D. Feil

The evolution of Highland Papua New Guinea societies; A reappraisal


This PDF-file was downloaded from http://www.kitlv-journals.nl
'If it turns out that the regional contrasts that form the major themes of this book are valid, Highland students from the east and from societies "intermediate" between east and west will be disturbed to learn that their ancestors came down from trees more recently than those of their western counterparts' (Reay 1990:61).

One might argue that books receive the reviewers they deserve. We learn from the above comment, however, that the demons of anthropology's evolutionary past have yet to be exorcised in some quarters at least, even in the 1990s.

This is just one perspective of many from which The Evolution of Highland Papua New Guinea Societies (Feil 1987) has been reviewed in the years since its publication. Dozens of reviews and review articles in many different languages have appeared, both in anthropology and allied disciplines, even in the popular press. One well-known Highlands anthropologist has reviewed it three times – four if one counts the fact that he refereed the original manuscript for the eventual publisher in the first place. (My early elation over the first of his reviews turned sour when the second appeared; the third was 'mixed', but mercifully in German, where some of the subtleties of language may well have eluded me. Still, I am pleased to have provided the source and opportunity for at least one colleague to re-engage in the anthropological debate.)

More seriously, the book has proved to be controversial, as perhaps I

---

1 This paper was originally presented at a seminar at the CNRS in Paris in 1991. I thank Maurice Godelier, who invited me as a Visiting Professor, and especially Pierre Lemmonier and Pascale Bonnemère for their hospitality and critical discussion of the issues in this paper. The paper was revised while I was a Fellow at the Netherlands Institute of Advanced Studies, Wassenaar, The Netherlands, in 1992-93. I gratefully acknowledge the generous conditions of the Fellowship and especially thank its Director, Professor D.J. van de Kaa.

D.K. FEIL is a senior lecturer in the Department of Anthropology at the University of Sydney. He obtained his Ph.D. at the Australian National University in Canberra, with Italy and Melanesia as his main areas of interest, and has published Ways of Exchange, University of Queensland Press, 1984, and The Evolution of Highland Papua New Guinea Societies, Cambridge University Press, 1987. Dr. Feil may be contacted at the Department of Anthropology, University of Sydney, Sydney, N.S.W. 2006, Australia.
always anticipated it would be. As stated in its preface, it began as a 'straightforward', inductive enterprise, to describe the societies of the Papua New Guinea Highlands, the scene of anthropological and other research for more than fifty years, and to comment on the controversies and theories that have helped to shape our understanding and interpretation of these societies. My aim was always comparative but, ultimately, this intent became incompatible with the original, inductive proposal. The material was simply too vast, the theories too eclectic, to engage in 'just' description, if that is ever possible anyway. It struck me then, as it had many others, that most (but not all) anthropological research in the highlands was marked by extreme cultural relativism, which had led to a virtual comparative, theoretical nihilism. There was an abundance of careful ethnography, but there had been a strong resistance to generalization and comparison.

In the end, the comparative impulse got the better of me. This urge was propelled by a growing interest in the archaeology and prehistory of the highlands, as well as some extremely valuable insights into the logics of New Guinea societies on the part of Godelier, Modjeska and others. Social and cultural variation in the highlands is, in my opinion, vast, not slight, and while these differences have often been noted by ethnographers in the past, continuities have more frequently been pursued. This same diversity was, at least, plausible in the interpretation of the prehistoric record. Despite what my prehistorian colleagues told me, I became convinced that the past, too, demonstrated no homogeneity in time, process or pattern in the highlands region. With this dual conviction – diversity in both present and past – I undertook a reading, an interpretive ordering of much of the ethnography and prehistory of the Papua New Guinea Highlands.

Before embarking on a reappraisal of the project (the first, I might add, that I have done), I should perhaps give a brief outline of the book's contents for those not familiar with it. Aside from arguing that the Highlands could not be treated as a unitary, homogeneous region, I insisted that in order to explain differences between societies, we must use what we know of prehistory and recent history, and not simply make synchronic or structural comparisons. This was, of course, easier said than done, for prehistorians have been as reluctant as social anthropologists to offer general frameworks for past development in the area. Creating my own view of the past, then, I constructed, on the available evidence, a continuum of increasing agricultural intensity from east to west, along which other features varied in a related fashion, giving rise to particular configurations on the points of leadership, warfare, social structure, gender relations and exchange practices. The differences between the highlands, east and west, are the result of their contrasting pasts: in the western highlands, at the 'high production' end of the continuum, there was a long history of intensive cultivation centred on Kuk, near Mt. Hagen (see, for example,
Excavations there have been interpreted (but see below), by prehistorians, as revealing an increasingly intensive agricultural regime inexorably developing for at least 9000 years before the present (b.p.). With the earliest indigenous crops, notably taro, the Mt. Hagen area was the locus of populous, pig-producing groups, which expanded even further with the arrival of the ‘boom’ crop, sweet potatoes (*Ipomoea batatas*), about 200-300 years ago. This event has come to be known as the ‘Ipomoean Revolution’ (Watson 1977). Increasing surplus production – social production for exchange purposes – and expansion can therefore be traced to the distant past, and remain the corner-stone of western highlands social formations to the present day.

The opposite pole of the continuum, the ‘low production’ societies of the eastern highlands, I argued, has a much less lengthy tradition of intensive cultivation prior to the arrival of the sweet potato. Production for provisioning predominated, and even today these societies eschew the production of large surpluses for exchange; rather, their concerns revolve instead around the ‘production’ of other things, most especially men as warriors in elaborate initiations. Exchange and initiation then configure the global priorities of highland societies west and east. If, as de Coppet (1992:78) argued, ‘comparison is only possible if we analyse the various ways in which societies order their ultimate values’, these two total social factors would surely qualify and enshrine the ethos highlanders hold most dear. Thus eastern and western highlands societies have followed profoundly different developmental paths, contrasting trajectories of choices, interests, activities, and constraints, as manifest in the present and, if only just, capable of being glimpsed in the prehistoric record.

