasopa had, in August 1850, an immense garden (securely enclosed within a stout fence) which yielded an abundance of melons, bananas, beans, taro and yams, the islanders 'seemed no more than walking skeletons' (Laracy (1973) 137) because of their severe lack of food. One reason for the islanders' hunger, according to the missionaries, was their commitment to trading obligations which bound them to partners from other islands involved in the Kula exchange. These obligations were religiously met by the Muruan islanders at the height of the famine even though it

meant that they had to double the number of taros which they gave to their friends because the ones produced in 1850 were so small. At the feasts at which they greeted their allies, the Muruans exchanged large quantities of food in return for such valuables as pigs's teeth, whale bones and cassowaries. To keep the exchange cycle moving through these islands the Muruans rationed their food supplies in a time of low productivity, produced by famine, in order to greet their friends with a feast. If they had withheld food from their allies, the bonds of trading friendship would have been broken and they would have won ill fame as ungenerous hosts and poor gardeners. So the Muruans welcomed their trading partners with a feast, while they were themselves in the midst of a severe famine.

It is obvious that feasting is a time when resources are mobilized and distributed both publicly and privately. Indeed ethnographers and other literate witnesses to these kinds of events have been able to record amounts of food and commodities produced and distributed at specific feasts. So measuring, counting and balancing of accounts between competing individuals and groups is possible. But that is only one aspect of these activities. The participants put a different colour to these events than simply one of accounting, as revealed in what a Kapauku spokesman stated to an ethnographer:

> The complex of events which we call..."juwo, a big feast", starts as an idea in the mind of an important and wealthy man. "I have a couple of sows with litters of pigs now. I think I should have a pig feast when they are grown," said Ijaaj Ekajewaijokai Pouga of Agii to the writer one evening.
>
> "Why do you have to have a pig feast? Pig feasts cause a lot of trouble, expense and worry. Why don't you just

> sell the pigs or the meat and collect the money?" The writer asked. "If I just sell I would get lots of money but people would not think too much of me. They wish to dance and sing: they wish to meet other people. My parallel cousins and the men of my village told me just the other day, 'it has been a long time since we have had a pig feast in Agii. You are a tonowi, you should do something about it so that the other people will see that we do better than they' "So I must have a feast!"
>
> (Pospisil (1958) 47)

This and other testimonies, as well as the whole drama and context of feasting, demonstrate that feasts are about people and societies engaged in competition and public actions with their resources - we are not to focus simply upon the resources, the commodities themselves alone, as the Kapaukan suggested; that is not what feasting is about. Feast are events which reveal internal clearages within groups and competition for resources and prestige between groups - the very heart of village economies. Because feasts were so central to the lives of the participants they were remembered and what men achieved in their competion became part of the identity and remembered heritage of their groups. Because the events were so complex there were managers and representatives who made public the relative wealth and power of participating groups, as well as the differences in access, powers of management and wealth within groups. Some groups and their managers left in triumph while others went away grumbling at the trickery and meanness of their rivals.

iii. Warfare.

If feasting was at the core of the village economies, so too was warfare. We have already noted briefly above that it is possible to

employ oral sources to reconstruct histories of warfare in the precolonial period. It is evident from a study of written documents recording early encounters between foreign writers and village people, that one strong and lasting impression was of people who were warlike in their whole culture and style of life. Obviously this view, like the people's own testimonies and traditions about precolonial warfare recorded in the times after they had experienced 'pacification', must be treated with great care. Indeed, with the many written accounts available and the people's readiness to praise and recall the heroic and daring exploits of their ancestors, there is much evidence available; but little consistent use has been made of it to study this significant aspect of precolonial life (See Wedgewood (1930), Vayda (1964), Shineberg (1971) as examples of these studies.)

As already suggested a study of warfare would reveal much about economic life - in some ways parallel to what feasting reveals. To plan and build alliances in order to make war means a rationing and a mobilization of resources and manpower. To wage war, often over disputes concerning resources, entailed a gain in resources if victory followed or a loss in the case of defeat. And to continue to live in a warlike context, a people would need to make feasts of reconciliation and compensation to both friend and foe after the dust of battle had settled. Thus, making war and making peace were activities which went hand in hand - and both were of great significance to village economies.[6]

iv. Trade.

The final essential activity making up the economic life of many communities in the precolonial era and linking them into shifting networks with each other was trade and exchange.

