Economies across *Cultures*

TOWARDS A
COMPARATIVE SCIENCE OF
THE ECONOMY

RHODA H. HALPERIN

ECONOMIES ACROSS CULTURES

Also by Rhoda H. Halperin

ADMINISTRACION AGRARIA Y TRABAJO
PEASANT LIVELIHOOD: Studies in Economic Anthropology and Cultural Ecology

Economies across Cultures

Towards a Comparative Science of the Economy

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Preface and Acknowledgements

In the mid-1960s I was a student of economist Harry Pearson at Bennington College, where, twenty years earlier, Karl Polanyi, Pearson's mentor and source of intellectual inspiration, had written *The Great Transformation* (1944). Pearson's course, 'Economy and Society', first introduced me to the idea of economies across cultures – the notion that all societies require economies to provide the material means for maintaining livelihood. Readings included not only the works of classic ethnographers – Thurnwald, Mauss, Boas, Malinowski, Firth – but also the writing of philosophers, economists and historians – from Aristotle, Hesiod, Adam Smith, Marx, Marshall, Galbraith and Leontief. I didn't realise at the time what a powerful influence these ideas about the economy would have upon my future work, or how powerful Bennington College was to be in shaping not only my ways of thinking, but my ways of working. Courses at Bennington were intense in those days, and Pearson's lectures and discussions proceeded with all of Polanyi's passion for utopian schemes, tempered by Pearson's brilliant sense of theory and macroscopic notions of an anthropologically informed economics.

Convinced that economics was much too narrow for my interests, I began a Ph.D. in anthropology at Brandeis under Helen Codere, David Kaplan and Robert Hunt. They taught me not only theory and method in anthropology, but an in-depth knowledge of and appreciation for history and ethnography – the Kwakiutl in Codere's case, and Mexican peasantries in Hunt's. After finishing the degree, and publishing my dissertation, a comparative study of the political organisation of Mexican peasant economies (1975), the first stage of an elaboration and expansion of Polanyi's ideas beyond primitive and archaic economies was complete.

I returned to Bennington as a faculty member in the mid-1970s. There I worked on *Peasant Livelihood: Studies in Economic Anthropology and Cultural Ecology* (1977). This was the second stage of an elaboration and expansion of Polanyi's basic concepts, now with a broader ethnographic base. That comparative study of peasant economies was aided greatly by contributions by Jim Dow, Frances

Berdan, Barbara Leons, Tony Leeds, Bill Derman, Benjamin Orlove, Steve Brush, Bill Mitchell, Barbara Price, Terry Neale and Carol Smith.

At Bennington in the 1970s I taught three courses that provided the preliminary framework for the present book. The first, 'The Economic Ideas of Max Weber', covered his methodological essays, as well as his books on religion and economics, and provided much of the theoretical background for the elaboration of Polanyi's concepts of the embedded economy. The second course, 'The Idea of the Economy in History and Anthropology', began with Aristotle and ended with Marx and Polanyi, and was essentially a history of economic ideas from an anthropological point of view. The third course, 'The Substantive Economy in Cross-Cultural Perspective', covered the evolutionary gamut from hunter-gatherers to post-industrial societies and was primarily ethnographic in content. I am greatly indebted to Cynthia Browning, now an economist herself, for her enthusiasm as a Bennington student, and for her research assistance on the preliminary stages of this book. In the tradition of learning by doing, she became my apprentice, just as I had been Pearson's and Pearson Polanyi's.

Although I am a third generation intellectual descendant of Polanyi's, my disagreements with the original Polanyi group, including Pearson, have been quite deep. Most members of the Polanyi group have denied the positive associations between Marx and Polanyi (see Dalton, 1981), a testimony, perhaps, to the long-term effects of a witch-hunting political climate upon a whole generation of scholars. While I continue to operate within the same paradigm as Polanyi, the anthropological vantage point of a broad-based, cross-cultural perspective has enabled me to maintain a critical sense of disbelief about certain aspects of Polanyi's theoretical framework. I have at the same time tried to build upon and elaborate Polanyi's ideas. Polanyi died before I became an undergraduate student, so I never had the benefits of his charismatic personality or powerful teaching. On the other hand, I had the advantage of distance from Polanyi, the man. If science is indeed a cumulative process which proceeds not only in fits and starts, but in the very, very slow, 'Simon Says' fashion of a few baby steps forward and several giant steps backwards, then a cross-cultural science of the economy will be a long time in perfecting. My hope is that this book carries us a few steps forward.

Many scholars have given generously of their time to help me think

through conceptual problems and to provide comparative data for this book. Ken Kensinger convinced me that the original conclusion was a separate article. Barry Isaac has been a faithful colleague for the last ten years and has provided invaluable professional help as well as moral support. His wonderful sense of humour made many difficult days easier. Others who read parts of this book and provided valuable comments and criticisms include Pedro Carrasco, Barbara Price, Frances Rothstein, Norman Schwartz, Barbara Leons, Frank Cancian, David Kertzer, Jennie Keith, Andy Hofling, Larry Simon, Patricia McAnany, Tom Killion, Rebecca Bennett and Laura Strumingher. Bill Halperin's patience with this project through all of its stages is most appreciated.

I would like to acknowledge the support of the Research Council of the University of Cincinnati and the Taft Faculty Fellowship programme for providing funds during several summers of work on the theoretical portions of this book. I cannot begin to name all of the students who have helped with its various aspects, but the ones who come most immediately to mind are Deb Schaiper, Brian Mueller, Doug Porter, Margie Canter and Rex Jungerburg.

This book is dedicated to Samuel and Michael Halperin, both of whom were born and grew with its writing.

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Cincinnati, Ohio RHODA H. HALPERIN

1 Introduction: Economies across Cultures—The Anthropological Approach

An Eskimo woman and her husband butcher a seal together in summer; in winter she alone butchers the meat and distributes it to the appropriate kin, for in the winter season butchering is women's work. A Kwakiutl chief holds an extravagant potlatch; a Trobriand chief is proud of the mounds of yams rotting in his front yard; a Dani goes to all efforts to prevent her pigs from ruining the sweet potato gardens. An elderly Californian receives bags of groceries at a neighbourhood community centre while her Mundurucu counterpart holds an honoured position as a decision maker; a Mexican grandmother works simultaneously as a curer, market vendor, and head of household.[1]

All of these different behaviours, and many more, are part of the domain of anthropological economics, known more commonly as economic anthropology. What is distinctly anthropological about economic anthropology is not the subject matter or the types of societies under scrutiny, or even the remote geographic areas described, but the cross-cultural, comparative perspective: no culture is unique; pattern and variation must be explained for all cultural systems. Comparison is essential for scientific explanation, but comparisons require the appropriate controls so that we are not comparing apples and oranges. Given the proper controls, we can begin to understand the variety of forms taken by the human economy in different cultures.

What is the economy? How do we define processes of livelihood across cultures? Aristotle, who codified the branches of knowledge of his day, did not write a work on economics. Yet, the ancient Greeks certainly provided their livelihood; the word 'economics' originates in the Greek *Oikonomikos*, which combines *oikos*, meaning household, with the root *nem*, meaning to regulate, administer, and organise (Finley, 1973; Polanyi, 1957a). Whether the units of production and consumption are nomadic bands, extended-family households, agricultural villages, or industrialised nation-states, discussions of livelihood from the time of the Ancients on have depended on the idea of

organisation. Whether we think of individuals systematically exploiting patches of resources, randomly moving about in activities of truck, barter and exchange, or assiduously calculating the marginal utility of an additional input to production, all considerations of the economy assume the organisation of humans and natural resources by institutions in the context of cultural systems.[2]

In the following pages I develop a framework for conducting research in economic anthropology – to practise economic anthropology as a science.[3] I use anthropological methods to suggest ways of re-analysing and revising concepts of the economy and the institutions organising economic processes from a cross-cultural perspective. This involves defining variables and problems as well as establishing controlled comparisons by drawing broadly upon the ethnographic, historical and archaeological records.[4] The parts of that framework are presented in the first half of this book (Chapters 2, 3 and 4). Illustrations of how to use the framework and put the theory into scientific practice are contained in Chapters 5, 6 and 7. Some readers may prefer to begin this book with its concluding chapter, then proceed to the illustrations, and finish with the presentations of the theoretical framework. I do not attempt, in any sense, to cover the subfield of economic anthropology, or even to touch upon many of its aspects. Pastoral economies, for example, receive no treatment (Galaty, *et al.* 1981). Even the classic tribal economies, so famous for the exotic Trobriand kula trade and the extravagant North American potlatches, receive relatively little attention. Many aspects of the history of economic anthropology have also been excluded. Instead, I concentrate upon theoretical and methodological issues and use the concepts developed for small-scale economies to understand ongoing problems in the social sciences, that is, explaining pattern and variation in economic systems in a range of societies, from simple to complex.

Reorienting our understanding of economies across cultures requires new and sometimes radical interpretations of both theory and ethnography. For example, the definition and composition of production processes and the relationships between processes of production, distribution, and consumption cannot be taken for granted. Production processes are shaped environmentally and institutionally, but depending upon the kind of society, the relationships between ecological processes and social structures will be different.

THE METHOD OF CONTROLLED COMPARISON (Chapters 5, 6 and 7)

In Chapter 5, I argue that the processing of resources into food, clothing and tools has been neglected in analyses of production among band-level hunter-gatherers because of an overemphasis upon food procurement. This emphasis, especially when combined with the failure to consider seasonal variation in hunter-gatherer environments, has resulted in a distorted picture of the organisation of labour. When processing and seasonality are taken into account in the annual round, we perceive a much more egalitarian organisation of labour in all environments than had previously been thought. For hunter-gatherers, then, production must include processing as well as procurement tasks. In other kinds of economies, however, processing may not be performed by the unit of consumption but in a variety of other ways, depending upon the type of economy, the position of the consumption unit in the class stratification system (if any), and so on. What becomes clear, is that economies that handle the processing of food in different ways and by different units are non-comparable. This is a crucial point in explaining similarities and differences in economic formations, especially since the kinds of arrangements that cultures develop for handling food processing, for example, may be diagnostic of other features of economic systems, qualitative as well as quantitative.

In this book, I use an evolutionary framework[5] as a heuristic device to establish structural types as the basis for controlled comparisons (Eggan, 1954), that is, the comparison of economic processes in structurally similar societies. Controlled comparisons are small-scale comparisons involving a handful of cases, or even as few as two. Such comparisons, if set up in the context of a concrete, paradigmatically governed problem, enable the analyst to set the appropriate units of analysis. Using this method, we can see that the components of production processes will be different for sedentary agricultural villages, for example, than they will be for nomadic hunter-gatherers.

Three kinds of controlled comparisons are presented in this book. Each focuses upon some aspect of production and requires that we revise our definitions of production processes, our concepts for understanding the organisation of production resources, and our ways of creating units of analysis. All three require using extensive ethnographic and historical data. The first of these controlled comparisons employs a single problem, the organisation of labour

among band-level hunter-gatherers, in a range of ecologies (Chapter 5). In this case, I have controlled for the type of society, but varied the ecology. The second controlled comparison (Chapter 6) analyses the problem of continuities and changes in the organisation of the productive resources, land and labour, using a single structural type (peasantries) in one culture area (Mexico). The analysis controls the type of society and the culture area, but varies the historical period. The argument is that the institutional arrangements organising land and labour change name, but not structure and organisation. The third controlled comparison (Chapter 7) involves a life-course framework in conjunction with an evolutionary framework, and examines human aging and the life course as organising principles for economic systems. Specifically, this controlled comparison examines how economic roles change as people move through the life-course for a range of structural types, from hunter-gatherers to post-industrial societies. These three chapters represent models of different kinds of controlled comparisons. In the first example ecology is varied, in the second, historical time. In both cases, the structural type is held constant. The third is somewhat more complicated, but begins with the assumption that a life-course framework can be understood to establish principles for organising work, albeit different principles in different cultural systems. Similar kinds of controls, as well as similar kinds of variables could, and indeed should, be set up for other kinds of controlled comparisons in economic anthropology. The three models of controlled comparisons are presented diagrammatically in Table 1.1.

THE INFLUENCE OF MARX AND POLANYI: THE INSTITUTIONAL PARADIGM (Chapter 3)

The work of Karl Polanyi is central to this book – not Polanyi the cultural relativist, however, or the romantic, humanistic Polanyi, but the scientific Polanyi whose seminal essay, 'The Economy as Instituted Process', is analysed in Chapter 3 in the larger context of what I call the Institutional Paradigm. This is the Polanyi who laid the foundation for a truly scientific, cross-cultural economics. He was an assiduous reader of the ethnography of his time, and he brought to that ethnography a dialectical framework that considered change and transformation as central to analysing the relationships between economy and society. While the theory and the ethnography he read focused upon primitive and archaic economies – Malinowski's work on the Trobriand Kula

Table 1.1 Models of controlled comparisons

	Constants or controls (qualitatively conceived)	
Changing elements	*Evolutionary framework*	*Human life course*
Ecology	Chapter 5	
Historical time	Chapter 6	
Evolutionary framework		Chapter 7

trade, Firth's work on Tikopia, Boas' on the Kwakiutl potlatch, Mauss' *The Gift*, to name only a few, Polanyi's sense of history and understanding of comparative social structure provided him with the necessary cross-cultural framework.[6]

In this book, I suggest that Marx and Polanyi shared a common definition of the economy and a common conception of the dynamics of economic processes. I use that definition of the economy throughout to provide examples of the kinds of analyses of transformation as well as continuity that are possible using the institutional paradigm. Understanding the similarities in the theories of 'The Two Karls' permits a cross-cultural science of the economy to begin to be elaborated and applied to historical and ethnographic data. Both Marx and Polanyi worked within an evolutionary framework; they both placed transformations in economic processes at the centre of their analyses; and they both emphasised that these transformations involved changes in the institutional arrangements organising economic processes. Rather than constituting warring camps within the subfield of economic anthropology, then, Marxism and substantivism ought to be viewed as more consistent theoretically than conventional interpretations have acknowledged. The similarities between Polanyi and Marx provide the basis for the 'Institutional Paradigm'.