I went further to suggest that high- and low-production societies have quite distinct social and cultural configurations arising from these first facts: restricted and unrestricted warfare, open and boundary-conscious social structures, big-men and despotic leadership styles, complementary and antagonistic intersexual relations, the absence of male initiation and its efflorescence, global exchange systems and local pig feasts are some of the features which appear to conjoin these two social formations. There is a logic which creates cohesion among these social traits. Focus on the evolution of the factors of production allows us one possible way, *but not necessarily the only way*, I emphasize, to make sense of many of the debates that have taken place over the years on the ‘nature’ of these societies. There is not a single Papua New Guinea Highlands Society, but there are many, which must be revealed by linking past and present in an integrated framework of interpretation and analysis.

This is the barest outline of the book’s position. I want to turn my attention here to a reappraisal of specific issues arising from it, perhaps conveniently labelled ‘general’ and ‘particular’. Many critics (some from outside anthropology) have queried my framework, the use of prehistory, the invocation of evolutionary models, and so on. Others, mainly social and
cultural anthropologists with highland expertise, have questioned my portrayal and interpretation of the ethnography, not surprisingly most often their own! It is perhaps a weak defence, but it is inevitable in a synthesis of this scope, that some authors will feel slighted or overlooked, or will believe that their material has been used in ways they did not intend, or indeed, given totally different emphases than they might put on their own data. I do not want to linger on these kinds of points, but wish rather to address some pertinent issues that are of interest. Nor do I intend necessarily to mention all critics by name here.

**Prehistory**

Chapter two of my book is entitled, with slight irony, 'Papua New Guinea Highlands Prehistory: A Social Anthropologist’s View'. Having embraced a diachronic perspective, it struck me then, as it does now, that after nearly three decades of research in the highlands by prehistorians, we have no hypotheses of significance uniting the highlands or explaining their presumed prehistoric diversity, or, indeed, any creative framework beyond a simplistic ‘common pattern’ view. The most penetrating use of prehistoric materials and of those of the more recent past has arguably been made by social anthropologists (for example, Modjeska 1977 and Watson 1977). Prehistorians are, perhaps, conservative by nature, remaining firmly of the opinion that it is always too soon for a synthesis, preferring instead to wait until all the evidence is in, whatever and whenever that might be. My suggestions on the basis of the prehistoric record which hypothesize past divergence and how it could have occurred were never meant to be more than speculative; informed and cogent, but speculative. This viewpoint clearly went against the grain with the majority of highland prehistorians who, for whatever reasons, prefer the position that agricultural history and its development in the eastern highlands did not differ fundamentally from that further west.²

There are several issues to raise here. The prehistoric material from the highlands is severely limited. Even Kuk, the most famous and most researched site, requires one to indulge in flights of fancy on occasion to relieve oneself of implacable doubts and gaps. On the one hand, it could be argued that the Kuk material and interpretations arising from it may well have ‘over-determined’ my view of the past of the western highlands (and the highlands more generally). James Watson (1989:591) is clearly of this opinion, maintaining that we really know very little about the ‘250 generations’ of Kuk farmers and their surrounding neighbours and of relations between them. On the other hand, if one accepts the significance

---

² Both social anthropology and prehistory, while acknowledging micro-variation in the highlands, have declined to push that variation further, into fundamental differences. Both groups cherish the view of the basic similarity of societies of the highlands and their pasts.
of the Kuk findings as described by Golson and others (as I mostly do), there is seen to be increasing evidence of equivalent (in time and scale) developments throughout the western highlands region, however. This evidence includes stratigraphic similarities in the many swamps in what are now the Western Highlands and Enga Provinces, comparable changes in the faunal record (indicating rates of forest clearance), and increases in casuarina pollen (associated with soil regeneration) in about 1200 b.p. The point is that the long history of intensifying agriculture that is seemingly evident at Kuk is mirrored at several other localities; it is, in short, a regional phenomenon. The wider area is dotted with sites which may well have formed a network of increasingly high intensity farming. Over-reliance on Kuk is now unnecessary. The long tradition of intensive cultivation is reported over and over again. The number of such sites may characterize the area as much as their own individual long history of agriculture. These sites are all in swamps, and swamps are prime foraging areas for pigs; Golson (1982) notes, however, that there may already be signs as early as Phase 2 at Kuk, 5500 b.p., that pigs were staked – an indication that more than the odd foraging wild pig was present and associated with the human population.

The number, size and scale of these sites are unmatched elsewhere in the highlands. Since the publication of my book, there has been renewed interest in the prehistory of the Kainantu District (eastern highlands), however, especially the Arona basin (or the ‘Yonki Dome’), where 16 km$^2$ of ‘terraces’ have been discovered and excavated (Sullivan et al. 1987; Golson and Gardner 1990). It has been argued in a number of papers that these terraces, and others in the vicinity and in the Goroka valley, demonstrate parallel developments with Kuk in both time and dimension. The terraces signal human intervention in regulating moisture levels, like the Kuk drainage works. They were constructed by ‘prehistoric engineers’ (Sullivan et al. 1986), as one paper proclaimed. Intensified taro production prior to the sweet potato was hypothesized for this eastern highlands outpost as well. Local people today know nothing of these terraces, nor of their function. Several reviews have commented that this material is difficult to accommodate in the ‘Feil model’.

More recent investigations have confirmed, however, that these terraces are basically natural in formation, and not man-made after all (a fact not widely known or reported even now; see also Golson and Gardner 1990:410 for a rather confused and misleading discussion). The landscape may have been modestly altered, but there can be no suggestion that these terraces, or any others in the immediate vicinity, resemble anything like the Kuk works, for instance, in scale and intensity. There are no reliable dates at present, at least. The inflated claims for these terraces seem no more than the expression of a groping hope for a unified prehistoric past in the highlands. At Noreikora swamp, 20 km southwest of the Arona terraces, casuarina pollen appears about 750 b.p., suggesting the same land use...
practices as further west, but at a later date - a point I made in my book (see material cited in Golson and Gardner 1990: 410-1).