Once we have fixed our gaze upon the people who use, produce, ration and mobilize the resources as part of their own personalities and as expressions of their relationship with others, then we can return to those resources and remind ourselves that we are faced with diversity in time and space. For particular societies, as the evidence from Orokolo and Boang as well as from the Duke of York Islands and Murua Island reminds us, there were fluctations in their fortunes; good times and bad times. People lived in different environments; some were richly endowed in resources - their heroes, creators and founders had been kind to them; others struggled valiantly to survive, like the Muruans, in an environment which was full of curses and required unremitting labour for people to survive. People living in different ecological zones balanced out their needs and heritages by building networks of trade and exchange along which goods from one zone flowed to other zones in return for goods given from the other - and so the Muruans starved to feast their friends and keep the roads of exchange open.

Through the documents which survive from early encounters with the foreigners, we catch glimpses of the extension of these acitivities to the new visistors. Such as extension allowed the villagers to give commodities from their own economies in exchange for new tools and manufactured goods brought by the foreigners. Many records of encounters testify to trading activities. But the archaeological record, together with the reports written by people living with villagers over extended periods, also show that trade and exchange were significant elements in most local economies.

So universal and significant were these elements in many communities that it now seems evident that the country was interlaced with a multitude of local and regional networks along which goods produced in one area were acquired by others. The significance of the growing body of archaeological evidence is that it is not only pointing to the great antiquity of shell remains traded into the Highlands from the coast (anywhere between 6,000 and 9,000 years old) and the widely scattered trade in Lapita pottery and obsidian, but it is showing the widespread significance of these and other ancient forms of trade in the history of this region: 'Trade has been crucial in supplying certain essential raw materials to areas lacking in them, and in permitting areas to be settled that were formerly inadequate to support settlement...' (Bulmer (1975) 68)

Trade has a great time depth, a wide extent and a central position in the economic history of this region. As we saw earlier the Muruans sacrified their own comfort in a time of want and scarcity, to maintian their trading obligations in the Kula ring. In return for giving their trading partners food they could well consume themselves they received valuables. In other cases, such as the well documented hiri

trading voyages between the Motuans of the region around Port Moresby and their partners in the Gulf of Papua, essentials such as cooking pots were exchanged regularly over many centuries in return for sago and the logs from which the sailing vessels, the lagatoi, were built. (Whittaker (1975) 47-50). Food stuffs and other essential commodities were also part of the complex of networks making up the interlocking systems around the Vitiaz Straits between the northeast coast of New Guinea, the Huon peninsula and Southern New Britain. (Harding (1967), Allace (1976).)

A new dimension has been added to our understanding of this complex series of networks by the recent work of the son of one of the key Siassi traders. Part of the testimony this student recorded was a very elaborate version of a legend about a great culture hero and his son Mala. According to this legend the peoples and environments were created by the heroes and the trading communities were linked together because of interdependence. The legends about these heroes have become the charter for the operation of the trade system. (Allace (1976), 2-12).

In 1902 Richard Parkinson, the plantation manager, labour recruiter, botanist and ethnographic recorder, who had lived in the islands of the Bismarck Archipelago for twenty years prior to this, witnessed an exchange between inland and beach communities on the northern tip of Bougainville Island. Almost thirty years later Beatrice Blackwood described a similar exchange in the same area. Their records show not only the persistence of such exchanges in the first decades of the colonial age, but also point up a highly ritualized piece of what Sahlins would call the 'diplomacy of primitive trade.' His term 'diplomacy' is appropriate since it is evident, from what Parkinson wrote, that two communities would

normally be in a state of war and did not share a language in common. But, because of their complementary needs for different foods, they had built up a diplomatic process to open the way for the exchange of essentials to take place. The events show not only their great skill in diplomacy, but, equally, their interdependence on each other, as inhabitants in different environments and producers of different goods.[7]

CHARACTERISTICS OF PRECOLONIAL ECONOMIES.

Each of these four economic activities, cultivation, feasting, warring and trading has much to do with resources and with how people relate to each other. Each is quite closely linked together with the others. We will continue this general description by taking it one step further and sketching what were the characteristics of these economies. Their major characteristics were subsistence, autonomy interindependence, and egalitarianism. Each must be carefully modified.

i. Subsistence.

It is clear from what we have explored about these major activities, that the economies of precolonial Papua New Guinea were built on a base of subsistence production. The major focus of their productive activities was the continued provision of necessities, such as food and materials for shelter and clothing. But there is a growing debate about this issue as more evidence becomes available and more refined methods of studying that evidence emerge.