MODELS (Chapter 4)

The question of the kinds of models that must be created in order to understand similarities, differences, and changes in economic processes is central to this book. In Chapter 4, I examine the varieties of formal models in economic anthropology with an eye towards bringing together formal methods and substantive issues. We must use formal

models to organise materials for analysis in a cross-cultural framework. Actual systems of production, distribution and consumption can be measured against ideal models that postulate baseline conditions. The key issue is one of how to postulate baseline conditions that make sense in specific kinds of historical, institutional, and ecological contexts. For instance, optimal foraging models assume certain baselines, but the question remains as to whether these baselines are warranted in view of what they assume and the kinds of questions they permit us to ask about economic processes in hunter-gatherer societies. In short, the question is not whether or not to use models, but what kinds of models to use.

Until recently, the cross-cultural study of economic processes was mired in a fruitless debate between the formalists, who argued for the universal applicability of conventional microeconomic theory, and the substantivists, whose work was identified with Karl Polanyi and who argued for a relativistic contextualisation of economies in particular cultural systems. In the 1970s, when Marxism became unmasked in theoretical works and emerged, albeit in many competing forms, as a powerful paradigm, the cross-cultural analysis of economies suffered more polemics because Marxists dismissed formalists and substantivists for their narrowness and conservatism. No synthesis emerged.

For over thirty years, scholars dealing with economies across cultures have collected data, posed theoretical questions, and generated controversies, but they have not put forth a cogent theoretical framework for cross-cultural analysis. In this book, I use controlled comparisons to illustrate the analytic potential of the institutional paradigm and the possibilities for incorporating elements of the ecological and formal paradigms. The framework focuses upon the comparative analysis of economic processes in institutional, historical and ecological contexts, and provides the basis for a cross-cultural science of the economy which can describe and explain how economic processes operate and why economies change. The institutional paradigm facilitates formal model building and accommodates models of varying levels of abstraction as they contribute to comparative analysis. The conceptual framework ensures that like economic processes can be analysed rigorously in similar contexts by using an evolutionary model. In sum, the book presents a new theoretical approach and new concepts that create guidelines for systematic data collection and an analytic scheme for anthropological analyses of economic processes.

2 Paradigms for Studying Economies across Cultures

The analysis of economies across cultures has been grounded in economic anthropology, a subfield of anthropology that deals with the entire range of economies and cultures found in the prehistoric, historic and ethnographic records.[1] If we think of economic anthropology in this broad sense, then it is the subfield with the greatest potential for creating a cross-cultural science of the economy. Such a science would be able to describe, explain, and, perhaps, eventually to predict pattern, variability and change in economic processes and systems through time and across cultures.

Economic anthropology is just beginning to come of age and to occupy a central position within anthropology as well as within the social sciences as a whole (Clammer, 1985). Not unlike other sciences, the maturation process has been slow and painful. In a timeless piece, L. Althusser wrote about the difficulty of constructing theoretical concepts for scientific understanding. He said:

> Indispensable theoretical concepts do not magically construct themselves on command when they are needed. The whole history of the beginnings of sciences or of great philosophies shows, on the contrary, that the exact set of new concepts do not march out on parade single file; ... some are long delayed, or march in borrowed clothes before acquiring their proper uniforms – for as long as history fails to provide the tailor and the cloth. (1970:51)

The history of the science of economic anthropology has proved to be a prime example of Althusser's lamentation. In the first section of this chapter I focus upon some key moments in the history of economic anthropology, keeping in mind my main purpose: to outline the central paradigms and problems for the development of a cross-cultural science of the economy. The remainder of this chapter deals with the relationships between the schools and paradigms in economic anthropology. The schools are well recognized: formalist, substantivist and Marxist. The paradigms – formal, ecological and institutional as I have named them – are more difficult to identify. On the one hand, they have been developed out of the schools; on the other hand, they

provide the underlying theoretical frames out of which the schools and the controversies between them have been generated.

THE IDENTITY PROBLEM IN ECONOMIC ANTHROPOLOGY

Economic anthropology is a subfield of anthropology that has suffered, since its beginnings, from a series of identity crises (Malinowski, 1921, 1922, 1935; Mauss, 1967; Thurnwald, 1932; Goodfellow, 1939; Firth, 1929, 1939; Herskovits, 1952). Malinowski puzzled over whether or not kula valuables could be likened to the crown jewels of British royalty. Goodfellow (1939) sought universal economic principles. Herskovits (1942) waffled over universals at the same time that he presented an encyclopaedic volume containing sets of diverse facts about economies in a range of cultures. More recently, there have been attempts at statistical as well as theoretical sophistication. Even contemporary ethnographies, however, often contain serendipitously collected data, with no apparent paradigm governing the descriptions containing the economic facts. As a result, for many years, the subfield of economic anthropology has been arrested in an adolescence: somewhere between an adulthood characterised by sophisticated mathematical models and methods (Finkler, 1979; Pryor, 1977; Smith, 1985) and highly abstract, often doctrinaire theory (Althusser and Balibar, 1968), and a very troubled childhood, complete with sibling rivalries and a domineering and prestigious parent discipline of economics. Not unlike many adolescents, economic anthropology has had difficulties deciding what to do with itself and how to do it: to focus upon production processes, or upon processes of distribution and exchange, to describe single economies, or to conduct comparisons of economies across cultures. Economic anthropologists study non-capitalist economies in small-scale societies and the more numerous economies manifesting combinations of capitalist, pre-capitalist and non-capitalist economic formations. National and multinational units (Dorjahn and Isaac, 1979; Isaac, 1979; Wolfe, 1977; Hunt, 1987) and the world economy (Wallerstein, 1974a, 1974b; Wolf, 1982) have now become part of the subject of economic anthropology. Despite the subfield's apparent breadth, the very term economic anthropology is being called into question, particularly by some Marxists who conceive historical materialism and political economy to cross, and even obliterate, conventional disciplinary lines (Seddon, 1978). The fact

that existing analytical models are difficult to use exacerbates the identity crisis. In the pages to follow I outline the development of the predominant schools (Table 2.1) and the competing paradigms (Figure 2.1) for analysing the economy.

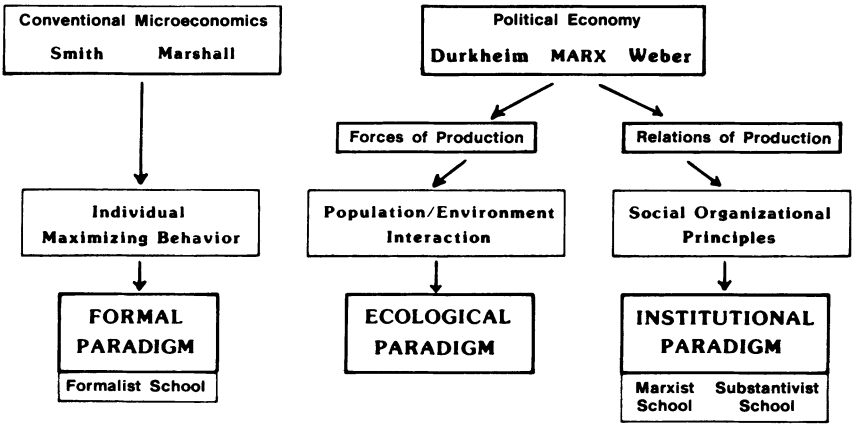

Figure 2.1 Competing paradigms

The Formalist School of Economic Anthropology

Formalist economic anthropology, or what has now come to be known as 'the formalist school', began by borrowing the concepts and assumptions of conventional economics (Robbins, 1962; Samuelson, 1967) and applying them to primitive and peasant economies. Central to the formalist position is the assumption that individuals (the key units of analysis) in both capitalist and pre-capitalist economies behave in similar (capitalistic) ways. For example, Epstein describes the Tolai 'big man' as a true capitalist who invests his resources in order to maximise profits and increase wealth (1968:27, 32). Sol Tax endows the people of Panajachel, Guatemala, with 'the spirit of business enterprise' (1953:18). Pospisil says that the Kapauku are profit motivated, economically minded, and individualistic in a manner that 'could hardly be surpassed in our capitalist society'

Table 2.1 The development of schools of economic anthropology and their distinctive features

	Formalist School	*Marxist School*	*Substantivist School*
Original proponents	Adam Smith John Marshall	Karl Marx	Karl Polanyi
Assumed difference between capitalist and non-capitalist economics	of degree and not kind	of kind sequential evolution	of kind dichotomous
Major assumption and analytic categories	'Homo Economicus' labour theory of value rational decision makers informed choice scarcity; maximisation	modes of production and reproduction labour theory of value; wages commodity; capital	market/non-market market exchange/reciprocity/redistribution randomised/symmetry/centrality/
Units of analysis	individuals	classes social totalities	institutions

(1963:402). Operating upon assumptions of scarcity, maximisation (Burling, 1962), and the primacy of individual choices taken in one's self-interest, conventional economic concepts such as price, supply and demand have become part of the conceptual repertoire of economic anthropology.[2] From descriptions of individual behaviour, then, formalists have assumed the universality of the institutional context of nineteenth-century, and in some cases eighteenth-century, market capitalism. The fact that such an institutional context has been assumed rather than demonstrated has created problems for economic anthropology. A major one has to do with the inability of this brand of formalism to deal with variability in economic systems. Since all differences are postulated to be differences in degree (that is, size and scale) and not differences in kind, pre-capitalist economies become miniatures of capitalist economies. That pre-capitalist economics operate upon entirely different organization principles (institutional arrangements, in Polanyi's terms) cannot be accommodated if economies of highly variable levels of complexity are assumed to be comparable.

In addition, even if we accept the somewhat dubious premise that economic systems are institutionally homogeneous and bounded, such a framework creates unwarranted assumptions for the analysis of non-capitalist institutional arrangements and for capitalist institutional arrangements in a post-industrial world economy. Economies change through time; to assume one set of institutional arrangements for all times and places is simply to discount history. Additional problems arise when we consider that economies are not institutionally homogeneous.

Most economies, as we see them today, are not pristine or isolated, but rather, are the products of complex and changing historical processes. Modern economies are composites, not only of market and non-market elements, but of pastoral and foraging economies, or of foraging and agricultural economies with long-standing and complicated systems of trade and exchange that extend over considerable distances (Peterson, 1984). Even the most small-scale economies have complicated histories (Schrire, 1984).

It is clear that we need new models for both description and explanation. As I show in Chapter 4, formal models and their applications have changed greatly since the early days of the formalist–substantivist debate, when such models were narrowly identified with microeconomics. Now we can construct formal models that use variables formulated for the purpose of explaining pattern and

variation in economic processes – not just differences between pre-capitalist and capitalist systems, but variability among pre-capitalist forms of the economy and among segments of the world capitalist system.

The Marxist School in Economic Anthropology

Marxist analyses in economic anthropology reflect the heterogeneity that is so common in Marxist social science (see O'Laughlin, 1975). As Russell Jacoby so aptly puts it, the Marxist literature

> has fled the streets and factories for the halls and offices of the university. The struggle to publish replaces the class struggle. Academics jet to conferences to hawk competing brands of Marxism. A consumer's guide is required to stay abreast of the offerings and the recalls: structural Marxism, semiotic Marxism, feminist Marxism, hermeneutical Marxism, phenomenological Marxism, and critical Marxism and so on. (1981:1)

In all of its varieties (Prattis, 1987), Marxist economic anthropology has been concerned with institutions and historical processes in both pre-capitalist and capitalist economies (Terray, 1972, 1975; Dupre and Rey, 1973; Althusser and Balibar, 1968; Seddon, 1978b; Clammer, 1978, 1985, 1987; Godelier 1966, 1976, 1978a, 1978b; Hindness and Hirst, 1975; Cook, 1973; Foster-Carter, 1978; Frank, 1967, 1969; Friedman, 1974; O'Laughlin, 1975; Katz and Kemnitzer, 1979).[3] The question of the adequacy of Marxism as a cross-cultural framework for economic anthropology has been raised by a number of Marxist economic anthropologists. Palerm (1980), for example, points out that anthropology is broader than Marxism. Hart (1983) takes the opposite view and Clammer (1978b) takens an intermediary position.