Bayliss-Smith and Golson (1992) have recently once again confirmed the centrality of Kuk and similar swamps in proposing a purely 'localized' 'Colocasian revolution' there which had widespread reverberations. Here, and apparently not elsewhere in the Highlands, in Phase 4 (about 2500-2000 b.p.) the intensive production of taro was the 'catalyst for social change', and was the 'seedbed for the distinctive Central Highlands societies which, much later, adopted the sweet potato with such dramatic consequences for population, landscape and society' (Bayliss-Smith and Golson 1992:18). This most recent interpretation and the results of the latest research in the Western Highlands are in broad agreement with the proposals put forward in my 1987 book and suggest that conditions at Kuk justify its tag as the 'birthplace' of agriculture in the highlands and as the scene of momentous developments which may have occurred there earlier or spread from this core.

A further issue raised in my book has been confirmed by recent work. Ecologically, the eastern highlands are characterized by poorer soils, more pronounced seasonality and lower rainfall than the western highlands. The environment here is prone to drought and soils to marked degradation, leading to the rapid development of grasslands. A variation on the hypothesis put forward in the book (see Bayliss-Smith and Golson 1992), but leading to the same end, could be formulated as follows: eastern and western highlands societies developed agriculturally in fundamentally the same ways and at approximately the same time up to a point. However, environmental changes, brought on by the destruction of forests, growing intensification, and expansion of the human population, occurred more rapidly and completely in the eastern than the western highlands prior to the arrival of the sweet potato. Eastern highlands societies reverted to low-intensity agricultural practices due to ecological factors which did not affect the western highlands so profoundly and so quickly. It is only with the arrival of the sweet potato that eastern highlands societies again began to intensify. Sweet potatoes are more prolific even in the degraded grassland areas that are prevalent in the eastern highlands. In this view, the western highlands thus enjoyed a more continuous, unbroken, intensifying agricultural development on a larger scale prior to the arrival of the sweet potato than the eastern highlands, where cultivation practices were more quickly threatened and altered. This thesis could accommodate a larger number of perspectives and data, including some features of Watson's Ipomoean Revolution and its impact and aftermath. It is also in broad agreement with my argument concerning continuities and discontinuities in highland prehistory.

Those interested in reconstructing developments in the New Guinea Highlands must account clearly for the present configuration of societies. If, as seems uncontested, eastern and western societies differ markedly in
their approach to agriculture and pig raising today, we must seek an explanation for this in past circumstances. It is impossible to address this variation on the basis of what is known of the recent history of these cultures. The early chapters of my book represented a first attempt to read backward into the opaque past to make some sense of manifest differences in production profiles, both agricultural and porcine, in the present.

Evolution

The development of highlands societies proceeded along two divergent paths; the east and west mark the two end-points of the resultant distinct social formations, each geared to different concerns and supported by contrasting agricultural and pig-producing regimes. The use of the term 'evolution' in the title of my book has caused consternation among some. Prehistorians and geographers especially (though not solely) have criticized this usage. Some anthropologists, too, appear to feel that I have slighted 'their people' and 'valorized' the western highlanders in general and the Enga, with whom I worked, in particular. Some reviewers have misleadingly and injuriously accused me of making the Enga the 'most evolved' people in the highlands and placing them at the end-point of a unilinear gradient. The statement quoted at the beginning of this article was (I hope) meant facetiously and intended as an attempt at humour by the reviewer concerned; others, however, have made unilineality a highly serious issue in their critiques. I am surely partly to blame for whatever confusion (as opposed to disagreement) has arisen; in re-examining my expression and style, I see that I was opaque at times, florid and over-lyrical at others. There does nonetheless seem to be an inability on the part of some to think in terms other than the grand, unilinear evolutionary schemes of past decades, from which I specifically distanced myself in the introduction. I did not think it necessary, though perhaps it would have been advisable, to mention at the outset that I have no strong preference for ceremonial exchange (for instance) as an institution over secret male initiation cults (for instance). As a footnote I might add here, in defence of myself, that others have not necessarily regarded the elaboration of ceremonial exchange as the apex of development, either. For example, Modjeska (1982) has written that a commitment to pig production 'sentenced' some highlanders, archetypically the Enga, to an 'ethos of Protestant practicality', and, in a more recent judgement, that 'post-Ipomoean modernism' created a world (of production and exchange) which was severely 'diminished' by a 'weakening' in the 'reproduction of embodied meanings' (Modjeska 1991). He clearly regrets this transformation, for in his estimation it is great men (of perhaps the Duna and Baruya variety?) who are 'enchanted' and are representatives of a more 'heroic age' rather than the big-men who displaced them (in his evolutionary sequence), that is, rank 'political economic entrepreneurs'.

Downloaded from Brill.com 05/19/2024 10:39:51AM via Open Access. This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial 3.0 Unported (CC BY-NC 3.0) http://creativecommons.org/licenses/by-nc/3.0
Implicit in my evolutionary viewpoint is the idea that at some point in the prehistoric past of the highlands, two distinct configurations began to take mutually contrasting shape, perhaps from a common core of circumstances, and proceeded to follow divergent paths of their own, transforming at different rates and in different periods and ‘achieving’ different outcomes under widely different productive intensities. These social formations were most surely influenced by contacts with others and constrained by ecological and other factors, which vary across the highlands. As was mentioned earlier, their trajectories may have converged at certain points or may have been more or less continuous or discontinuous. What we are most certainly not dealing with here is some simplistic form of unilineality in which superior forms replace inferior ones. I attempted to describe difference and to account for it as being plainly evident in the ethnographic present. Having said that, I want to ask if it is possible for us to make more absolute comparisons. Are there such things in Melanesia as more integrated societies? Is there less sexual antagonism or are there more complex exchange arrangements here or there? And so on. I argue, of course, that we can and should make such comparisons – a point I will return to briefly below.