It would seem that, in some environments in the region, given the crops available and the technology inherited or borrowed, people were able to so mobilize their resources as to be, from time to time, in a condition of affluence and prosperity. The Enga traditions praising the feats of their hero ancestors who ventured out to bring back the much-prized sacred plants, sang of times and conditions of prosperity. The massive organisation of the hevehe festivals, extending over a decade and more, came to fruition with great displays of affluence and wealth, some of which was burnt and swept away to mark the end of the cycle. This evidence does point to the good times,

the times when people could live quite beyond the bare subsistence level.[8]

We must understand the dynamics of subsistence economies and probe into the conditions necessary for continuity and for affluence. More work and evidence is needed, but it would seem that if conditions of environment, adequate technological adaptation, and a cultural heritage and ideology which is geared to high production, rationing of resources and mobilization of manpower are present, then some communities break out of the constraints of subsistence and live in good times. Those good times seem to be possible in some economies; but they also seem to be cyclic rather than continuous. These periodic outbursts of prosperity required the right environments and appropriate crops (or herds or commodities,) as well as a man-land ratio which made it possible for gardens to produce an excess. But to place the final and determing factors for periodic affluence squarely upon the physical base, on environment and ecological constraints, is to belie the message which the traditions themselves are teaching.

Legends claim that the specific environment and the skills, crops and technology which make the people into an indentifiable group, all were gifts from the creator culture heroes. This suggests that it is cultural endowment and heritage which make possible - by providing motive, ideology, skill and management - the cycles of prosperity which give life its flavour.

Subsistence is the base, environment is the raw material, and affluence is produced from time to time because of culture and heritage, with all that they imply.

ii. Autonomy.

These economies were also autonomous, in the sense that most of their requirements came from the immediate environment. Their food resources came from their cultivation and from hunting and gathering within that environment, as did the materials for shelter, clothing, transportation and armaments. In effect what this characteristic shows is that these subsistence, small-scale and localized economies operated

within the limits of the resource base available in the local environment. Throughout the very lengthy economic history of these islands, until the coming of western goods and the colonial economy, needs were largely met in terms of what was available locally. This placed limits upon growth and change. In fact most of the major staples did not originate within this region, but once they had been absorbed into the local economies they became part of this autonomous, localized, resource base. Local resources were used according to inventiveness and cultural heritage. But these economies were, because of their roots in their specific environments, autonomous.

iii. Interdependence.

But autonomy, reliance upon the local resources available, is only one side of the picture. The stress upon smallness of scale and autonomy of base has been too one-sided, as the growing body of evidence about a vast web of localized but interweaving trading networks is demonstrating more clearly.[9]

Harding has recorded some enlightening evidence from a Sio informant from a north coast beach village telling how trade friendships between his people and bush people from inland were formed and what essential items were involved. The Sio man related this anecdote:

> One day when I was still a little boy, a group of Timbes, carrying bilums of food, came to Sio. I don't think they had come here before. They sat down on the beach opposite the island. I saw one women with an enormous bag of sweet potatoes. I went up to her and took her by the arm. When we got across to the village, a Sio woman tried to take her away from me. I said I wanted to take the bush woman to my mother's house.

> She was a good woman and let us go. We ate the potatoes and my mother gave her pots. She became one of our friends. One day I saw this bushman walking along the road. I could tell from the way he acted that he didn't have any friends here. I took him by the hand and led him to my house. We have been good friends ever since. (Harding (1967) 202).

This points to two important features about interdependence. First, the degree of local autonomy depended on the range and type of commodities imported from outside through trade. And second, the links with sources of supply outside the locality varied from highly ritualized and formal public exchanges to less formal and individual ties. If enough evidence were available for systematic comparisons we might well be able to rank particular economies on these two scales. First, along a continuum from more autonomous to more interdependent and second according to whether the trade was more a public ritual, or more towards private, less formal and individualized transactions.

One additional dimension in the ranking of economies along an autonomous to interdependent continuum would be the types of commodities involved in trade and exchange. We may be able to discern that, according to local rules, some items were more in the

nature of essentials and some were perceived of as luxuries. According to these categories, we may be able to argue that if essentials, like staple food stuffs, were acquired through trade or exchange from external sources, then we would have an economy that was much less autonomous than one which was well provided for in all such essentials, but engaged in trade to acquire shell decorations or plumes or oil for decoration. But in each case we would need to determine a local set of categories and a local hierarchy of values. In other words, simply to speak of small scale, isolated and autonomous economies without an awareness of the full range of resources in that economy and of the sources and means by which they were acquired is to simplify the nature of indigenous economies.

iv. Egalitarianism.