Decisions about the feasibility of a cross-cultural Marxist framework are complicated by the existence of different and usually conflicting interpretations of Marx's original texts. If, for example, a Marxist economic anthropology is one in which the common denominators of all economic processes are categories such as value, wages, capital, commodity and class, then, from an anthropological point of view, such a framework would be difficult to accept because it generalises the meaning of concepts to the point of uselessness. Some Marxist economic anthropologists still maintain that the basic analytical categories of capitalism, such as class, are applicable in some form to the whole range of economic processes known in history and

anthropology (Clammer, 1978b; Terray, 1972). Others, however, have taken positions that are much more sensitive to factors of cultural evolution and to complex but patterned variability in economic processes (Halperin, 1982).[4]

The central issue, then, is that of the applicability of Marx's concepts in different sociopolitical contexts: which of Marx's concepts should be used only in the context of historically specific capitalist economic formations, and which have wider, cross-cultural applicability? If, for example, Marxist analyses of small-scale, lineage-based societies are to be responsible scientifically, then it is extremely important to keep clearly in mind such features as statelessness, kinship rank, and egalitarian social structures, before applying concepts such as class, surplus and exploitation, which are predicated upon stratification patterns. One major challenge in contemporary economic anthropology is to distinguish between Marx's general concepts, which he intended for the analysis of all economic systems, and Marx's particular concepts, which he designed specifically for the capitalist mode of production (Tuden, 1979). The differences between Marx's general and particular concepts are extremely important and have cross-cultural implications far beyond those intended by Marx. I discuss some of these implications in Chapter 3.

In the current Marxist-dominated climate of economic anthropology, it is important to point out that, until the relatively recent resurgence of Marxist analyses, production processes received only indirect attention in Anglo-American economic anthropology. In the United States of the 1950s and 1960s, while some scholars used Marxian concepts with great subtlety and with considerable caution, they often subordinated their points about production processes to other topics and problems such as distribution, in Polanyi's case, or technology, in Leslie White's (Carneiro, 1981a). I should note also in passing that both Polanyi and White produced a substantial amount of written work under pseudonyms and published same in semi-popular journals and leftist publications. It was in these publications and, for Polanyi, in unpublished manuscripts, that their Marxist ideas were most clearly and explicitly expressed.

The Substantivist School of Economic Anthropology

Substantivism constitutes the third 'school' of economic anthropology (Chayanov, 1966; Polanyi, 1944, 1977; Polanyi, Arensberg, and Pearson, 1957; Dalton, 1961, 1969, 1971; Sahlins, 1960, 1965, 1972;

Kaplan, 1968; Fried, 1979; Halperin, 1975a and b, 1977a, 1980). The 'substantivist school' originated with the work of Karl Polanyi, whose two definitions of the economy, the formal and the substantive, set off the infamous debate between the formalist and the substantivist schools of economic anthropology. In its early stages, the focus of the substantivist school was upon primitive and archaic economies, those remote from the world of capitalism. The basic substantivist argument was that the models designed for market (capitalist) economies are ethnocentric because they impose unwarranted assumptions in non-capitalist contexts. For example, to assume that supply and demand forces determine prices in contexts in which prices are either set by political administrative devices (Chapter 6) or in which there are no markets or prices to begin with (Chapter 5) cannot be justified.

Initially, Polanyi's substantivism appeared, and was certainly interpreted, in particularistic terms – focusing on the uniqueness of certain pre-industrial (pre-capitalist) economies and emphasizing the sharp differences between non-market and market economies. Polanyi used the concepts of reciprocity and redistribution in contrast to one another and to market exchange.

While Polanyi's emphasis upon the distinctiveness, even the uniqueness, of non-market (non-capitalist) economies (North, 1977) was probably a necessary step for establishing some important qualitative differences among economic systems, unfortunately this emphasis has caused Polanyi to be interpreted as a romanticiser of the primitive and, wrongly, as a cultural particularist. Because of this particularistic interpretation of Polanyi's substantivism, the comparative potential of concepts such as reciprocity and redistribution and the comparative analysis of economic processes in similar kinds of systems is just beginning to take hold in economic anthropology. Marshall Sahlins attempted a comparative framework in his book *Stone Age Economics* (1972), which brings some of Chayanov's principal concepts back into economic anthropology (see also Durrenberger, 1984). In this respect, Sahlins' concept of the Domestic Mode of Production is one category for comparing economic processes within a single structural type, in this case kin-based economies. George Dalton has carried on many of Polanyi's notions and kept them before the attention of the social science community. He and his students (Stanfield, 1986; Köcke, 1979) have engaged primarily in the explication of Polanyi's ideas. My own writing on peasant economies begins to lay the groundwork for the comparative analysis of rural agrarian economies in nation-state systems (1977a). That an ecological

framework is absolutely essential for this task is only beginning to be realised. The full comparative potential of Polanyi's substantivism in combination with Marx's institutionalism, however, has yet to be realised, precisely because many of Polanyi's concepts have not been defined, elaborated, and applied in a cross-cultural framework (see Chapter 3).

As economic anthropology now stands, arguments within and debates between these schools – formalist, Marxist and substantivist – have been variously abstract, rhetorical and vehement, leaving the impression that economic anthropologists are trying by sheer verbiage to sabotage their own subfield. In acts of rebellion, avoidance and despair, many students of the economy have taken refuge in ecological analysis or other related areas and have operated as though economic anthropology, in Herskovits' sense of a cross-cultural science, is an extinct species (Orlove, 1980; Gross, 1983; Rappaport, 1984; Jochim, 1981).

What are the domains and analytical problems for economic anthropology? We need a framework that enables economic processes and problems to be defined so that they can be distinguished analytically from non-economic ones. Such a framework will enable economic processes to be meaningfully compared with one another for purposes of understanding regularity and variation. At this historical juncture, any treatment of economic anthropology must attend to the identity problem, to the kinds of issues with which economic anthropologists deal: the conceptualisation of the economy itself (Semenov, 1974) and the changing forms of the economy in relationship to society, culture and the environment – in short, the transformations of the economy in the evolution of human societies.

The problems are scientific as well as practical. It matters greatly for comparative, cross-cultural analysis, whether the objects of study are pre-capitalist economic formations in kin-based societies, or whether they are much more complex formations at the state or multinational levels. Problems for the analysis of economic processes must be posed so that both historical and ecological contexts can be taken into account. Clammer (1978b) recognised that the ways in which we pose problems determine the choice and usefulness of analytical tools and concepts, the kinds of data collected, and what is new or old in economic anthropology. While new data and recognition of changing material realities are certainly essential to the comparative analysis of economic processes, old data cannot be subordinated and relegated to the obscure realms of social history (Clammer, 1987). The

interpretation and the collection of data is never mindless, but must be done in terms of a theoretical framework that is comparative. This frame is currently in its infancy. Regardless of the data base, then, in all cases, the identification of appropriate units of analysis is critical. Without attention to these basic problems, we will continue to use bulldozers to clear kitchen gardens and stone axes to cut diamonds.

PARADIGMS AND THE ECONOMY[5]

I have argued elsewhere (Halperin, 1982) that economic anthropology has three implicit paradigms: (1) The Formal Paradigm, (2) The Ecological Paradigm, and (3) The Institutional Paradigm. By this I mean that students of the economy have had at their disposal three distinct frameworks for selecting and analysing data relevant to processes of material livelihood. The frameworks, however, have not been made explicit. In this section I will describe the three paradigms in the context of the cross-cultural analysis of economic processes and point out some of the relationships between the paradigms and the formalist, substantivist and Marxist schools.

First I would like to state some general points about the characteristics of paradigms and their bearing upon the analysis of economies across cultures. The paradigm determines how the economy is conceptualised: the units of analysis, the assumptions about the units, and their relationships to other analytic entities such as models. Each paradigm consists of a set of related models, whether or not the models are defined explicitly. The models single out and deal with certain kinds of economic processes, or aspects of processes, to the exclusion of others. Some models, for example, deal with distribution processes; others handle production processes only. Some use individuals as their units of analysis, others deal with populations. Because the models that compose the three paradigms use different units of analysis with varying assumptions, they have different potentials and limitations for cross-cultural analysis. In other words, the paradigms and the models which comprise them are designed not only to answer various kinds of questions about the economy, but also to provide alternative methods of analysis.

The Formal Paradigm

The formal paradigm in economic anthropology consists of formal models that function primarily as heuristic devices for measuring the

discrepancies between actual and expected, or ideal, conditions. Conventional microeconomics, decisions models, optimal foraging models and central place models are some examples of formal models. So far, most of the formal models used for analysing economic processes have taken individuals as their primary units of analysis and have borrowed many of the assumptions of conventional microeconomic theory. We should recognise, however, that the closeness of fit between formal models and microeconomics is more a function of the power of the parent discipline of economics and its use of the individual as the unit of analysis, than it is of any inherent limitations (or potentials for that matter) of formal models.

Selecting variables always involves assumptions. Just which assumptions are warranted for particular kinds of problems depends greatly upon ethnographic context, institutional structure, and historical period. Structural types can be used as heuristic devices in formal models, that is, to emphasise certain core features of the context in which a process or problem is examined. For example, in Chapter 5, I use the structural type, band-level hunter-gatherers, as a heuristic device to emphasise the processing of food (and tools also) as a variable in the organisation of labour in small-scale societies. I assume, for example, that no contact or culture change has occurred in the five societies in the controlled comparison; in short, I assume that the societies are more or less in a steady state in order to emphasise and use seasonality as the co-variable with food processing in the analysis of the division of labour. These assumptions are warranted for the problem at hand, but they may not be warranted for other kinds of problems (Earle and Christenson, 1980, Hassig, 1985).

Formal models can and are beginning to use a variety of units with many different kinds of assumptions. The formal paradigm, then, need not be restricted to a single type of formal model. I elaborate these points in Chapter 4.

The Ecological Paradigm

The ecological paradigm consists primarily of models that examine physical and biological variables (temperature, rainfall, soil texture and fertility, and the like) in ecologically defined populations. The ecosystem, consisting of a set of interacting species of organisms and their physical environment, is the primary unit of analysis (Rappaport, 1968, 1984; Vayda and McCay, 1975; Hardesty, 1977; Orlove, 1980; Ellen, 1982; Gross, 1983; Jochim, 1981; Moran, 1979). Cultural ecology has been the home of the ecological paradigm. Among the central concepts are adaptation, energy, population pressure and

carrying capacity (Alland, 1970; Boserup, 1965, 1981; Y. Cohen, 1968a; Harris, 1968; Price, 1977, 1978; Ross, 1980). As Jochim demonstrates (1981), ecological anthropology is strongly materialistic in the sense that it emphasises food procurement, resource base, and, especially, protein sources, but also total caloric intake and output. Jochim also points out, however, that most studies are particularistic and that cultural ecology lacks a framework for cross-cultural comparison and generalisation.

There is beginning to be a great deal of overlap in the formal and the ecological paradigms. Ecological analyses, especially of Jochim's sort, are making more and more efforts to identify variables, develop models, make assumptions about optimal conditions and carry out systematic analyses dealing with the relationships between variables (Keene, 1979). Formal and ecological models have facilitated the collection of quantitative data, albeit for different units of analysis (Barth, 1956, Brush, 1975; Netting, 1977; M. Cohen, 1977; Cook, 1973).

The Institutional Paradigm

The institutional paradigm consists of models that take institutions as the primary mechanisms for analysing production, distribution and consumption processes (Y. Cohen, 1971). The concept of institution is an analytic construct that refers to an organisational principle, mechanism or device. Marx uses the term society to refer to the organisational mechanisms as well as to the organisational contexts within which individuals or groups carry out production, distribution and consumption processes. He emphasised that a person performing the same task in two different social contexts is performing two qualitatively different tasks, since the person is operating in two different institutional contexts. Thus, an Eskimo woman cleaning fish for storage and future consumption in a pre-contact situation in which her group follows the annual seasonal round of movements between coastal summer camps and winter sea-ice camps is, according to Marx, performing an entirely different job than is another Eskimo woman working in a fish processing factory in Anchorage. One woman is a self-sufficient producer and consumer – an essential part of a subsistence economy; the other is a wage labourer and, in all likelihood, a member of the proletariat.

Polanyi (1957a) used the word institution and the phrase institutional arrangements repeatedly, but he never defined the terms precisely. The important point for now is that institutions operate as

principles, and are the mechanisms that organise units of production, distribution and consumption. Age and kinship are two classic institutions in this sense, and more recently, life-course has been used in conjunction with age (Kertzer and Keith, 1984). Institutions must also be understood more abstractly, for example, as the principles that organise the relationships between units of production, distribution and consumption. Tribute systems, systems of long distance trade, and the like, involve multiple and complex principles. As such, institutions make up the basic structures of economic systems, structures that exist independently of the individuals behaving in these systems.

Of the three paradigms, the institutional is the most powerful because it has the greatest capacity to deal with similarities and differences in economic processes across cultures. Chapter 3 deals with the key features of the institutional paradigm.