Finally, some have argued that I see agricultural intensification and the ‘pig complex’ as radiating outward from Mount Hagen in a sort of ripple pattern/effect, until it reached the far eastern highlands only in very recent times. I did, after all, proclaim Mount Hagen the ‘birthplace’ of agriculture in the highlands. This is a rather over-simplified version of the argument. I did, however, suggest that the moka and tee, and possibly the mok ink exchanges as well, have their origin around Mount Hagen, and cited evidence for this westward expansion as an hypothesis.

What I hinted at, however, was the widespread belief in many places in the highlands that the ‘Ipomoean Revolution’ spread eastward and that the sweet potato economy formed part of the process of expansion and readjustment proceeding from western highland sources. There is certainly plenty of evidence to suggest that eastern highlanders ‘adopted’ the sweet potato considerably later than western highland groups. The full extent of this readjustment is, as yet, unknown. In southern highland societies, too – among the Wiru, for example – people talk of the origin of the world as coming from the west. Wagner (1988) has recently written about the diffusion of the sweet potato from western neighbours of the Daribi, who in turn passed it on further east, to people who have not as yet fully integrated it into their agricultural regimes. He asks the question I posed, namely whether there was a chain of demographic movements and developments, the ultimate consequence of a population expansion far to the west, among the ‘west central’ family of languages resulting from the introduction of the sweet potato there first. Lederman (1991), too, has surprisingly written recently that the Mendi claim to have emigrated from the heartland of the Enga, to whom they are linguistically related. Many...
eastern highlanders say that the sweet potato came to them from their western neighbours, including the Fore, Awa, Tairora, and others. Sorenson (1972; Sorenson and Kenmore 1974) relates how the Fore were pushing into uninhabited forest areas at the time of first European contact, using the sweet potato as the foundation of a ‘proto-agricultural movement’. Boyd (1985) tells us that the sweet potato has not as yet replaced taro fully as a staple among the Awa.

A further intriguing question to be asked is, if, as I maintained, the sweet potato was taken up earliest in the western highlands and incorporated fully and easily into existing and then expanding agricultural communities, to what extent we can see the more distant past of the western highlands reflected in the more recent history of the eastern highlands. Do we, in fact, witness a late sort of convergence of the two social formations in which transformation in the one was affected by the earlier transformation of the other? I found Sorenson’s brief remarks particularly intriguing where he writes that pig feasts followed warfare as a major ‘socio-economic consequence’ of sedentism and sweet potato cultivation in a context in which ‘indigenous political and social mechanisms for handling warfare had only begun to develop’. While we may have a western to eastern expansion of sweet potato agriculture, could we also hypothesize an eastern to western diffusion of initiatory cults and associated practices? There is some evidence for this, in fact. Such initiations lose momentum west of the Chimbu divide. Much as the logic of intensive pig and agricultural production and ceremonial exchange ran counter to the dominant ethos of eastern highlands societies, so too would elaborate cult life have been in contradiction with the configuration of interests in the western highlands. Despite these possible interactions, east and west remain clearly defined end-points in a continuum of highland social forms.

Comparison

Is true comparison of social forms in the highlands possible, desirable, or valuable? Some anthropologists have questioned the comparative enterprise; some, the positivist style in which my book was written; others, the method in general. While I do not believe that such queries are the reason we have so few comparative studies of any sort dealing with the highlands, it is nevertheless true that with regard to wider Melanesian societies there has been a recent shying away from such synthetic attempts. Nagging questions include: Is there any ‘reality’ to labels like ‘Enga’ or ‘Melpa’ or ‘western highlands’? Does comparison best proceed by realizing that all our categories are, or must be, invented ones rather

---

3 In other words, do the responses to the adoption of the sweet potato witnessed relatively recently in many eastern highlands societies reflect what might have happened in the western highlands much earlier?
than ‘natural’ or ‘objective’ ones? Can we reasonably extract ‘exchange’ (for instance) from a variety of ethnographic cases without sacrificing its contextual meaning? How does one justify the variables one chooses to compare? Should ‘abstract principles’ prevail over the highlanders’ own usages? Are we over-determining a society’s past by downplaying human agency in favour of the impersonal processes of evolution, and thereby constraining its future? Furthermore, what of all the thorny, less philosophical problems of methodology, such as keeping variables constant, allowing for the time period in which the ethnography was written, the perspective of the analyst, and a thousand and one such issues? Why adopt a predominantly east-west perspective rather than, say, a north-south one? What of the problems of the ethnographic present? Or is comparison virtually precluded by the regional, historical intercultural relationships, which are more important than the supposed integrity of each community’s individual culture traits?

While aware of all these problems, I can answer none of these questions satisfactorily. My only defence for adopting the strategy I chose is perhaps in taking the offensive, by claiming that this method is no less fraught with problems than others. There is no claim here of absolute truth. The anthropological project is varied and has many concerns and a variety of methodologies, most, if not all, of them artificial and ‘constructed’ in one way or another. Without downplaying the validity of other approaches, the aim must surely be to have as many interpretations as possible. If historical trajectories and socio-cultural configurations in the book are not cast in usages which highlanders can readily understand, I ask their indulgence. The self-consciousness of certain ‘humanistic’ styles of writing is equally problematic and self-serveingly colonial in their pious, paternalistic rhetoric, however. My book constitutes a long conversation with a tradition of highlands and Pacific scholarship that is still current and influential. It was conceived and executed not as an end in itself, but as something complementary to other analyses which stress the importance of human action and individual identity rather than the broad sweep and less refined brush strokes of past developments. Now I shall move on to some more specific issues of particular anthropological interest, however.

Pigs

In his increasingly influential paper ‘Etoro Suidology; A Reassessment of the Pig’s Role in the Prehistory and Comparative Ethnology of New Guinea’, published after my book appeared, the iconoclast Raymond Kelly (1988) criticizes a point made in an equally influential paper by Modjeska (1982). Modjeska wrote that:

‘leadership and the inequality implied by it, among Enga and Hageners is based upon pre-eminence in the ceremonial exchange of tee and moka. Among the Ok and Papuan Plateau peoples leadership is based on
participation in hierarchies of ritual initiation, or upon shamanistic spirit-mediumship. An obvious point emerges: lacking pigs, these latter peoples have not developed a form of domination and influence based on the production and circulation of material wealth.