Another assumption which has been accepted for some time, but is now being vigorously questioned is the one which states that we are faced with precolonial economies which are largely egalitarian in the distribution of resources and wealth. One recent study of the growth of peasant elites in rural Papua New Guinea, which adopts a Marxian approach to the indigenous economies, has put forward the following critique of the long held vision of egalitarian systems:

> ..(The) popular image of traditional Melanesian society is that of an egalitarianism only slightly impaired by "big men", whose leadership functions were pre-occupied as much with the distribution as with the accumulation of goods, in some sort of political 'equilibrium' system. Supposedly status and prestige were not conferred on heirs but were dissipated upon the death of the 'big man', which removed

> the node of the complex network of debts and obligations which was the big man's political system.
>
> This idealisation has been questioned, it is possible that greater economic inequality originally existed than is usually supposed. Certainly it is possible that the big man's role could be interpreted to be more than articulator of consesus or manager of wealth. (Some major ethnographers) suggest that big men may have been stronger politically than the 'manager-of-wealth' emphasis allows. 'Strength' (innovation coupled with self-assertion) as a distinguishing characteristic of the Melanesian big man is a more useful emphasis when one tries to explain how many of these individual have emerged as a cash-cropping elite.
>
> Together with this emphasis on 'strength', we must take from the 'traditional' Melanesian socio-political system the salient observation that big man status gave one 'control' over resources, as distinct from ownership of them. Strength was individualistic ultimately. Sahlin's description, in the 'preliminary notes", of the big man shows him acting for the community because of a desire for individual prestige. This suggests at least an important qualification to be made to the "communal-egalitarian" emphasis. (Gerritson (1975) 4, 5).

The context of this particular critique must be understood first. The writer is attempting to explain how it was that many big men, particularly in the circumstances of colonial rule in the Highlands in which entrepreneurs and cash cropping were actively

encouraged, had a head start in this new economy. They, seen as 'traditional big men', gained quicker and easier access to the new technology and wealth which the foreigners introduced, and they then grew into the first generation of 'big peasants'.

To conceive of precolonial society as essentially egalitarian and communal, in which all had access to wealth which was distributed by communal managers of wealth and resources, then means that those big men who gained access to the new wealth and power and acquired personal renown and capital through collaborating with the new rulers, somehow broke with tradition, distorted egalitarian values in their search for personal gain. Maybe this kind of social and political revolution occurred, or maybe the existing image of pre-colonial society was an inadequate one.

Clearly a number of elements were at play: the environment with its specific resource-base, the technological endowments and skills of the people, the institutions and heritage of feasting and exchanging and other means for the distribution of resources and wealth, the culture, ideology and beliefs about sharing and power and access to benefits - all these. In particular those last elements of culture, belief, heritage, institution and style, are to be accounted for in deciding about the character of distribution and access in any village economy.

Perhaps the rather generalized image of egalitarianism is like that of subsistence. Both are part of the cultural heritage of foreigners who come from industrialized societies trying to grapple with and analyse the characteristics of non-industrialized local level village economies. Through this cultural gaze, villagers who have not in their grasp the benefits of an industrialized technology,

who may have only recently acquired through trade or colonial rule, steel or iron tools, have only the productive capacity to maintain a subsistence economy. That view was held by those who suggested that such 'primitive' economies could from time to time produce a surplus and display a form of subsistence affluence. Because these societies did not display the gross differences between rich and poor evident in industrialized capitalist societies, this allowed relatively equal access to their limited wealth, and because they lacked means and ideology geared to the accumulation of capital by individuals, the most useful way of viewing their economies was in terms of egalitarianism. What Gerritson's critique is showing is that divisions, unequal access and personal accumulation could occur within 'primitive' economies.

The presence and the role of big men is the key issue in trying to understand the degree of egalitarianism of these economies and the access to and distribution of wealth within them, in their own terms, and not through a foreign cultural gaze. The key issues about big men are: (1) did they have means at their disposal for accumulating as well as managing and distributing wealth? (2) What were the balances between their role as representatives of groups and their desire to carve out individual wealth and power? (3) Were there differences and divisions which separated big men from ordinary villagers and gave them status and wealth above their fellow men?