Both the ecological and the institutional paradigms have their roots in Marxism, albeit in different aspects of Marxism. I think we can fairly say that the ecological paradigm emphasises what Marx called the forces of production (energy, technology, resources), while the institutional paradigm emphasises the relations of production (the organisation of labour, the allocation of resources). The early cultural ecologists considered institutional arrangements more strongly in their analyses than did some of the later biological or human ecologists. For example, the problem of state formation (Service, 1975) figured prominently in cultural ecology, as did the issue of the evolution of cultural systems in general (Harris, 1980). Significantly, however, these ecological analyses did not have a great impact upon economic anthropology because cultural ecology and economic anthropology were conceptualised as two distinct subfields (Isaac 1984). One possible exception to this separation of ecological and institutional paradigms can be found among Andeanists, particularly John Murra and his students (Murra, 1980 [1955], Murra, 1985a, 1985b; Masuda, Shimada and Morris, 1985; Morris, 1985; Guillet, 1979, 1983).

PARADIGMS AND SCHOOLS

The relationships between the formal, ecological and institutional paradigms and the schools of economic anthropology have been confusing and difficult to articulate, but the sources of confusion must be sorted out if a cross-cultural science of the economy is to be developed (Table 2.2). While many elements of the paradigms, as I

Table 2.2 Relationships between schools in economic anthropology and paradigms for analysing the economy

	Schools in economic anthropology		
	Substantivist School	*Marxist School*	*Formalist School*
Paradigms			
Formal	Y	Y	X
Institutional	X	X	O
Ecological	O	O	O

X = Major focus
Y = Minor focus
O = Not used

have defined them, are used by the proponents of the formalist, substantivist and Marxist schools, the paradigms themselves are not recognised as such in the field of economic anthropology and, consequently, from the viewpoint of developing a systematic, cross-cultural science of the economy, their elements are used wrongly, haphazardly and at cross purposes.

If we begin with the relationships between the formal paradigm and the three schools of economic anthropology, we can make several observations. First, we can see that there are formal elements in the frameworks developed by all three schools, but that these elements are not necessarily recognised as such. Many formalists, including Herskovits, did not view conventional economics as a set of formal propositions concerned with logical possibilities, but as a set of universals concerned with empirical realities (Knight, 1952). That is, rather than using conventional economics as economists do – as heuristic devices having nothing to do with the real world – anthropologists took what was actually one formal (ideal) model and applied it literally across cultures (Schneider, 1974). This was blatantly ethnocentric.

Because people operating within the formalist school did not consider the issue of formal models as such, but applied one kind of formal model across cultures, we were left with a form of ethnocentrism which was deceiving because it was masked in the universal.[6]

The formal elements in Polanyi's substantivism have not been recognised. For example, reciprocity, redistribution, and market exchange as presented schematically by Polanyi consist of a set of models specifying the logically possible relationships between the parts of a system: symmetrical, in the case of reciprocity; centralised, if not hierarchical, in the case of redistribution; and randomised in the case of market exchange.[7] Marxism also has its formal elements, as evidenced by the many highly abstract formulae put forth by Marx and by the many statements referring to elements common to certain kinds of economies. These formal elements of Marxism have not been emphasised in economic anthropology.

The relationships between the institutional paradigm and the schools of economic anthropology are quite complex. As I have noted, Chapter 3 deals in great detail with the institutional paradigm in the context of the work of Marx and Polanyi. Suffice it to say here that the three schools have utilised assumptions about institutions without necessarily recognising that they have done so. For example, the formalist school has universalised one particular set of institutional arrangements and reduced it to *homo economicus*. The substantivist school has dichotomised institutional arrangements into market and non-market institutions, and the Marxist school has also projected capitalist institutional categories in contexts which may or may not be appropriate (for example, class and surplus in pre-capitalist, pre-state contexts).

The relationships between the schools of economic anthropology and the ecological paradigm are particularly difficult to assess. While the ecological paradigm has always been central to the analysis of economic processes, particularly regarding the issues of resource base, energy use and associated factors of production, cultural ecologists have not been closely associated with any of the schools of economic anthropology. There are some exceptions, however. John Murra is one. Marshall Sahlins is another. Murra's work on vertical ecologies in the Andes drew heavily upon Polanyi's work on redistributive economies. Many of Murra's students have combined ecological and institutional factors quite effectively (Morris, 1985; Orlove, 1977; Brush, 1977a, 1977b) and have in turn had a significant impact upon Andean studies.

Table 2.2 summarises the relationships between the schools in economic anthropology and the paradigms for analysing the economy. As I indicate in Table 2.1, the ecological paradigm has not been part of the mainstream of economic anthropology. More importantly, the

table clearly shows the need for combining the formal and the institutional paradigms as the dominant paradigm for the subfield. A real paradigm synthesis, however, would, as I suggest in Chapter 5 combine elements from all three paradigms.

TAXONOMIES AND CROSS-CULTURAL ECONOMICS

A taxonomy is nothing more nor less than a classification scheme designed to organise data for the purpose of analysing a particular problem. In our case, the problem is understanding the pattern and variability in economies across cultures.

There are many kinds of classification schemes. All are arbitrary, and all involve assumptions which depend upon the kinds of problems they are set up to analyse. Each taxa (category) within the classification scheme is itself a model. It is not real, although it may extract from and exaggerate certain aspects of the empirical world. The main function of a category is to set the framework for organising data.

A taxonomy of cultures is necessary for a cross-cultural science of the economy because it enables us to reduce heterogeneity in our ethnographic examples by establishing some common denominators for grouping our cases. In short, a taxonomy will mitigate the 'apples and oranges' problem by providing a way of organising the ethnographic record so that we can collect comparable data (see Chapter 7).

The taxonomy I use in this book is a formal model of an evolutionary framework designed primarily to facilitate controlled comparisons. The framework consists of a series of formal models in which the structural types (bands, for example) are ideals that describe the basic structure of the cultures with which we are dealing and that provide baselines for measuring pattern, variability and culture change. It should be emphasised that an evolutionary framework is one kind of taxonomy, but by no means the only kind. In this book, I use structural types (band, tribe, state) to emphasise certain features of economic processes. Because I am interested primarily in material processes of livelihood, including issues of subsistence, production, distribution, etc., I define the types in political, not in economic or in technological terms.

In order to understand economic processes in different types of societies, it is necessary to create models that categorise those societies and cultures by some criteria other than economic ones. Political organisation, if defined independently of subsistence strategy, pro-

vides an analytical way of reflecting the allocation of resources and overall demographic adjustment much better than does categorisation according to technology. Using political criteria to group societies also facilitates the analysis of differences in economic processes among societies that are technologically alike but ecologically, and often demographically and politically, different. As a heuristic tool, an evolutionary framework fulfils the functions of a taxonomy.

This book calls for a paradigm synthesis – using elements of paradigms conjointly to compensate for deficiencies in one or another of the paradigms individually. For example, cultural ecology lacks the institutional basis and the focus on the organisational features of production processes. Marxist economic anthropology put production processes and institutions back into economic anthropology but removed the ecological basis of production processes. Substantivism emphasises the institutional but, with some exceptions (Sahlins, 1972; Halperin, 1977a), it has been interpreted and applied in a particularistic fashion. That this was not at all what Polanyi intended will become clear in Chapter 3.

In addition to compensating for deficiencies in individual paradigms, taxonomies are an antidote to relativism. They have both formal and comparative potentials in the sense that they set up the conditions for insuring that we do not compare apples and oranges.

In short, we need a comparative science of the economy that deals with production and distribution processes in the whole range of institutional contexts in a variety of ecologies. A comparative science of the economy is possible only if institutions become the primary units of analysis in ecological and historical contexts. If the aim of the enterprise is scientific, that is, to describe and explain organisation, variation and change in economies and human societies, then a new approach is needed. This approach must ensure that we use comparable data for comparable units. Before a comparative cross-cultural economics is possible we must identify problems that are conducive to analysis across cultures, whether the domain is a worldwide ethnographic sample or a set of cultures defined by structural type. For example, to analyse the evolution or development of wage labour is not sufficient; rather, the analysis of the more general problem of labour and its organization is needed. Similarly, to deal only with money rather than with exchange media and systems of determining value represents too narrow a perspective. In other words, we must examine general problems and their particular forms. In order to do this, I suggest that Marx's original

concepts be reinterpreted in a cross-cultural framework. If we indeed view anthropology as broader than Marxism in the sense that it deals with the totality of economic formations found in the human cultural experience, and if we look at the ways in which human cultures shape economic formations in order to to adapt to particular environments, then we can begin to create a comparative science of the economy.

3 The Institutional Paradigm in Economic Anthropology

INTRODUCTION

Karl Polanyi is probably best known in economic anthropology as the founder of the substantivist school. In fact, it was not until Polanyi published his now famous essay 'The Economy as Instituted Process,' that the formalist–substantivist controversy established economic anthropology as a subfield worthy of theoretical consideration. By the 1970s, however, the debate had grown old and Marxism dominated discussions of economies across cultures. Formalists and substantivists alike became converted Marxists and in their zeal for the new religion severed their ties with former faiths. While a few acknowledged that there might be a relationship between Marxism and substantivism, Polanyi's concepts dropped out or were dismissed summarily. This chapter reconnects the links between substantivism and Marxism in the form of the institutional paradigm, and is predicated on several controversial assumptions. The first is that the critical debates for economic anthropology in the 1980s are not between formalists and substantivists, as they were in the 1960s, but between substantivists and Marxists. By critical I mean those debates which are likely to direct the field toward cross-cultural, comparative analysis, that is, toward explaining how and why economies in different societies take particular forms, maintain their basic structures, or change into forms qualitatively different from the previously existing ones.

The second assumption is that, although Marxism and substantivism have, to date, constituted two separate and, to some degree, opposing 'schools' in economic anthropology, the schools derive from a common intellectual and philosophical tradition, and their practitioners are operating within the same basic institutional paradigm. The existence of a shared paradigm means, among other things, that the contentions of the 1980s are, in many ways, much more subtle and sophisticated than the mud-slinging arguments of the 1960s, which were indeed debates between scientists operating with different paradigms (Kuhn, 1962).

The purpose of this chapter is to define the institutional paradigm and some of its potentials as the keystone of a comparative, cross-cultural economics. The emphasis is upon an explication of Karl Polanyi's use of anthropological concepts and data in combination with certain of Marx's basic notions. As such, I use Marx to explicate Polanyi's version of cross-cultural economics.

This chapter is not intended as a full-blown explication of either Polanyi or Marx; neither is it an attempt to equate the two. It is important to emphasise that such an explication should not be interpreted as an argument that the institutional paradigm is, or should be, restricted to Polanyi and Marx or that it originated with them. Rather, beginning a discussion of the institutional paradigm with Polanyi and Marx makes sense because of the current resurgence of Marxism in the social sciences and because of Polanyi's attempts to synthesise and build upon the work of Marx. That Polanyi used other, non-Marxist work, both empirical and theoretical, merely adds to the complexity of his thought and indicates that he used different sources for different purposes.

In order to understand the cross-cultural implications of Polanyi's concepts, his writing must be interpreted both as an outgrowth of and a reaction to that of Marx. There is an underlying consistency in Polanyi's work, the basis for which originates in Marx's writing. Understanding the Marxian elements in Polanyi's work renders both his concepts and the basic elements of the institutional paradigm comprehensible in ways which are not possible if Polanyi's Marxism is ignored. Thus, the first step in spelling out and elaborating the institutional paradigm is to unravel Polanyi's Marxism. A comparative analysis of the work of Polanyi and Weber or Polanyi and Lukács would undoubtedly reveal different but equally important elements of Polanyi's work.

THE PROBLEM OF INTERPRETING THE ROOTS OF POLANYI'S THOUGHT

To argue that Polanyi and Marx share a common institutional paradigm is to suggest unfashionable interpretations of both writers. First, my interpretation of Polanyi's work differs sharply from that put forth by George Dalton, who has dissassociated Polanyi's thought from that of Marx. For example, while Dalton recognises 'definite affinities (agreements, similarities) between Marx and Polanyi in both para-

digm and commitment to socialism', he states categorically that 'The differences between Marx and Polanyi are much more important than their similarities. Marx and Polanyi definitely represent rival (alternative, disagreeing, contradictory) paradigms or theoretical systems' (Dalton, 1981:75). Secondly, to argue for the conceptual kinship between Polanyi and Marx goes against the view of those Marxists who claim a sharp disjuncture between Polanyi's substantivism (which they interpret as equivalent to the old style structural functionalism) and the Marxian dialectic (Clammer, 1978b). It is important to point out that, while he used data collected by British structural functionalists, principally Malinowski, Polanyi placed those data in a different framework, which was historical and evolutionary rather than homeostatic.

The framework Polanyi developed for analysing economies in different societies, while vague and in many respects awkward and groping, is potentially cross-cultural. His framework is the product of a synthesis of Marxian concepts of the economy and the data of economic history and cultural anthropology. Because he was writing in the mid-twentieth century, just after anthropology had produced its first major ethnographies, Polanyi had access to anthropological data which did not exist in Marx's time, or in Weber's for that matter. Polanyi drew heavily upon the work of Malinowski, Firth and Thurnwald, and he selected his data from the existing ethnographic record in terms of certain Marxian ideas of the economy. This was not difficult, since Malinowski and Firth, especially, had clearly read Marx, and, therefore, collected their data in a framework that was compatible with Polanyi's theoretical interests. Polanyi, in turn, used ethnographic data to modify and elaborate Marx's concepts. A re-analysis of Marx's basic concepts in terms of a broad, cross-cultural framework provides insights into their limitations as well as their potential utility. Such a framework can be constructed if Polanyi's concepts are clarified in light of contemporary anthropological knowledge.