The trouble of course is, however, that the Etoro, a Papuan Plateau people, do have pigs; Kelly uses this quote from Modjeska to embark on a rethinking of the relationship between the availability of pigs and specific features of socio-cultural life, predominantly ceremonial exchange. Others, myself included, are implicated in the simplistic view that there is a definite relationship between the number of pigs per capita and certain 'cultural differences' between groups. Modjeska can certainly defend himself, but I would just like to ask if he could possibly have meant that the presence or absence of pigs is all that matters in differences between, say, Etoro and Enga. Kelly (1977) mentioned pigs in *Etoro Social Structure*, and it does not seem likely that Modjeska is really so careless a reader as to have missed this.

While no one has accused me of overlooking Etoro pigs, some have maintained that there is no clear continuum of increasingly high ratios of pigs/people towards the western highlands, and that no simple equation obtains between variations in the cultural allocation of prestige and differences in pig/person ratios. It has furthermore been asserted that I ignored the fact that it is the 'cultural value' that a community places on pigs rather than the number of pigs that is crucial to an understanding of New Guinea Society. I must confess that this latter point astounds me; surely the bulk of my discussion of ceremonial exchange focuses on how 'cultural value' is defined and how such value is placed on pigs in precisely those societies (at least) in the highlands in which pig/person ratios are highest. When Enga say, like Melpa, that pigs are everything - 'our hearts', as Meggitt (1974) wrote - high cultural value has surely been demonstrated. Does this only pertain to Enga and Melpa? What of the other points, and Kelly's paper in particular? Can we simply dismiss, or 'lay to rest' forever, the significance of the pig/person ratio? What did Modjeska really mean?

Kelly's paper, so thorough and scholarly in most ways, curiously has one or two omissions. The table (Kelly 1988:150) on pig holdings per capita is strangely incomplete. While the author cites a 1985 paper of mine (Feil 1985, the basis of Chapter 3 of my book), he has clearly chosen to ignore some pig data contained in that paper (and later, the book). Especially important are the figures for Melpa and Enga pigs per capita. Hageners have 2.10 pigs per person, Laiapo Enga 3.1 pigs per person, Tombema-Enga 4.0 pigs per person, Etoro 1.3 pigs per person, and the Central Chimbu 1.5 pigs per person, according to Brookfield and Brown (1963). There are many other figures in the East to West continuum which Kelly ignores. His aims were different from mine, of course, but specifically the Melpa and Enga pigs per capita ratio exceeded that for Etoro by two
to four times. The Etoro ratio is certainly impressive, and perhaps unexpected (indeed, why is there no hint of it in Kelly’s earlier work?), but the enthusiastic claim of one reviewer of Kelly’s paper that the Etoro ‘have as many pigs per capita as the most intensive of central highlands societies’ (Lederman 1990) is obviously patent nonsense. Etoro have as many pigs as ‘mid-range’ highlanders; they most certainly do not even approach the most intensive pig-keeping societies in the western highlands. Furthermore, I have always been uncertain of what to make of pigs per capita ratios anyway, except perhaps as a very rough guide to intensity and value! I have not heard of any society or its members making an issue of it. Among Tombema-Enga the average big-man owns 30 pigs, while the range is 14-66, with an ordinary man owning 14; in Etoro the figures are 3-8. I have certainly never argued, in the book or elsewhere, that on their own, pig/person ratios tell us anything, or that there is a mechanical relationship between numbers of pigs and social forms. However, such a ratio is an important piece of data in conjunction with others which may suggest ‘cultural value’. Etoro have what might be termed a ‘medium’ interest in pigs: they use them in some affinal exchanges, life-crisis ceremonies and other transactions; but they lack the extreme concern and near obsession shown by others, like Enga. Etoro prestige and leadership do not depend on pig transactions; nor do they necessarily among other highlanders who keep similar numbers of pigs. In sum, I remain unmoved and unconvinced by the argument that the Etoro are the ‘contrary case with which all must reckon’. Moreover, the Etoro appear to be the only society capable of challenging the so-called ‘accepted view’, at least among the peoples of the southern fringes. They may be the exception that proves the rule. What Modjeska may well have been trying to say is that Etoro lack pigs on the scale of the tee and moka societies with which he specifically compared the Etoro. It remains to be seen if the forage-based Etoro scheme of pig husbandry could ‘compensate’ for agricultural production to the same extent as among the Enga and Melpa, and if Etoro could thereby increase herd sizes to levels comparable to those among western highlanders. It is a moot point, but the evidence suggests that they most definitely could not.

What I found particularly interesting in Kelly’s chapter was his hypothesis concerning the transactability of live pigs. Forage-based pig husbandry like that of the Etoro does not lend itself to live pig transactions because of early bonding between pigs and people and the animal’s knowledge of its foraging grounds. Fodder-based husbandry on the other hand does allow live pig transactions through full domestication and the daily feeding of pigs. Kelly has thus provided an alternative path to understanding the prehistory of intensified agricultural production: fodder replaced forage when the availability of forage decreased as human populations increased. Forage-based and fodder-based husbandry are not, of course, mutually exclusive. Most societies, including the Enga and
Melpa, practise both simultaneously, though fodder overwhelmingly prevails. Nor do societies solely exchange live pigs rather than pork. However, Enga and Melpa, as Kelly notes, are virtually the sole archetypal examples of people who exchange live, fodder-produced pigs. Kelly has shown that, prior to the introduction of the sweet potato, large numbers of pigs could have been kept and maintained through forage-based husbandry. Secondary forests brought on by increasing agricultural expansion would have provided a very suitable foraging habitat. In time, however, further forest degradation would have threatened forage-based pig husbandry, and at this point fodder might have replaced forage as a method bred of necessity. In the highlands today there is significant variation between societies which rely on fodder and those which rely mainly on foraging for their pigs. Enga and Melpa are certainly at the head of the fodder-reliant groups. Kelly's material lends some support to the view that it is in these societies and in the areas occupied by them, rather than others, that agricultural intensity and associated fodder-based pig husbandry first occurred and became necessary and dominant and that, agriculturally, even today, these factors reach their apogee.