By way of suggesting some possible hypotheses to answer these questions, here are two pieces of evidence about the big men of Enga society. It seems important to note a detail of Enga terminology. The word for 'big man' is kamongo which should strictly be translated as 'rich man' or 'wealthy man'; by contrast, the Enga speak of tipya, rendered in tok pisin as rabis man and best translated into English as 'poor man'.

Among quite a number of 'rich men' to whom I spoke in 1971 and 1972 there was a common way of reviewing the transformations which had happened in their local economies in the almost thirty years during which they were being incorporated into the Australian colonial system. Most would speak in these terms:

> In the old days, before the Europeans came into these valleys, there were very few kamongo (and they would name them) and many tipya who were dependent on them. We and our ancestors had very few pigs and pearl shells. After the Europeans came there was more wealth available. This meant that it was now possible for any ordinary tipya to try to become a kamongo. Now there are too many men acting like kamongo who before were only tipya.

On the surface, their view of local economic history in the last generation seems the reverse of the Gerritson's theories about big men. They, as kamongo, perceive that in the precolonial system resources were limited and opportunities for rich men to operate the public exchanges of the tee were infrequent; in addition they seem to argue that there were divisions based on wealth (few kamongo; many tipya). Their view of the modern system is one which sees that the new wealth, new resources and new opportunities of the colonial system have allowed a growth of egalitarianism, a lessening of divisions, a challenge to the wealth and influence of themselves and their ilk. The aptness of this view is that, as the few studies carried out on the transformations of the tee exchange in the last thirty years show, both the number of communities involved, together with the number of participants, have increased markedly - to a point where the whole working of the system has undergone much strain. We

would therefore need to argue that these rich men have probably changed their character and role within these changing economies. But, if we accept their vision of change and say there has been a growth of wealth, of egalitarianism and a decline in the power, wealth and status of rich men, does that bring us closer to answering the key questions on 'big men'?

A better answer is possible if we take account of the evidence given by an ethnographer who has studied the workings of the tee among clans close to the provincial headquarters at Wabag for over twenty years. He uses the more common term for 'rich men' in his analysis, but he is referring specifically to the situation among the Enga. He writes:

> ..although the Big Man is an obvious figure in Te exchanges in that considerable numbers of valuables enter and leave the clan through his transactions, other men in the group also receive and disburse wealth on these occasions, albeit on a reduced scale. Some men, especially those who aspire to be Big Men, may appear to act alone in this, whereas others may join forces and pool their resources to make a better showing. Nevertheless, many of these men are at the same time likely to contribute to, or to benefit from, the dealings of the Big Man. Moreover, the latter is not only entitled but is also bound to direct clan policy by making statements such as: "It is in the long-term interests of our clan as a whole to ensure that so many pigs go to such-and-such Te partners in clan X rather than to men in certain other clans"; and he may use persuasion, promises,

or threats to achieve this end. Thus, his clansmen, even when they seem to be reaching independent decisions as to the disposition of their valuables, have strong pressures on them to balance these public requirements against their own private desires and so reach compromises more or less compatible with both sets of interest...

It is true that, to an important degree, individual Big Men are created (and subsequently abandoned) by their followers, who are largely the members of their own agnatic descent groups, and that their primary social responsibility is to exert themselves for the economic and political advantage of these groups. However the critical role of flourishing Big Men as organizers and manipulators of the flow of valuables in public transactions, as well as their being acknowledged representatives of their groups in political (including military) relationships with other corporate groups, inevitably enables them to acquire (even if temporarily) substantial power and wealth, some of which they use in their own (and their families) interests. That is to say, almost all of the Big Men I have known act very much as do Tammany Hall incumbents, keeping the system running tolerably smoothly by paying off those supporters whose aid is essential to them but also retaining for themselves whatever resources they can abstract at the expense of the weaker and poorer members of the group, those whose claims they can safely ignore for a time...

Now, this tempered rapacity is not simply a casual attribute of individual Big Men. Indeed, as others may

well know, many Big Men regard it as both a diacritical mark and a privilege of Big Men as a category, and frequently they overtly or covertly manipulate exchanges, especially in the Te, to their mutual advantage. That is to say, one can distinguish within the overall reticulation of the Te an enduring inner network of Big Men (who attempt) to achieve monopolistic and profitable control of transactions at the expense of some of their followers.