In what appears on the surface to be a contradiction, Polanyi rejected Marx's economic determinism at the same time that he adopted Marx's institutional model of the economy. Polanyi said of Marx: 'The societal approach personified in Marx was sapped by the economistic element [vulgar materialism] inherited from the classics' (1968:134). In this context, 'societal' means institutional, a point upon which I will elaborate below. The interpretation of Marx that is presented here, what I will call institutional Marxism, also

conflicts with the increasingly popular Althusserian (1970) or 'structuro-Marxist' reading. My reading of Marx is closer to that which came out of the Frankfurt School (Katz and Kemnitzer, 1978:59). The work of George Lukács, a Hungarian Marxist, is important here, particularly his book, *History and Class Consciousness* (1971). Lukács' ideas on the 'embeddedness' of economic formations, on science under capitalism, and particularly his notions of reification, seem to be at the foundation of Polanyi's work. One can, in fact, read Polanyi as an interpreter of Lukács, Polanyi 'fills in' cross-cultural data which neither Marx nor Lukács had at their disposal. It might also be noted that Lukács' description of the nature and function of the dialectic seems, if not to require, at least to be greatly strengthened by data on pre-capitalist economies, precisely of the sort Polanyi used for his own dialectical purposes. Humphreys (1969) has alluded to the relationships between Lukács and Polanyi, but she did not elaborate. The common link between Polanyi and Lukács can be traced to both Marx and Weber.

Numerous scholars have noted the kinship between Marx and Polanyi and, therefore, between Marxism and substantivism in economic anthropology. In a relatively early and pithy statement, Scott Cook (1969:380) said that Marx is 'the most astute and profound of all substantivist economic thinkers'. Polanyi's ideas have figured importantly in the work of French Marxist economic anthropologists for well over a decade. For example, Meillassoux (1972) has cited Polanyi favourably and with some elaboration. Godelier (1966) has used Polanyi's ideas in a more confusing fashion; he ostensibly rejects them, at the same time that he incorporates many of Polanyi's basic principles and concepts. While I do not wish to analyse or criticise Godelier's work here, it should be noted that some of the confusion about which of Godelier's ideas are Polanyi's, which are Marx's, and which are his own, may be explained by the closeness of fit between the concepts of Polanyi and Marx. Recently, several French Marxist economic historians have also begun to draw upon Polanyi's work and relate it to Marxian themes (Duby, 1981; Valensi, 1981).[1] Further evidence for interest in what I am calling the institutional paradigm can be found in England. Raymond Firth has consistently dealt with questions of the applicability of Marx's concepts to problems in economic anthropology. In *Primitive Polynesian Economy*, he says that

> both Henry Maine and Karl Marx emphasized from very different angles the constraint which institutions put upon the actions of individuals. Marx laid stress upon the fact that exchange relations

> were relations between persons, not between things, and that for the purpose of most fruitful analysis it is relations between categories of persons which are of most significance. But the point is that in considering an economic system such as Tikopia, the categories which are important to recognize are not for the most part categories of persons differentiated by their roles in production but categories of persons who, both parties being producers, are, defined as exchangers by their positions in the social system. (1975:19–20)

Firth has also addressed the relationship between Polanyi and Marx. Noting that Humphreys (1969) 'raises the question of the relation of Polanyi's theories to those of Karl Marx, by whom he was obviously influenced' (1972:469), Firth further points out that the relationship is significant given the use of both Marx's and Polanyi's concepts by modern French anthropologists. On the relationship between Polanyi and Marx, Firth (1972:470) observes:

> Polanyi was critical of Marx's characterization of non-market economies, and his emphasis on the significance of allocation of wealth as a function of social structure appears to have found some recent reflection. The issues here are still rather obscure, and Humphreys points out that further examination of the relations between patterns of allocation and the organization of production is clearly needed.

Reiterating Firth's point, David Seddon has noted that Polanyi's indebtedness to the historical methods of Marx is obvious (1978:17). The precise nature of the relationship between Marx's and Polanyi's thinking on the economy has yet to be spelled out, however.

PRELIMINARY CONSIDERATIONS

Karl Polanyi (1886–1964) was an unusual scholar and his work continues to be controversial. While he was a lawyer and economic historian by training, he has been recognised by anthropologists, economists, and historians alike as a scholar whose enormous range of interests spanned all the social sciences (Dalton, 1968). Polanyi drew upon the historical, the ethnographic, and the archaeological records as well as upon the work of social theorists. He created a framework for understanding economic systems which changed the development

of economic anthropology, economic history, and comparative economics. Sievers (1949), an economist, considers Polanyi's *Great Transformation* comparable in importance to Adam Smith's *Wealth of Nations* and Marx's *Capital*. Zeisel (1968:174) writes of 'the astonishing analytical and, at times, prophetic power of his unorthodoxy'. Humphreys (1969:180) writes that 'the strength of his approach was in its methodological originality and wide range of comparisons'.

Marx and Polanyi wrote at different stages in the development of anthropology as a science, and in different political climates. Polanyi's major works were written in the United States in the late 1940s and early 1950s in a milieu in which the maintenance of an academic appointment demanded that he shroud his Marxism in non-Marxist terminology, that he mask his Marxism. It is the masking of basic Marxist concepts that accounts for much of Polanyi's highly abstract, often obtuse prose. What is required is a translation of Polanyi's masked concepts into terms which reveal the nature of the masking and which uncover the hidden theoretical and political contexts within which Polanyi was writing. Polanyi's arguments were more subtle than Marx's, but despite their masked character, they were just as powerful. The masking explains why Polanyi's work has been received with such extreme reactions (i.e., praise, misunderstanding, dismissal). His work is rarely ignored, however, and it continues to be used by contemporary writers in various social sciences (Bourdieu, 1978; Starr, 1982; North, 1977; Finley, 1973; Kindleberger, 1974; Stanfield, 1986).

Polanyi's position within the social sciences is filled with ironies. He was not an economist, but his work is critical to a cross-cultural science of economy. Polanyi was not an anthropologist, but his ideas have had greater impact upon anthropology than upon any other discipline. Readers of Polanyi have often projected their own disciplinary biases upon his work. Anthropologists of functional persuasion have projected British functionalism upon Polanyi's framework (Bohannan and Bohannan, 1968). Historians have read him as a humanist, and to some extent a romanticist (Humphreys, 1969).

Polanyi also had a tendency to be inconsistent in his definition of key concepts: he often contradicated himself in the same work. His writing is abstract, often to the point of incoherence and incomprehensibility. The more elaborate his ideas became, the more abstract his writing. He also changed his terminology in the course of his work. For example, in *The Great Transformation* (1944), he began by writing about

'institutional patterns', changed the term to 'institutional arrangements' in the same work, and then in *Trade and Market* wrote of 'instituted process' (1957b). These characteristics render Polanyi extremely difficult to read, and even more difficult to understand, in such a way that his concepts can be applied scientifically.

THE INSTITUTIONAL PARADIGM

The institutional paradigm, as it is most commonly employed today in economic anthropology, probably originated with Marx, even where his contribution is unacknowledged or even unknown. The paradigm entered economic anthropology indirectly, however, through Weber and especially Malinowski and Firth. By institutional paradigm I mean the collection of models that emphasises the varieties of institutional arrangements organising production, distribution, and consumption.

The meaning of the word institution is problematical in the writings of both Polanyi and Marx. Marx wrote repeatedly but also rather abstractly about the importance of social contexts, of society as the critical unit within which economic activity occurs and must be comprehended: for Marx, society meant institution. A person performing the same task in two different social contexts is, for Marx, doing two qualitatively different things. Polanyi's writing contains various expressions containing the word institution. As I have noted, he wrote of 'institutional patterns', 'institutional arrangements', 'instituted processes', and 'institutedness'. In all of his writings, Polanyi made clear that institutions were the key units of economic analysis, but he never pointed to an unambiguous, succinct definition of the term, and his concept of institution needs refinement before it can be used in a comparative scientific framework.

By institution, I mean simply an analytic construct that refers to an organisational principle or mechanism. Institutions are devices, but they cannot be seen. They exist analytically and must be defined as such. For instance, private property is an example of what I am calling an institution. Law students in the United States are required to take an entire course on Property, which is, precisely, about how the organisational principle of private property can be applied to concrete situations. To take another example: if an archaeologist recovers identical artefact assemblages, say, stone tools in two geographically distinct locations separated by 60 km, there are a variety of mechanisms that logically could be postulated to describe, and eventually

explain, the relationships between the two sites. For example, if debitage (waste products from stone tool production) is also found in one site and not the other, that first site might be said to be the locality of stone tool production, the second a locality of consumption. The task then becomes one of determining the mechanism by which the stone tools moved from the production to the consumption centre. If, however, no production debitage is found in either site, both sites might be consumption centres, with a production centre at a third (yet to be determined) site. Several mechanisms might be postulated to explain the relationships between the two sites, among them processes of trade and exchange (McAnany, 1986). The point here is that a variety of principles might be found to organise the movements of these tools. In essence, the mechanisms set the patterns and relationships between the units, in this case, the sites.[2] The units may be of varying sizes and levels of organisational complexity: they may also be constructed purely for analytical purposes and function, therefore as heuristic devices. One of the most important characteristics of institutions is that they exist independently of the particular individuals whose behaviour they organise, although they obviously involve individuals. Polanyi and Marx share a common approach to the analysis of the economy, based upon the idea that institutions are the key units of economic analysis. The idea is central to their definition of the economy itself and to their development of concepts for the analysis of economic formations.

CONCEPTUALISING THE ECONOMY

The Idea of the Economy as Instituted Process

For both Polanyi and Marx, the economy in all societies consists of a process of material provisioning of livelihood. Marx writes:

> The object before us, to begin with, is *material production*.
>
> Individuals producing in society – hence socially determined individual production – is, of course, the point of departure. The individual and isolated hunter and fisherman, with whom Smith and Ricardo begin, belongs among the unimaginative conceits of the eighteenth-century Robinsonades. (1973:83)

> The more deeply we go back into history, the more does the individual, and hence also the producing individual, appear as dependent, as belonging to a greater whole: in a still a quite natural

> way in the family and in the family expanded into the clan; then later in the various forms of communal society arising out of antitheses and fusions of the clans. (1973:84)

Similarly, Polanyi writes:

> The economy as an instituted process of interaction serving the satisfaction of material wants forms a vital part of every human community. Without an economy in this sense, no society could exist for any length of time. (1977:31)

Polanyi's idea of the economy as an instituted process began with Marx's idea of socially determined individual production. The idea of 'instituted process', however, is much more elaborate than Marx's general notion of the social, because it deals with the relationships between specific kinds of units and specific kinds of economic processes. For Polanyi, 'instituted' means organised in the sense of something which is not idiosyncratic or random. The principles of organisation and the relevant units vary enormously across cultures, however. For Polanyi, economies must be analysed as parts of cultural systems. Economic processes have cultural components. Only certain kinds of social units with certain kinds of social structures can organise particular kinds of economic processes. The following questions are implicit in Polanyi's analysis: What kinds of patterns of economic organisation do we find in what kinds of units as societies advance technologically, grow larger demographically, and develop politically? What kinds of patterns of economic activity are possible at the state level which are not possible in pre-state societies? Alternatively, given social stratification, can reciprocity integrate state-level societies? Or, is some other mode of economic integration dominant in states? Whereas Marx's frame of reference was capitalism and economies were either capitalist or non-capitalist, Polanyi did not restrict his concepts to any particular form of economic organisation; in fact, his conceptual framework was truly cross-cultural in the sense that it covered all types of economies known in human societies. His reference point was European capitalism, however, and he used implicit and explicit notions of capitalism for a variety of analytical purposes.

Polanyi's concept of 'process' provides the historical dimension to his work and links it with that of Marx. Process implies movement through time – activities that often occur in complex combinations but that are ongoing and changing, as well as continuous, whether cyclical or linear. For Polanyi, process indicates continuous change, whether it is evolutionary or historical, gradual or sudden. Even though Polanyi

never used Marx's term 'historical materialism', his definition of the economy as 'an instituted process of interaction serving the satisfaction of material wants' is simply another way of stating this very basic of Marx's notions.

Polanyi further elaborated the concept of the economy as instituted process as follows:

> The human economy, then, is embedded and enmeshed in institutions, economic and noneconomic. The inclusion of the noneconomic is vital. For religion or government may be as important for the structure and functioning of the economy as monetary institutions or the availability of tools and machines themselves that lighten the toil of labour. (1957b: 250)

This passage counters conventional notions of what is 'economic'. For Polanyi, the market system is not the only kind of economic institution; indeed, his main point in *The Great Transformation* is that price-making markets came into existence relatively late in cultural evolution. The corollary to this notion is that an institution need not appear 'economic', by conventional standards, in order to function as an organiser of production, distribution and consumption. For instance, Polanyi names religion and government as two such institutions and his statement about the embeddedness of economies in non-economic formations is closely related to the following statement by Marx (1973:101): 'The simplest economic category say e.g. exchange value, presupposes population, moreover a population producing in specific relations; as well as a certain kind of family, or commune, or state, etc.' Thus, the notion of the embeddedness of economies is really Marx's. It has been embellished in various ways by Polanyi, Malinowski, Firth, Godelier and others.