Kelly finally rejects 'production' as an important factor in the contrast between Etoro and Enga/Melpa: Etoro do not lack pigs, but they lack the 'transactable live (mature) pig possessed by the Enga and the Hageners'. Exchange, then, more than production, is diagnostic of difference. I have suggested that levels of production are not 'equally' intensive between these societies. Intensity of production and type of exchange cannot be so simply separated. But clearly the Etoro lack more than just the live, transactable pig. Forage production puts a limit on the number of pigs possible, while fodder-based systems could expand almost indefinitely. But there is more than this: the Etoro number a mere 400 people, spread over 80 square miles in 11 long-house communities, while the figures for Enga and Melpa demographics are vastly different. Most self-respecting Enga clans have many more than 400 members. It is not just a matter of the number of pigs available, even if they were similar (which they are not). This argument has never been put so mechanically, either. Fringe highlands ethnographers may be apprehensive of models derived from central highlands data, but miscasting them will not help. It is more a combination of factors – the number of people, the density and volume of transactions, the velocity of the circulation of items of exchange, the levels of interpersonal and intergroup contact, and the density of settlement, as well as the number of pigs and of those necessary to maintain social relations – which may go some way in defining differences between areas and in describing how the 'cultural value' of pigs first came about. The Etoro attach a relatively low 'cultural value' to pigs; the number and kinds of pigs in circulation and the velocity of these do not offer people an opportunity to establish themselves as leaders through prestige based on the control of transactions.
While the east to west continuum in the highlands (the point of the book, one may remember) may display some exceptions, I will need stronger evidence to be swayed from the view that pig/person ratios increase dramatically, like many other factors, in a westerly cline and that 'cultural value', however one wishes to define it, does too, and is intricately associated with these factors, which are most marked in the western highlands. It is only here that inequality and the prestige of leadership are based firmly, solely and completely on the control of exchange and the intensive production of pigs which makes exchange possible. Elsewhere, other dimensions of leadership are more evident and characteristic.

**Boundaries**

Is it legitimate or, more importantly perhaps, useful, to delimit as 'highland societies' those from Kainantu in the east to Wabaga in the west? Can we or should we view the area marked by the predominantly east to west continuum as an 'isolable' culture area, an entity worthy of theorizing in its own right and for which we can isolate historical processes without taking surrounding peoples who have presumably been in contact with its population for centuries fully into account? Where are the boundaries of the highlands? Do they extend east beyond Kainantu and west to the Baliem Valley or Wissel Lakes? Can we reasonably write a comparative study of the highlands, however defined, without taking into account contacts with peoples to the north and south, on the coasts and islands, or in Melanesia as a whole? Some reviewers have criticized me arguing that my boundaries of the highlands are arbitrary. Through their criticisms, many of their own prejudices are highlighted. Some take Melanesia as a unity, saying that coastal and island societies have big-men and pig exchanges too, so why exclude them from consideration? Many others take the highlands from beyond Kainantu to at least the Baliem Valley, and probably further westward to the Kapauku, as a single entity, asking why cut off at western Enga or Huli? If the analysis were extended to include the Dani and Kapauku or the Buka and Sepik, this would surely 'wreck' the model of my book, so some proclaim. Others have said that the north-south axis is at least as significant as any east-west one and that failure to address it vitiates the model of the highlands presented. This assertion usually comes from ethnographers of southern highlands 'fringe societies', tired of the alleged imperialism of models built on the basis of data from the societies of the central highlands.

Quite aside from the fact that the anthropological data on societies from Kainantu to Huli are immense enough and that these societies are by far the best described and analysed, the stated aim of the book was to examine micro-diversity and (pre-)historical variation in a group of linked societies in the Central Highlands of New Guinea (CHNG) – surely not a hermet-
ically sealed group, but a cluster of societies whose contacts and overall homogeneity suggest a closer resemblance and relatedness to each other than to those surrounding them. The peoples of this group (CHNG) all speak languages of the East New Guinea Highland Stock and share cultural characteristics which clearly distinguish them at the 'family level'. I did not commit a *lapsus calami*, as one reviewer put it (Strathern 1990), by placing the Dani and Kapauku somewhere near Kuk in the western highlands; I made only passing reference to them because they belong to a cultural sphere that is far removed from that of the part of the highlands under discussion and are, arguably, affected by a different range of factors from those under discussion. What of the Ok, the Dani, and the fringe highland peoples to the north and south? How do they affect my east-west focus?

It is well-known that the Strickland River forms a major line of demarcation between the present-day highlands cultures and others. The 'eastern sphere' was the subject of my book. West of the Strickland River, the Ok cultures form a central hub which can be further distinguished from a western sphere which extends from the Baliem Valley perhaps as far as Paniai Lakes. Prior to the environmental changes of about 12,000 years ago, all three areas may have been connected. But the bulk of the evidence shows that the Ok cultures have a primarily western orientation, not an eastern one. They, of course, wear penis gourds, like their western Dani neighbours, instead of woven aprons, and some Ok groups appear to have at least an incipient moiety organization, like the Dani and Jale peoples. The earliest archaeological Ok finds come from Telefomin and date from 15,000 b.p., suggesting a shorter period of occupation than for the highlands further to the east. But perhaps more significant than the length of time of occupation is the acknowledged factor of food shortages which have always marked the Ok area. The Ok area lacks the fertile intermontane valleys of the areas to the east and west of it, and it has no swamplands or flatlands like the Baliem or Wahgi valleys which were capable of being drained or of supporting sizeable populations and dense settlements or large pig populations. All of these demographic features are minuscule in comparison with the areas to the east and west. The Ok further have no large exogamous groups, pig exchanges and big-men who manipulate wealth. Ritual and initiation have an integrating effect through the men's cult, drawing bachelors from a wide range of related Ok groups. Self-sufficient villages, which have been described as 'inward looking' except through the mechanism of ritual, are the rule. Sweet potatoes are regarded as a useful crop, but in some, if not most, Ok areas are not a clear staple; people continue to insist that taro is the preferred crop, although there are recent signs that the sweet potato has been used to expand into previously unoccupied areas, the dynamics being similar to those in eastern sphere societies in the more distant past. My point in rehashing some of this well-known ethnography is merely to emphasize that there is a serious...
'break' between cultures west of the Strickland River. There is ample material to suggest that there were trade and other contacts between groups in this area and eastern sphere highlands groups, but these appear to have had a minimal effect on the burgeoning cultural identities of the respective areas. The Ok may surely be left out of my analysis, though the details of their social life could be readily incorporated into the model hypothesized.