..(A) corollary of the manifestation of the self-interested and self-conscious solidarity of Big Men is the presence of incipient social strata, something approaching two classes of people defined by differential access to particular scarce and valued resources (compare Gitlow, 1947; Strathern, 1966, 1969; Vicedom and Tischner, 1943:II). Although, in the absence of hereditary offices or statuses and of obvious capital investment, individual Big Men are continually being replaced at the upper level, for the decade or so that they remain there they enjoy control over valuables and, therefore, power over people to a much greater degree than do ordinary men.

With the coming of the Australian Administration in the 1940's, the pacification of the region and the curtailing of the political autonomy of the clans served to reduce at least the overt demonstration of the power of the Big Men as such. Many of them, however, were appointed as luluais (Administration representatives) in their own clans, a position whose relative security made them

> rather more independent of the demands of their followers and facilitated their obtaining the valuables that the Europeans were handing out in return for commodities and services. For instance, luluais often took the lion's share of payments made to their clans for the provision of carriers, the building of rest-houses, the supply of vegetables, pit-sawn timber and logs for bridges.
>
> From this vantage point the leaders were able not only to continue, but also to extend their activities in the Te. Thus, although the influx of valuables in general increased the investments of ordinary men in such exchanges, those of the luluais and Big Men grew at a faster rate so that the latter were even better placed to manipulate the system and the tendency towards social stratification was, if anything, strengthened.
>
> (Meggitt (1974) 81-84)

What answers can be found in this combination of evidence from the perceptions of kamongo and the interpretations of an ethnographer to those key questions about the character and role of 'rich men' in the precolonial Enga economy? Put simply this evidence suggests the following hypotheses. 'Rich men' did have some means at their disposal to accumulate some of the wealth which passed through their hands in the processes of the tee exchange; but since the actual amount of wealth available for exchanging in the precolonial system was itself not very great, then their chances for any substantial accumulation were severely limited. Clearly, at the heart of the exchanges stood the 'rich men', but here they trod a razor's edge between their public roles as representatives of their corporate descent groups and their private ambitions and attempts to carve a personal career. The mores,

expectations and values of the society were that they should be 'strong' men in the fierce competition for prestige among rival corporate groups. Holding on to followers, acquiring renown, and remaining in the public arena as men with names, all required that they succeed and excell in exchanges and 'kill'their rivals with their display of wealth and power. To do this, they needed to mobilize and manipulate their clansmen and dependents and to keep open the roads along which goods would flow, by building and maintaining effective ties of friendship with their exchange allies. In the process of becoming a kamongo and demonstrating his effectiveness and skill as a public leader of his community, a man would also acquire a pool of personal resources and prestige which could not be easily separated from the public role he played as the kamongo of his people. That compexity and lack of definition between the two roles was at the heart of the system and it is not possible to say that these roles could easily be separated in the careers of particular 'rich men'.

As to the third question concerning divisions between kamongo and tipya, the evidence for a simple answer seems clearer. Both the perceptions of kamongo and the evidence and interpretations of the ethnographer demonstrate that there were real and visible differences in their access to wealth and its manipulation. It is clear that few in each corporate group had the opportunities to rise to the position of kamongo, while most were dependents or helpers, tipya. Since the major public arenas in which these roles were displayed were the exchange events and these events were woven together into cycles, then kamongo from one group had ties with kamongo from others and their alliances kept open the exchange network along which valuables ebbed and flowed. So the suggestion by the ethnographer that there existed an enduring inner network of 'Big Men' is borne

out by more detailed evidence in his own investigations as well as from the reminiscences of kamongo in the 1970's recalling their own activities and those of their fathers and grandfathers. If these 'rich men' are seen as managers, manipulators and distributors of wealth along exchange networks and their clansmen as producers, suppliers and appointed guardians of food, pigs and other valuables and necessities used in the exchanges, then it seems clear that the inner circle of 'rich men' has more access to wealth, status, power and renown than would ever have been possible for a dependent 'poor man' to achieve. The limits on the resources available for exchange; the central role of exchanges within these economies, the ties of friendship between kamongo which enable the exchange to operate - all these features worked together to keep this division between a few kamongo and many tipya effective and operative. Whether this division in access became more deeply entrenched or wealth became more accessible to all and more easily diffused with the changed circumstances of the growth of a colonial economy, are issues for later discussion. One enlightening piece of evidence about the changed conditions is the quite opposite interpretations of their effects given by the kamongo and the ethnographer.