For Polanyi, the economy stands in various relationships to society. For example, he said (1957b:250): 'The study of the shifting place occupied by the economy in society is therefore no other than the study of the manner in which the economic process is instituted at different times and places.' Under capitalism, the economy, as it is organised by market institutions, usurps all of the other institutions of society. Indeed, Polanyi lamented the take-over of society by the economy; he had adopted, albeit implicitly, the Marxian notions of alienated work, commodity fetishism, exploited labour, and the like (Polanyi, 1947; I.Duczynska, n.d.: xvii). Basically, he perceived an inhumane and immoral society created by the market mechanism, in short, by capitalism. Polanyi stated these concerns cryptically, however.[3]

Polanyi viewed the relationship between material and non-material processes (in Polanyi's terms, economy and society, respectively) in different cultures as highly variable and for that reason in need of comparative treatment. Capitalism represents one extreme in which economic and social institutions overlap almost entirely. By contrast, in pre-capitalist societies the relationship between economy and society is quite different, and from Polanyi's point of view, more desirable because material processes serve social relationships rather than the reverse. Herein lies Polanyi's romanticism.

To label Polanyi a romantic and ignore his brand of science, however, is to miss a critical if not *the* critical emphasis of Polanyi's work. While he idealised the pre-industrial and the primitive, he also used data on these societies for comparative and analytical purposes. Polanyi wrote of the archaic societies – Greece, Egypt and Mesopotamia – as examples of societies in which the economy was embedded in political institutions, especially the state. He used the Trobriand case as the archetypical kin-based economy and society; similarly he drew upon Thurwald's and Firth's ethnographic data. Polanyi had more comparative data to work with than did Marx, so he could afford to provide elaborate descriptions of empirical economies. All of Polanyi's empirical examples, however, were part of a larger, comparative treatment of the changing relationships between economy and society in an evolutionary and cross-cultural perspective. This perspective did not represent a departure from Marxian theory, but, rather, an elaboration of it. For Polanyi, a special 'tool-box' (1957b:250) was required to continue what Marx had begun.

The Substantive Economy

One of Polanyi's most powerful analytical tools is the concept of the 'substantive economy'. It represents the foundation of his cross-cultural framework and defines his subject matter. There are several versions of Polanyi's idea of the substantive economy, all of which have two analytically separable but empirically related components: one is ecological and technological; the other is institutional. In 1957 Polanyi referred to the ecological component simply as 'nature' and to the institutional component as 'his fellows' by saying:

> The substantive meaning of economic derives from man's dependence for his living upon nature and his fellows. It refers to the

> interchange with his natural and social environment, in so far as this results in supplying him with the means of material want satisfaction. (1957b:243)

Polanyi's 1977 version of the definition of the substantive economy is much more precise in its specification of the two components, stated as levels of the substantive economy:

> The substantive economy must be understood as being constituted on two levels: one is the interaction between man and his surroundings; the other is the institutionalization of that process. In actuality, the two are inseparable; we will, however, treat of them separately. (1977:31)

While Polanyi did not elaborate the ecological component of the substantive economy, he went to great lengths to explicate the institutional component. The two components recall Marx's two basic categories: forces of production and relations of production. The former corresponds to Polanyi's ecological component; the latter, to his institutional component.

It is curious that Polanyi elaborated the institutional component so fully and merely mentioned the ecological component of the substantive economy. One could speculate endlessly, but a few things should be pointed out. First, proportionately, Polanyi devoted the same amount of attention to the ecological and institutional components of the economy, respectively, as Marx did. Second, the anthropological data to which Polanyi had greatest access also focused upon institutional rather than ecological variables. For example, he frequently cites the writings of British social anthropologists Radcliffe-Brown, Firth and Malinowski. The same can be said of Herskovits, who appears referenced in several places in *The Great Transformation* and in *Trade and Market*. (The work of members of the Boasian school, Ruth Benedict, along with Boas himself, with which Polanyi was also quite familiar, did not provide ecological variables, but rather emphasised historical particularities and cultural distinctiveness.) Polanyi's other prominent sources, such as Max Weber, take institutional rather than techno-ecological approaches. Thus, with the possible exceptions of Charles Darwin and Robert Malthus, Marx appears to be the major source of the techno-ecological component in Polanyi's work.

Polanyi's elaboration of the institutional component of the substantive economy involves several key concepts. One is his concept of

modes of economic integration. Others are his related concepts of locational and appropriational movements. I will deal only with the former here. First, however, I should note that neither the term substantive nor the term formal, appears in *The Great Transformation*. The idea of the substantive economy as a cross-cultural concept is, however, very prominent in Polanyi's early work (1944:55). At that point in his writing, Polanyi was dealing with the evolution of the market and with the great range of ways that order could be created in the production and distribution of goods (1944:45, 71). In 1947, he was still using words such as 'human economy' and he was working out his relationships to Marx's institutional but nevertheless ethnocentric focus upon capitalist institutions. Polanyi emphasised the institutional nature of the market economy. His fight against the concepts of conventional economic theory came later in his work. In a very real sense, we can speak of Early Polanyi, before *c.* 1950, and Late Polanyi, after *c.* 1950.

Modes of Economic Integration

Polanyi formulated the concepts of reciprocity, redistribution and exchange for the analytical purpose of identifying patterns of economic activity that can be associated with particular kinds of institutional arrangements. These modes of economic integration must be understood as models, that is, as specifying ideal requirements that do not necessarily exist empirically. For example, in order for reciprocity to function as a mode of economic integration, economic processes must occur between symmetrically organised structures. The mode of economic integration that Polanyi called redistribution requires a centralised structure. The centre serves as the allocative point into which goods and services are collected and from which they are then disbursed. The centre must be established and ongoing and it must exist independently of any particular movements of goods and services. In order for market exchange to be a mode of economic integration a system of price-making markets is required. In the following statement, Polanyi clearly says that aggregates of individual behaviours do not constitute modes of economic integration. Writing, then in the negative, Polanyi says:

> The terms reciprocity, redistribution, and exchange, by which we refer to our forms of integration, are often employed to denote

> personal interrelations. Superficially then it might seem as if the forms of integration merely reflected aggregates of the respective forms of individual behavior: If mutuality between individuals were frequent, a reciprocative integration would emerge; where sharing among individuals was common, redistributive integration would be present; similarly, frequent acts of barter between individuals would result in exchange as a form of integration. If this were so, our patterns of integration would be indeed no more than simple aggregates of corresponding forms of behaviour on the personal level. (1957b:251)

To reiterate, mutual aid between two individuals does not constitute reciprocity, sharing does not constitute redistribution, and barter does not create a market mode of economic integration. It should be noted that Polanyi often contradicted himself. For instance, in some places, he wrote of sharing as small-scale redistribution.

In a more positive vein, Polanyi says, 'The integrative effect was conditioned by the presence of definite institutional arrangements such as symmetrical organizations, central points and market systems, respectively' (1957b:251). He addresses issues concerning the creation of various institutional arrangements and states very clearly: 'The significant fact is that mere aggregates of the personal behaviors in question do not by themselves produce such structures' (1957b:251). In other words, individuals cannot create specific institutional arrangements without an existing structure. Polanyi says: 'Reciprocity behaviour between individuals integrates the economy only if symmetrically organized structures, such as symmetrical systems of kinship groups, are given. But a kinship system never arises as the result of mere reciprocating behavior on the personal level' (1957b:251). Similarly, redistribution requires a structure of centrality. It 'presupposes the presence of an allocative center in the community, yet the organization and validation of such a center does not come about merely as a consequence of frequent acts of sharing between individuals.' This position does not imply that there is no room for individuals to affect or change institutional arrangements. Regarding the relationship between institutions and individual behaviour for market exchange Polanyi is very clear: 'Acts of exchange on the personal level produce prices only if they occur under a system of price-making markets, an institutional set up which is nowhere created by mere random acts of exchange' (1957b:251). Polanyi's use of the word random merits some comment. It refers to Adam Smith's notion

of the 'invisible hand' as the organising principle for the market economy. This is the idea that, somehow, a series of randomised exchanges on the part of individuals creates the forces of supply and demand that set the prices that produce a market system. Polanyi implies that there are institutional prerequisites, such as a system of private property, which must be met before individual acts of exchange will become part of a market system.

It is curious that Polanyi never specifically discusses private property, however; he assumes it. This omission is puzzling, unless one understands it as another example of Polanyi's masked Marxism. Polanyi clearly avoided reproducing Marx's analysis of a property-based class system under capitalism; his omission of the institution of private property must be explained, however, especially in light of the considerable attention Polanyi devoted to the formal economic analysis of market capitalism. I suggest that the formal definition of the economy and the concept of market exchange were really codes for the capitalist system. The codes allowed Polanyi to assume the key ingredients for capitalism without actually analysing specific capitalist institutional arrangements and without using words such as class, private property, and capitalism.

In sum, Polanyi wrote about the institutional criteria necessary for reciprocity, redistribution, and exchange to operate as modes of economic integration. This was an elaboration of Marx's notion of the importance of the social:

> We do not wish to imply, of course, that those supporting patterns are the outcome of some mysterious forces acting outside the range of personal or individual behavior. We merely insist that if, in any given case, the societal effects of individual behavior depend on the presence of definite institutional conditions, these conditions do not for that reason result from the personal behavior in question. (Polanyi, 1957b:251)

The Functions of the Formal Definition of the Economy

The definitions of the economy formulated by Polanyi and Marx were, in large part, critical reactions to Adam Smith's invisible hand. For Smith a market system would be created automatically by self-interested actors pursuing their aims. Marx's critique of Adam Smith and

Polanyi's of formal economics are strikingly similar. Polanyi said, 'To start with, we must discard some nineteenth century prejudices that underlay Adam Smith's hypothesis about primitive man's alleged predilection for gainful occupations' (1944:44). Marx objected to the emphasis in classical political economy upon logical conceptions of how the real world might work and argued for real concerns: 'As if this rupture had made its way not from reality into the textbooks, but rather from the textbooks into reality, and as if the task were the dialectic balancing of concepts, and not the grasping of real relations!' (Marx 1973:90).

Capitalism for Marx and its equivalent, the market economy, for Polanyi are culturally and historically specific systems of production, distribution and consumption. For both Marx and Polanyi, economic systems grow out of specific historical and institutional conditions which can be explained neither by positing universal psychological traits nor by invoking the universal logic of rational action. For Polanyi, conventional economic analysis cannot handle the range of institutional arrangements organising economic processes because conventional concepts and assumptions apply only to a market economy.

THE SUBSTANTIVE ECONOMY

The cross-cultural nature of Polanyi's concept of the substantive economy became confused to the point of almost total negation. There were several reasons for this. First, since, in Polanyi's schema, substantive was the opposite of formal it was defined in the negative, not by its a positive characteristics. Since formal economics dealt with market economies, non-market economies became the subject matter of substantivist economic anthropology.Unfortunately, these economies could be dismissed easily, especially by economists, as quaint configurations on the periphery of world capitalism.

Polanyi's analytical purposes in establishing the formal vs. substantive dichotomy were much more complex, however, but these purposes cannot be comprehended without recognising Polanyi's masked Marxism. Polanyi used the concept of the substantive economy to highlight the cultural specificity of formal conventional economics and he objected vehemently to the imposition of the market 'shape of things' upon essentially non-market economies. Thus, Polanyi's was not a simple rejection of capitalistic analytic

categories. The aim of the rejection was two-fold: (1) to mask his critique of capitalism *per se*; and (2) to continue his cross-cultural analysis of human economies. The critique of capitalism appears in Polanyi's writing primarily as a critique of conventional economic concepts. In fact, Polanyi objected to the concepts of conventional economics as they were used in non-capitalist contexts, and to actual capitalist institutional arrangements in industrial economies. His critique, however, took the form of an analysis of distributive mechanisms, primarily markets, and of a romantic portrayal and glorification of non-capitalist economies.

It is important to note that Polanyi was extremely careful to avoid the terms capitalist, pre-capitalist, and non-capitalist in his post-1950 writing. He systematically substituted the word market for capitalist. The word capitalism does not even appear in the index to *Trade and Market* and it appears only at the very end of *The Livelihood of Man* as a chapter entitled 'Capitalism in Antiquity', in which Polanyi argues that capitalism was at very best elusive in antiquity (1977:273–6). Since Polanyi linked the concept of market with that of trade, the substitution of the term market for capitalism in *Trade and Market* gave the very strong impression of emphasising distribution over production processes. In addition to setting off the well known formalist-substantivist debate in economic anthropology, the formal-substantive dichotomy distracted analysts from Polanyi's main purpose, which was to begin the comparative analysis of economic formations in a range of societies from simple (read primitive) to complex (read industrial capitalist) and from ancient (read prehistoric) to modern. His was indeed an evolutionary framework, but this word too was masked so as not to reveal his underlying Marxism. For example, in characterising the modes of economic integration, Polanyi flatly denied that they are to be construed as stages of development (1977:42–3). Polanyi dismissed Marx's unilineal evolution, but at the same time worked with an implicitly evolutionary categorisation of technologies and social and political structures.