The Dani-Kapauku axis presents some further interesting contrasts. The Dani of the Baliem Valley have recently been described as representing the 'apogee' of both agricultural intensification and political integration in the whole of the New Guinea Highlands. Recent pollen datings show that forest clearance and drainage of valley floors began before 7000 b.p. (compare 9000 b.p. for Kuk) and continued relatively uninterrupted (Harberle, Hope, and DeFretes 1990). The Dani never abandoned the valley floors like the Kuk people. Their sweet potato gardens are planted on the moist bottoms of valleys; they also eat sweet potato shoots, which thrive in such moist conditions. We may well have here a situation which parallels that among the Kuk in both time span and intensity. According to one source (Heider 1970), the Dani keep over 3 pigs per person, like the Enga and Melpa. However, Heider has said elsewhere that there is roughly the same number of pigs as people. He has also written, however, that many Dani cultural traits seem more appropriate to mobile hunting and gathering than to a horticultural way of life. The Dani are highly migratory, as few as 30% of the population remaining in the same homestead for more than a few months at a time. Descent units are non-territorial, and Dani have 'sacred sites' dotted about the hills, reminiscent of the practices of Australian Aborigines. Places, not groups, are named. The Dani kill pigs as if they were hunting them, namely in a crouched position, like some groups around Kainantu. The Dani have myths which say that the Dani people emerged from holes in the earth to the east and that ghosts live in the far west, for they preceded the migrations of people, in an east to west direction. Magic protective devices to fend off ghostly activities are only put on the western side of gardens and houses. Dani myths also elaborate a theme whereby gardeners clearly followed hunters in a successive immigration movement. Men replaced dogs, and pigs replaced forest mammals in this mythic tradition. To quote Heider, 'Dani is a culture in change, a dynamic state, moving from archaic Dani towards Ipomoean Dani' (Heider 1967).

While Dani pig feasts are elaborate, and numerous pigs are killed, the distribution of pork usually remains within the alliance or confederacy - a large, temporary (named) unit. The exchange of pigs does not serve to link groups, but rather reinforces solidarity within these units by marking important life-cycle events. Warfare is also intensive and, more than the control of exchange, is the basis of leadership. The Dani ethnography is highly ambiguous on a number of key points: if confederacies are as fragile...
as seems the case, can one really say that exchanges and feasts are intra-group affairs? They appear to me more like events aimed at trying to strengthen relations between people who may change alliances at any moment, people who may become enemies if feasts are not held. And what of the Dani’s much vaunted political integration? The fissionary tendencies in these unstable alliances are so marked as to preclude all but temporary integration. Accounts of the size and structure of alliances and confederacies are conflicting, these being inadequately documented in the literature. Indeed, pig feasts themselves have not been analysed in sufficient depth to show, for example, who kills pigs, or who distributes and who receives pork from whom. Dani also initiate boys after pig feasts, but do not do so in an obligatory way. These circumstances remind one of Chimbu ‘initiations’, which take place as adjuncts to pig feasts. Dani pig feasts take place every four to six years, but we know little about production and financial strategies. The Dani thus display a mixture of social features, which might make them similar to Enga/Melpa in one way, but more like the Chimbu in others, and still more like the Kainantu in yet others. Much will hinge on the prehistory of agriculture in the Baliem Valley. If it is relatively recent, as some ethnographers have suggested, it may be true, as Ploeg (1988) has recently said, that the ‘Dani may not have adapted their political organization to it’. The definition and structure of Dani social organization are also keys to an understanding. It may be that the swamps of the Baliem Valley made for the development of a similar agricultural regime to that at Kuk and that comparisons between the people of this valley and surrounding peoples will reveal similar parallels. More elaborate evidence from Baliem, Bokondini and western and northern Dani groups is required.

I welcome the attempts of others to use models evolved in the highlands from Kainantu to Wabaga to posit contrasts and modifications, but feel there is no reason to believe that the dynamics uncovered in one area would necessarily fit precisely the conditions of another. Miedema (1988 and 1990) and Ploeg (1988) have already suggested necessary refinements for parts of Irian Jaya. In particular, Miedema has argued that elaborate exchange systems in the Bird’s Head region resulted not from agricultural over-production but from the ‘rise’, accumulation and monopolistic handling of imported kain timur (cloths). Other exchange items, such as slaves and birds of paradise, also appear to cast doubt on the relationship between exchange and warfare, marriage, and male-female interaction posited for the highlands of Papua New Guinea. So be it. We need much more ethnographic information to confirm these contrasts, however. So we need answers to questions such as how kain timur came into the area and what are the systemic aspects of these so-called systems, as well as a finer-grain analysis of warfare and male-female relations. Still, there are some tantalizing points which await comparison. Ploeg (1988), too, has explicitly adopted my model for Grand Valley Dani and surrounding Dani peoples;
much of the Dani ethnography is contradictory, and there is no prehistory of Dani agriculture comparable to that of Kuk and other groups. I reiterate the view that models proposed on the basis of Papua New Guinea data were not meant to have universal relevance. We need to have a comparative perspective on the region and to evaluate apparent social and cultural similarities. I hope my work has gone some way in stimulating others.