CONCLUSION

It seems to me that a study of these four central activities in precolonial economies; cultivation, feasting, warfare and trade, reveals much about how those economies worked. In the same way, a study of the four characteristics of subsistence, autonomy interdependence and egalitarianism - each of which has to be examined carefully - tells us much about the principles by which these economies were organised. Together they give us pathways towards understanding

something about the kinds of economies which Europeans encountered when they came here with new forms of wealth, different ideas about resource management and organisation, and new economic institutions. If we are to understand the impact of modern agriculture in this country over the last one hundred years, then we need to begin with some ideas about the subsistence agricultural economies which had been developing and adapting here over many centuries.

These interpretations of some of the available evidence are presented in the hope that a debate and inquiring into precolonial agriculture and economics can begin.

FOOTNOTES

1. This finding about the trading boom in local valuables is based upon a wide and careful analysis of oral testimonies given by older men about their own involvement and that of their fathers and grandfathers. The conditions which released these goods came from the changing situation created for coastal communities by 'pacification' - and so an 'innovation wave' passed inland from the coast along the trading networks and channels linking the two regions and then along those linking together Highlands peoples. (Hughes in Brookfield (1971) 332, 3).

2. The holding and telling of such traditions link descendants very closely to their environment; the particular ecological base from which they build their livelihood and economy. Often links with the original heroes are made effective by the continuous tracing of ties of descent to those founders. A dramatic illustration of these ties is given by a modern writer, John Waiko, in his play 'The Unexpected Hawk' which draws very heavily upon the oral heritage and the beliefs of his people, the Binandere of Northern Province. The people of one village are forced by the kiap to move to a more convenient location in a larger village. Before the people move from their place they engage in a ritual of reconciliation with their founders and ancestors whom they believe will be angered by their flight from their homeland. Here are their final invocations made as they depart.

Oh ancestors,
Spirits of Babena, Sirida and Tatari,
O mighty, brave, courageous fathers!
Do not turn away from us,
Do not abandon us,
Do not blame us,
Do not leave us to die...
We are leaving the village,
This place of honour and wealth;

We cannot understand that we are going,
We cannot understand what we are doing,
It is not your wish
It is not your desire
But we are leaving,
We are going,
We are rushing,
Away from this land.
But our village,
Our land, bananas, coconuts, betel nuts,
Our hunting grounds and your dwelling
We leave them in your care...
Oh ancestors and spirits
We could not make the feast of "stay well" and "go well"
We are rushing, driven to an unknown future.
Stay well, stay well!

(Waiko (1971), 31)

3. Then the young heroes emerge, usually by some miraculous process, from their mother who has been abandoned or overlooked in her pregnancy. They swiftly grow to manhood and having been taught by their mother the secret tactics which will destroy the monster, they engage him in battle, defeat and slay him. Then, often by using a prearranged set of symbols, they send messages to the survivors to return, as all is now safe. Often the heroes themselves and those survivors who returned to the place become enshrined in the people's traditions as their founders. (Beier (1976), 34-49)

4. The whole history of agriculture is still an issue of debate and speculation, so the timing and the reasons for its spread are still unresolved issues. Turning to one of the major staples, sweet potato, and questions about when and how it spread and what its impact on economy and society were and whether it replaced other staples like taro, we are in an area of much debate. (See Watson (1965 a, and b), Brookfield & White (1968), Bulmer (1975) Watson (1977) and Golson in Powell and others (1975) for some of the major arguments).

5. We have already noted that the people's perceptions and beliefs about their particular environment was often shaped significantly by their traditions about the heroes who created that setting and brought them into being, as well as their beliefs about the spirits of their ancestors and the effects which relationships with them had upon their productivity and the effectiveness of their cultivation in yeilding food from the ground given them by these ancestors.

6. An illustration will show how closely war and peace were knit together as essential features in the economic life of precolonial communities in Papua New Guinea. It comes from one of the earliest patrol reports from a government officer travelling through the more remote southwestern region of what is now Enga Province. Here he meets and falls in with men who were travelling to take part in a compensation feast which followed a battle which they had fought as allies: There had been a fight a few months before between the Yambali and Kuali groups. The trouble had started over the ownership of a pandanus tree and in the ensuing combat five Kuali and four Yambali had been slain...