THE GENERAL AND THE PARTICULAR

For both Polanyi and Marx, an institutional approach to economic processes requires analysis of the economy on two levels, general and particular. At the general level, Polanyi wrote of similarities between all pre-capitalist (what he called non-market) forms of economic

organisation. His concepts of reciprocity and redistribution, however, are designed to describe differences between various kinds of pre-capitalist economies.

Marx was concerned with the general nature of material production as well as with productive systems organised by specific institutions in particular societies. He framed his general discussion of production in comparative terms that could be used for analysing all systems of production in all societies. At the same time, he was aware of the abstract nature of general categories and of the need for constant interplay between analyses of particular economies and considerations of the economy in general:

> Whenever we speak of production, then, what is meant is always production at a definite stage of social development – production by social individuals. It might seem, therefore, that in order to talk about production at all we must either pursue the process of historic development through its different phases, or declare beforehand that we are dealing with a specific historic epoch such as e.g. modern bourgeois production ... However, all epochs of production have certain common traits, common characteristics. *Production in general* is an abstraction, but a rational abstraction in so far as it really brings out and fixes the common element and thus saves us repetition. Still, this *general* category, this common element sifted out by comparison, is itself segmented many times over and splits into different determinations. Some determinations belong to all epochs, others only to a few. [Some] determinations will be shared by the most modern epoch and the most ancient. No production will be thinkable without them; however, even though the most developed languages have laws and characteristics in common with the least developed, nevertheless, just those things which determine their development, i.e. the elements which are not general and common, must be separated out from the determinations valid for production as such, so that in their unity – which arises already from the identity of the subject, humanity, and of the object, nature – their essential difference is not forgotten. The whole profundity of those modern economists who demonstrate the eternity and harmoniousness of the existing social relations lies in this forgetting. (Marx, 1973:85)

From Marx's interest in general economic processes comes his notion that all distribution processes also share certain ingredients:

> [It] must be apparent from the outset that, no matter how differently distribution may have been arranged in different stages of

> social development it must be possible here also, just as with production, to single out common characteristics, and just as possible to confound or to extinguish all historic differences under *general human* laws. (Marx, 1973:87)

According to Marx, the analytical elimination of historical differences does not imply that the particular forms taken by economic elements are necessarily the same in different societies. Thus, the famous passage:

> Human anatomy contains a key to the anatomy of the ape. The intimations of higher development among the subordinate animal species, however, can be understood only after the higher development is already known. The bourgeois economy thus supplies the key to the ancient, etc. But not at all in the manner of those economists who smudge over all historical differences and see bourgeois relations in all forms of society. One can understand tribute, tithe, etc., if one is acquainted with ground rent. But one must not identify them. Further, relations derived from earlier forms will often be found within it only in an entirely stunted form, or even travestied. For example, communal property. Although it is true, therefore, that the categories of bourgeois economies possess a truth for all other forms of society, this is be taken only with a grain of salt. They can contain them in a developed, or stunted, or caricatured form etc., but always with an essential difference. (Marx, 1973:105–6)

Thus, Marx says that particular forms of obligatory payments such as rent can be used to understand other forms such as tribute and tithes. He thereby implies that rent, tribute, and tithes all possess general common features. However, says Marx, the fact that these payments have some features in common does not mean that they are identical. They are different because they occur at different times and places, under different institutional arrangements.

.Viewed holistically, the work of Polanyi and Marx demonstrates the necessary interaction between general theoretical concepts (potentially applicable to all economies) and empirical data on particular economies and societies. Polanyi (1977:liv–lv) said:

> The scholar's endeavor must be, firstly, to give clarity and precision to our concepts so that we be enabled to formulate the problems of livelihood in terms fitted as closely as possible to the actual features of the situation in which we operate; and second, to widen the range of principles and policies at our disposal through a study of the shifting place of the economy in human society and the

> methods by which civilizations of the past successfully engaged in their great transitions. Accordingly, the theoretical task is to establish the study of man's livelihood on broad institutional and historical foundations. The method to be used is given by the interdependence of thought and experience. Terms and definitions constructed without reference to data are hollow, while a mere collecting of facts without a readjustment of our perspective is barren. To break this vicious circle, conceptual and empirical research must be carried forward *pari passu*. Our efforts shall be sustained by the awareness that there are no shortcuts on this trail of inquiry.

If anything, Polanyi's aims were broader than those of Marx, and he had a greater range of historical and ethnographic materials with which to work. For example, in the Preface to *The Livelihood of Man* (1977:xxxix), Polanyi says, 'The purpose of this work is to make universal economic history the starting point of a comprehensive reconsideration of the problem of human livelihood.' Restated, the key issue for Polanyi is: what are the common denominators in all processes of human livelihood, and what are the variables? For Polanyi, the analysis of capitalism was no more and no less important than the analysis of any other type of economy. The important point is that the analyses are all related, because the general concepts employed can be used in any economy. Thus, on the theoretical level Polanyi was clearly interested in universals and his approach was comparative and historical:

> On the theoretical level, an attempt is made to develop concepts of trade, money, and market institutions applicable to all types of societies. On the historical level, case studies are intended to bring to life our generalizations, by way of parallel and contrast. On the policy level, history should be made to yield answers to some of the burning moral and operational problems of our own age. (1977 :xxxix)

Polanyi's was, at its simplest, a multi-layered analysis: theory, history, ethnography and policy. While Polanyi often wrote so abstractly that he was difficult to comprehend, he did specify the relationship between general and particular economic concepts as follows:

> Terms such as supply, demand, and price should be replaced by wider terms such as resources, requirements, and equivalence. The historian will then be able to compare the economic institutions of

> different periods and regions without running into the danger of foisting upon the bare facts the market shape of things. (Polanyi, 1977:xi)

It should be remembered that, with the exception of Marx's writing and possibly Weber's, almost everything that had been written by economists and economic historians before Polanyi's time had indeed imposed the 'market shape of things'. If in the 1980s Polanyi seems to be protesting too much about these issues, our sense of the protest is a testimony to how far we have progressed from market-centered ethnocentrism (see Polanyi, 1977:xxxiv).

In sum, for both Polanyi and Marx the specification of general elements of the economy does not mean that any particular economy can be understood as an abstraction. On the contrary, empirical economies do not exist apart from the institutions that organise them. We need the general elements to identify the parts of the economic process, but the elements acquire meaning only in the context of problems concerning specific societies or types of societies.

PRODUCTION AND DISTRIBUTION

On first appearance, Polanyi and Marx differentially emphasise production, and distribution processes. For Marx it appears that production is primary and that the organisation of distribution and consumption follow from the organisation of production. In Marx's view it seems that production, distribution and consumption processes are inextricably linked. Polanyi's work by contrast, appears to emphasise distribution, not production, as the primary economic process. Processes of production, distribution and consumption are for Polanyi, not only separable analytically, but can operate simultaneously with different organisational modes.

Closer examination, however, shows that Polanyi and Marx are really much more alike in their views of production, distribution, and consumption than at first appears to be the case. Taking Marx's holistic view of the economy first, Marx says that production is part of consumption and vice versa. Distribution processes are also involved in production, because distribution is necessary to circulate productive resources as well as products. He uses distribution in the broadest sense of the term. For example, he says that the means of production, land and labour, must be distributed among people in order for them to perform productive roles:

> In the shallowest conception, distribution appears as the distribution of products, and hence as further removed from and quasi-independent of production. But before distribution can be the distribution of products, it is: (1) the distribution of the instruments of production, and (2) which is a further specification of the same relation, the distribution of the members of the society among the different kinds of production. (Subsumption of the individuals under specific relations of production.) The distribution of products is evidently only a result of this distribution, which is comprised within the process of production itself and determines the structure of production. To examine production while disregarding this internal distribution within it is obviously an empty abstraction while conversely, the distribution of products follows by itself from this distribution which forms an original moment of production. (Marx, 1973:96)

Marx, then, places his broad definition of distribution under the umbrella of production (1973:97) and argues that all distributive processes fall under the rubric of production: '[S]ince production must begin with a certain distribution of the instruments of production, it follows that distribution at least in this sense precedes and forms the presupposition of production ...' In specific terms, Marx is really asking the following substantive questions about the organisation of production and productive resources, questions which Polanyi also asked either directly or indirectly: How do society's institutions allocate productive resources such as labour and land to groups and individuals so that production can begin? How do these allocations affect the distribution of products? If all production processes require assembling and allocating resources in order for individuals to perform their tasks, then what Marx is calling distribution is really a problem of resource allocation. This problem can be separated analytically from that of the distribution of products. The concepts Polanyi developed are useful for analysing both production and distribution in different institutional contexts (Halperin, 1977b).[4]

Although Polanyi indeed focused his writing on institutions such as trade, money and markets, all of which he conceived as mechanisms for distributing products, his concepts of reciprocity and redistribution were originally intended to describe patterns of both production and distribution (1944:Ch. 4). Polanyi (1957b:255) gave production a primary place in his analysis of the economy by asserting that the dominant form of economic integration (reciprocity, redis-

tribution, or market exchange) is the one that organises productive resources:

> Dominance of a form of integration is here identified with the degree to which it comprises land and labor in society. So-called savage society, is characterised by the integration of land and labor into the economy by way of the ties of kinship. In feudal society the ties of fealty determine the fate of the land and labor that goes with it. In the floodwater empires land was largely distributed and sometimes redistributed by temple or palace, and so was labor, at least in its dependent form. The rise of the market to a ruling force in the economy can be traced by noting the extent to which land and food were mobilized through exchange, and labor was turned into a commodity free to be purchased in the market. (Polanyi, 1957b:255)

In *The Great Transformation* (1944:47), Polanyi clearly stated his concern for discovering 'order in production and distribution processes in pre-industrial societies'. This was the dual focus of his institutional critique of conventional economics. The almost exclusive emphasis upon distribution came only later, in *Trade and Market in the Early Empires* (1957).[5]

Marx's assertion of the interrelationships between production, distribution and consumption processes can be understood as part of Marx's ethnocentrism. The processes are linked because of the feedback from one to another under capitalism. From Polanyi's cross-cultural perspective that feedback was historically and culturally unique. Production and distribution can be empirically quite separate. Polanyi's very explicit analytical separation of production, distribution and consumption did not, however, erase the importance of production in Polanyi's framework. Polanyi reacted against Marx's ethnocentrism by retaining the centrality of production at the same time that he masked his Marxism by devoting so much attention to the analysis of trade, money, and markets.

LEVELS OF GENERALITY IN THE INSTITUTIONAL PARADIGM OF POLANYI AND MARX

The institutional paradigm of Marx and Polanyi operates at different levels of generality. While all of their concepts assume institutions to be the key units of analysis, the concepts were not designed to apply

equally to all institutional arrangements organising economic processes in all societies. Marx and Polanyi were interested in the common denominators of economic organisation, but not all of their concepts functioned analytically as common denominators. It is unclear in their writing just which concepts were meant to apply to all economies, which to a set of economies, and which to particular types. The problem is, then: How do we determine which concepts are which? The first step is to realise that their concepts carry different analytical weight depending upon their level of generality. The concepts, therefore, were intended to be used more or less widely in different historical and ethnographic contexts.

It is possible to differentiate at least three types of concepts operating at three levels of generality in the institutional paradigm of Marx and Polanyi. The first and highest level consists of cross-cultural concepts which are meant to be used for all economies recorded historically and ethnographically. The second level consists of middle range concepts (Merton, 1967), applicable to a set of economies or types of economic processes. The third level consists of particular concepts that are appropriate either to a single type of economy with a particular set of institutional arrangements or to a particular set of institutional arrangements within a complex economy.

One of the greatest problems in using the concepts of Marx and Polanyi has been to determine which level of generality was intended by them. Do the concepts of class, capital, surplus, exploitation and alienation, have analytical validity in all economies or only in some? What are the limits of concepts such as reciprocity and redistribution, mode of production, or relations of production? Indeed, the concepts of both Polanyi and Marx have been used in economic anthropology at all three levels, both appropriately and inappropriately.

My purpose in this section is simply to clarify the three levels of generality in the institutional paradigm of Polanyi and Marx by bringing an anthropological perspective to bear upon a discussion of the concepts as they operate at each level. Let me point out that Polanyi often used his concepts rather loosely, intending for them to operate as cross-cultural concepts when, in fact, they must be more restricted.

At the highest level of generality, the cross-cultural concepts have several functions in the institutional paradigm. They identify the key units of economic analysis as institutions, and they identify the kinds of processes that are critical to the working of all economies in all cultures at all times in history. They also provide the guidelines for comparison

and indicate the ways in which the analysis of economic change can be carried out. Examples of concepts at this, the highest level of generality, include Marx's 'relations of production' and 'forces of production', and Polanyi's 'substantive economy' and 'economy as instituted process'. These concepts provide the foundations for the institutional paradigm. The concepts at this level also indicate a theoretical perspective which has potential power to explain similarities, differences, and changes in economic processes.