To return to the east-west continuum of the book, finally, we must ask: what of the north-south axis of societies? Does this offer a better set of formal, structural criteria by which to make comparisons, or does it need to be tacked on to an east-west one? I think that, at least at the level of family resemblance, the answer must be no. There have certainly been long-standing contacts between so-called ‘fringe’ and central highland peoples, but each retains an essential integrity. Kelly has shown how Etoro and Huli, for example, exchange pigs and maintain contacts, but remain oriented, I would argue, to wider resemblances which distinguish the Papuan Plateau from the Central Highlands people. Problems arise, of course, when models derived from one area are thrust on to another. A potentially more interesting case is that of the Anga, or at least, some Anga groups, who have historical connections in a south-westerly direction towards the Papuan Gulf, but have also influenced and in turn been influenced by more recent contacts with near highland neighbours like the Fore. I have argued, of course, that they represent something of a watershed between two distinct cultural complexes. Comparison can proceed along many different lines, as was mentioned earlier. While I acknowledge that the highlands cannot be treated in isolation, the interaction of its peoples with peoples to the north and south has been much less significant in shaping the cultural configurations of these peoples than those with societies to the east and west of them. All boundaries are artificial. The east to west continuum is one part of a whole which may foil those with other agendas in mind. There may be many highlands. My project examined a restricted segment of these in the hope of finding constant variables and dynamics which could be compared in a unifying framework. The applicability of this model to other areas remains to be seen.

Configurations

Is there any integrity to the configurations described in the book, namely the Anga, the Kainantu and Asaro groups, Central Wahgi and the Western Highlands? Or have I, as some would have it, merely seized arbitrarily, even impressionistically, on a number of social forms using ‘particular definitions’, even ‘pseudo-quantification’, for the sake of typology?

I have made it clear that for Papua New Guinea at least, the comparative enterprise can take many paths. Each ethnographer is highly selective in
the data he or she includes in a description or uses in an interpretation. The comparativist’s task is often to make the best of a sometimes faulty or inadequate account. For example, I suggested (Feil 1987:150) that central Wahgi societies display a feature that is of overwhelming comparative significance, namely the fact that individuals there are so indissolubly tied to maternal kin and affines that their membership of agnatic units can never be taken as absolute and unquestioned fact. I further contrasted this situation with that among societies further eastward, where relations with maternal kin and affines are truncated, constrained, and inimical to local interests, and have little or no political value. I offered in evidence Reay’s (1959) statement that among the Kuma, a person acts throughout his life as a member of his father’s clan, whereas at death his mother’s clan calls him ‘our son’, and ‘in a certain sense’ it is ‘this clan of origin to which he really belongs’. I emphasized the phrase ‘to which he really belongs’. Reay (1990) has replied (in a recent review article) that her emphasis would be instead on ‘in a certain sense’, thereby lessening the impact of my point. There are further clues from other ethnographies of the Kuma and Chimbu (‘kinship ties and a tie through the mother’s subclan predominate over common clanship’, Brookfield and Brown 1963:13) and other groups elsewhere that point to this feature as a potentially significant marker for this configuration of societies as compared with others. Is this arbitrary or not? It may be, but it is certainly not a matter of mere opinion or capricious interpretation, nor does it differ fundamentally from what anthropologists do and say (if not in print) most days of their lives. Connections and comparisons made in a scholarly spirit should not raise the hackles of anthropologists with a serious ‘my people’ syndrome.

The configurations, and the interrelations between them, which are discussed in the book may well reflect at least a sort of history of anthropological discourse on this part of the highlands. Some have asked why there is no mention of religion. Arguably this is because religion in the highlands is not a theme that has overly engaged the anthropological imagination. Then they ask: is ceremonial exchange only related to political and economic issues; what of its cosmological and sacrificial elements? These may be crucial, but the ‘anthropological conversation’ has been along the lines laid out in the book; my focus, if unoriginal, has surely not been arbitrary. Have I compared patrilineal ideology in the east with daily pragmatics in the west, or the eastern highlands male ideology of male-female relations with everyday ‘real’ interaction between the sexes in western highlands societies? What does this tell us of the original ethnographers who made the statements upon which comparison is built? The ethnographic references and my interpretations of them are there for us to ponder on. We have struck right at the heart of the comparative endeavour and its difficulties. When the merits and demerits are weighed, I will remain on the side which says that such a pursuit is both possible and worthwhile.
The critical and other comments the book has provoked are an indication that its aims and issues are ones whose time for discussion has come in the ethnography of the Highlands of Papua New Guinea.

Conclusion

Many other issues could be taken up, but those discussed above represent at least some of the areas on which critical comment has been focused. Can I reiterate, finally, that The Evolution of Highland Papua New Guinea Societies is an 'approach' to comparison. It has a 'materialist' edge to it, partly, it may be argued, because this has predominated the anthropological discourse of comparison in the region. I fully acknowledge that other perspectives elsewhere in Melanesia or the highlands themselves might yield different results and a variety of schemas. I do not claim ceremonial exchange and its elaboration to be the 'pinnacle of human achievement' in Papua New Guinea, either. There are surely many vectors of efflorescence – aesthetic, ritual, philosophical – which would offer sobering counter-syntheses and point to different underlying fundamentals to those posited in my book. But then, we are in the business of interpretation, and I eagerly await further comparative projects in the highlands or elsewhere which might bring the area’s rich ethnography into sharper focus and perhaps take Melanesianists even beyond their borders, wherever they may be and however they are defined, into a dialogue with those engaged in similar projects elsewhere.

REFERENCES

Boyd, D., 1985, ‘“We Must Follow the Fore”; Pig Husbandry Intensification and Ritual Diffusion Among the Irakia Awa, Papua New Guinea’, American Ethnologist 12:119-36.
The Evolution of Highland Papua New Guinea Societies