The (Kol) had helped the Sambail during the fight and I had lost two of their number. Now they were on their way to collect some pigs as compensation... Soon we could hear the chanting of many voices...A large band of armed men had gathered and the influx of our followers almost overcrowded the ceremonial ground. I counted over three hundred men and youths, all decorated for the occasion and each one holding a six foot bow and bundle of arrows...They ran shouting to the stockades at one end of the ground... Here a number of pigs' carcasses were being laid out on the ground. For a considerable time the head men of the Sambail divided the meat so as to give a share to the subgroup of the dead men and also some to the other subgroups who had helped in the recent fight.

When all was ready, men and youths slung the sides of pig on their shoulders, and fell into line. They stretched the length of the ground in order to give the onlookers a good view of the number of pigs that had been slain together. Standing at the end of the line were a few women holding live pigs.

The head men then gave speeches boasting of their prowess in battle and explaining that the pigs were not large because the other subgroups had been impatient and did not wish to wait the usual four to five months for compensation...

Some time later (these ceremonies are unhurried) individual parties offered recompense. A small band of men and women emerged carrying sides of pig on their backs...They formed a line in single file and a head man would explain why each pig was being offered.

It turned out to be a touchy political situation, some delegations obviously thought that the offerings were too small because majestically, their leader would turn to his followers, make an angry statement and then all would leave the ceremonial ground in a huff. Their hosts would angrily retort to their receding backs that this only meant all the more pigs for they themselves to eat. A few delegations, mouths obviously watering at the sight of so much pork, accepted their share readily and hurried away. (J. Dwyer, Patrol No. 2 1952-53 in Lacey (1975) 184-6)

7. *Here is a part of what Parkinson recorded so well:*

> *The mountain people usually bring taro and exchange it for fish. The Teop people, mostly women, with their loads of fresh and baked fish, came partly in canoes, and partly on foot along the beach. Armed men formed a kind of advance guard. Shortly after, the hill people appeared; the armed men first, followed by the women with*

their loads of taro. The groups camped about 500 metres apart, and started to chant a loud song. During this a (group) of men came forward from each camp; an old man strode out from each group holding a bamboo full of water; following them came a dozen or so armed warriors. As they approached, the old men stepped up to each other, exchanged a few words, and flung the water in the containers in all directions. The escorts then came up and exchanged and chewed betel. The women then commenced to sing again, this time only for a short while...(and then) they came forward with their loads of taro and retired again. The (Teop beach) women then...(came) and laid their fish beside the heaps of taro, and then stood aside while two old men checked the exchange, probably to see that nobody was cheated. Once the checking was over, the Teop women fetched the taro, and the mountain women the fish. A short song then followed, and the women departed with the produce they had bought...

(Parkinson (1907) 479-81, translation by S.G. Firth, Blackwood (1935) 439-42).

8. It must be contrasted with the evidence from Murua island, where even in hard times the face of affluence is presented to one's guests, at great cost to the host community. And there is the telling evidence of the fate of Orokolo once the inroads of the colonial economy were felt. To maintain the lavish prospertiy of the hevehe cycle required much productive effort and skill, combined with a

careful management and rationing of resources through the effective working of leadership and social control, and the mobilization of a youthful manpower force, educated in the ethics and ideology of their culture. Once new forms of activity began to impinge on this system and onslaughts were made upon the time and energy of youth, some of whom began moving away to the other economy, then the reality of the complex and delicate base, upon which these cycles of prosperity were built, became apparent. Kiki mourns not only the loss of vitality, energy and prosperity; but also he hints that in recent decades the Orokolo economy was below subsistence level. Young (1971, 254-64, 171ff) shows how the 'shaky foundations' of the precolonial economy on Goodenough Island were stabilized by new acquisitions in the colonial period, but he also points out the continuing threats from famine to that economy.

9. It will be recalled that the Enga praise poem listed a wide range of commodities won from neighbours by the wisdom and skill excercised by the bringers of the sacred plant in their workings of the tee exchange: oil for bodily decoration, pigs for breeding, stone axes, blackwood palm spears and salt. To this list should be added the wide range of shell ornaments which came into Enga valleys through trade from neighbours on their border - who were themselves linked into networks extending down to north and south coastal regions from which the shells originally came.

To the Enga evidence should be added that cited from Bougainville, where essential foodstuffs were at the centre of a bartering system between inland and seacoast peoples; and the ancient evidence from the Motu hiri, as well as that from the Vitiaz straits systems.

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