Marx's concept of 'relations of production' refers to the relationship among individuals in institutional settings and is quite parallel in its analytical power to Polanyi's notion of 'economy as instituted process'. Marx said, for example, of the concept of relations of production:

> In production, men not only act on nature but also on one another. They produce only by cooperating in a certain way and mutually exchanging their activities. In order to produce, they enter into definite connections and relations with one another and only within these social connections and relations does their action on nature, does production, take place. (Marx and Engels, cited in Giddens, 1971:35)

Here, the institutional nature of the concept of relations of production is quite clear. Social connections and relations refer to the organisation of the unit. The concept of relations of production is genuinely cross-cultural in the sense that it can be used without imposing any particular organisation or set of institutional arrangements upon a given economy.

Polanyi broadened Marx's notion of production and wrote about the organisation of livelihood in general. He did this for several reasons. First, he was interested in comparative economic systems and wanted to convey this broad view. Secondly, Polanyi made a sharp analytical separation between processes of production and processes of distribution and consumption. Still another reason for replacing the term production with the general term livelihood was that, by minimising his use of the term production, Polanyi disguised his Marxism once again. As I have noted, Polanyi did not abandon the centrality of production in his framework; he maintained the idea that the principle that organises productive resources sets the dominant mode of economic integration.

The middle range concepts indicate variations in institutional arrangements. They deal with the patterns, configurations and structures which define different arrangements. They were meant by Polanyi and Marx to be used for certain types of economies or certain

types of economic processes, but they are neither universally applicable nor restricted to a single economy or society. Examples are Polanyi's concept of reciprocity and redistribution and Marx's concept of the Asiatic mode of production (see Pla, 1982). These concepts are much more problematic than concepts at either of the other two levels because the domain to which they apply is much less clear. These middle range concepts have also received the most attention in the literature of economic anthropology as well as in economic history and political economy.

For Polanyi, the concepts of reciprocity, redistribution and market exchange were themselves models, not types of economies as some have claimed (Codere, 1968). This means that the concepts possess general properties which are useful in the analysis of more than one type of economy. For example, Polanyi pointed to a range of evolutionary types for which the concept of redistribution is useful: chiefdoms to pre-industrial and industrial states. In pre-industrial economies above the chiefdom level, redistribution is the dominant mode of economic integration. In industrial economies, redistribution still organises some non-market segments of the economy, primarily those of non-profit organisations or government agencies.

Polanyi was intrigued by the variability and complexity of redistributive institutions in pre-industrial economies as they manifested themselves in public festivals, ceremonial food distribution, mortuary feasts, and visits of state. He was so enamoured of the concept, in fact, that he extended its meaning beyond his own guidelines. For example, Polanyi attributed redistribution to 'the most primitive hunting tribe'. Since the principal feature of redistribution as a mode of economic integration is institutionalised centricity, and since this feature is absent in egalitarian hunting-gathering societies, the concept of redistribution is problematical, at best (see Carneiro 1981b; Halperin and Olmstead, 1976). The distribution or exchange of meat, or any other items, for that matter, indeed involved sharing, but in simple (band level) hunter-gatherer societies, the exchanges follow a reciprocal, not a redistributive pattern. The point is that sharing is not redistribution because there is no institutionalised centricity. Polanyi had a tendency to be rather vague about just where reciprocity left off and redistribution began. He says, for example:

> Redistribution also has its long and variegated history which leads up almost to modern times. The Bergdama returning from his hunting excursion, the woman coming back from her search for

roots, fruit, or leaves are expected to offer the greater part of their spoil for the benefit of the community. In practice, this means that the produce of their activity is shared with the other persons who happen to be living with them. Up to this point the idea of reciprocity prevails: today's giving will be recompensed by tomorrow's taking. Among some tribes, however, there is an intermediary in the person of the headman or other prominent member of the group; it is he who receives and distributes the supplies, especially if they need to be stored. This is redistribution proper ... Whether the redistributing is performed by an influential family or an outstanding individual, a ruling aristocracy or group of bureaucrats, they will often attempt to increase their political power by the manner in which they redistribute the goods. In the *potlatch* of the Kwakiutl it is a point of honour with the chief to display his wealth of hides and to distribute them; but he does this also in order to place the recipients under an obligation, to make them his debtors, and ultimately, his retainers.

All large-scale economies in kind were run with the help of the principle of redistribution. (Polanyi, 1944:50–51)

Polanyi elaborated a range of forms of redistribution which included tribute systems in state societies as well as sharing in hunting-gathering societies. He said, for example, 'The principle of redistribution will involve individual motives as different as the voluntary sharing of the game by hunters and the dread of punishment which urges the *fellaheen* to deliver his taxes in kind' (1944:52). This statement confuses the concept of redistribution by overextending it. Polanyi also changed his concept of redistribution in his later writing. In 1944 he emphasised the political components of centricity and redistribution. In 1957 he emphasised centricity itself and the two-way movements of goods into and then out from the centre. The concept of redistribution as put forth in *The Livelihood of Man* (published posthumously in 1977) is much closer to his 1957 work than it is to *The Great Transformation* (1944).

Polanyi's concept of householding is particularly problematic in relationship to the concept of redistribution. He confused both the level of generality and the fundamental features of redistribution when he wrote of householding as a form of small-scale redistribution:

Redistribution may also apply to a group smaller than society, such as a household or a manor. The best known instances of 'householding' are the Central African kraal, the Northwest African

> Kasbas, the Hebrew patriarchal household, the Greek estate of Aristotle's time, the Roman *familia*, the medieval manor, or the typical peasant household the world over before the general marketing of its produce.
>
> In ancient Greek as well as Germanic, *householding* is the term used to denote catering for one's own group. *Oikonomia* in Greek is the etymon of the word economy; *Haushaltung* in German corresponds strictly to this. The principle of 'provisioning one's self' remains the same whether the 'self' thus cared for is a family, a city, or a manor. (1977:41)

Used in this extremely broad fashion, householding deviates both from the criteria of centricity and from that of a two-way collection into the centre and movement away from it. If householding does indeed carry the Greek meaning of catering for one's group, as Polanyi indicates, then there need not be any movement out of the centre. If the 'self' cared for may be 'a family, a city, or a manor', then centricity is also not given for the process of householding. What is clear, however, in the concept of householding, regardless of the size or structure of the unit, is that householding is a cross-cultural concept, operating not at the middle, but at the highest level of generality. Other concepts of Polanyi's which are analogous in their level of generality to householding are his concepts of locational and appropriational movements. The confusion in the concept of householding emphasises the importance of understanding the different levels of generality for clarifying concepts in the institutional paradigm.

For Polanyi, the concept of reciprocity also operates at the middle level of generality. Polanyi says that reciprocity depends upon the presence of 'symmetrical institutions' (1977:38) and the principle of symmetry. He cites Thurnwald's 1916 study of the Banaro marriage system as the first to make the empirical connection between personal attitudes of reciprocity and the symmetry of institutions (1977:38; 1944:272), but he says that Malinowski described 'the best authenticated system of reciprocity' in his Trobriand studies (1977:39). It is important to keep in mind that, for Polanyi, the Trobriand case was simply one example illustrating reciprocally organised economic processes (1944:47). These processes range from the reciprocal trade arrangements between kula partners to exchanges of foodstuffs between coastal and inland villages (1977:39).

Polanyi said that 'one might think of the forms of integration as diagrams representing the patterns made by movements of goods and persons in the economy, whether these movements consist of changes in their location, in their appropriation, or in both' (1977:36). The patterns delineated by the concepts of reciprocity, redistribution and exchange are an attempt to specify the more abstract and general concept of 'the economy as instituted process'. They are part of Polanyi's 'classification of empirical economies' (1977:36). In this sense, they are an analytical attempt in the direction of specificity which begins with Marx's general notion of the social and expands upon it.

At the lowest level of generality, and therefore the level of the most particular of economic concepts, there is a much closer tie for both Polanyi and Marx between particular institutional arrangements and particular economic concepts than at any other level. The concepts are the most specialised at this level and they are the most easily misused. In the 1844 manuscripts, Marx stressed that capitalism is rooted in a definite form of society. The main institutional prerequisites of capitalism are a system of private property, free contract, and a general, all-purpose money. For capitalism to operate, the social and political structure must be a stratified class system in which there is a dichotomy between the capitalist owners of means of production and the workers who labour for the capitalists for wages. Only under an institutional system of private property can such a class structure exist and can capitalist relations of production function. Thus, class for Marx is defined in very particular institutional terms as a key aspect of the relations of production under capitalism. The concept of capital itself is also tied to the system of private property in the means of production. Without private property, capital is meaningless as a concept. The concept of surplus value, alienation, etc., are likewise bound to a particular institutional context.

It is the confusion between Marx's general, cross-cultural concepts and the concepts he designed specifically to describe capitalist economic formations that is at the root of some of the most vehement debates in economic anthropology. This confusion inspired Polanyi to develop 'two meanings of economic: formal and substantive'. Polanyi emphasised again and again that there are institutional prerequisites for all concepts; the task is to determine the proper association between concepts and institutions. For Polanyi, in order for conventional economic concepts to be meaningful, a market system with all of the institutional prerequisites Marx stated for capitalism must be in existence.

At the third level of generality, then, the concepts are very specific, having particular meanings in particular contexts. These contexts are institutional. Outside of the particular institutional contexts, the concepts are, at best, metaphors. The analysis of the institutional paradigm allows us to understand both the potentials and limitations of the concepts.

In sum, for both Polanyi and Marx, it is on institutional grounds that the analyst determines whether or not a concept is useful. Concepts are predicated on the existence of certain institutions. If we use the concept of capital or class in all societies, then we deprive the concepts of precise meaning and obscure the differences between pre-capitalist or non-capitalist and capitalist economic formations. To use concepts in an institutional vacuum is to deny the embeddedness of economic processes in specific social formations.

CONCLUSION

Alasdair MacIntyre, responding to Marx Wartofsky's critique of his book, *After Virtue*, praises Karl Polanyi's work, specifically *The Great Transformation*, for avoiding certain methodological mistakes in three intrepretations of the transformation to capitalism: orthodox Marxism, unorthodox Marxism, and Weberian analysis. He says:

> But my preference for Polanyi's type of narrative is that it avoids the methodological mistakes which all three of these share, most notably, the error of supposing that we can identify economic or social factors independently from ideological or theoretical items; there is indeed more than one way of marking such a distinction. But when we try to understand the narratives of historical change in terms of any one of these sets of distinctions, the causal explanations which they yield are generally implausible. It is only when we understand and categorize the social and economic phenomena in such a way as to recognize the agent's and participants' understanding of social and economic activity as integral to and partially constitutive of the characteristics of such activities that we provide characterizations that enable us to write rationally defensible explanatory narratives. Karl Polanyi's was just such a narration. (MacIntyre, 1984:253–4)

MacIntyre's statement brings the problem of the relationship between cultural and institutional processes clearly into focus. While

Polanyi was opposed to giving individuals too much importance analytically, at the same time he recognised individuals as culture-bearers and had a solid sense of the nature of cultural systems. Polanyi's discussion of equivalence is one of the best examples of his culture-sense. There is no question that the concept of the economy as instituted process required a concept of culture in order to work so that we do not assume institutional dummies (Giddens, 1971:71; 1981; 1982).

This brings me to the final issue, that of the nature of the dialectic in Polanyi's institutional paradigm. To interpret Polanyi merely as a Malinowskian structural functionalist or merely as an exchange theorist not concerned with the fundamental processes of production, is to misinterpret both Polanyi's very basic concepts and the concept of substantivism in economic anthropology.

It should be realised that, at some points, the dialectic in Polanyi's thought was very subtle, even hidden. At other points, however, it is blatant, as in the title of his 1944 book, *The Great Transformation*. The tension between economy and society under the market system and the contradictions in social and economic life (Kindleberger, 1974) are constant themes in Polanyi's work, even when he is writing about non-market economies. As I have noted, non-market economies are idealisations, i.e. they are models that serve to further emphasise the tensions between economy and society under capitalism. At another level, Polanyi deals in dichotomies: formal vs. substantive, market vs. non-market. These oppositions become the backbone of Polanyi's analysis of non-market economies, which, in turn, are analysed in terms of other oppositions: symmetrically related (i.e. opposed) groups in the case of reciprocity, and the tension between reciprocal and redistributive systems as tribes become transformed into chiefdoms. Polanyi writes, for example, of redistribution as a system of organised reciprocities. In Polanyi's unpublished work, the contrasts and contradictions come through even more strongly, in part because Polanyi deals explicitly with Marx and with other Marxists such as Lukács. The important point is that conflict, contradiction and tension, even ambiguity, are very much present in Polanyi's work, although they are cleverly masked by the presentation of particular kinds of data, as well as by the analysis itself. Polanyi relied very heavily upon Malinowski's data, which were collected in a structural-functionalist framework. Thus there is in Polanyi's writing the appearance of homeostatic, equilibrium-based analysis that is ahistorical and non-dialectic. If one combines this with Polanyi's over-roman-

ticised portrayals of primitive, pre-industrial societies, it is easy to see how Polanyi might be interpreted as a structural-functionalist. It should be realised, however, that these portrayals are just that, masks that must not be taken at their face value, but in the proper historical and theoretical context. Polanyi's version of primitive economies must be taken in combination with, and especially in opposition to, other forms of the economy, i.e, other ways of instituting livelihood processes, namely capitalism, both as an existing form and as an evolving one. In sum, Polanyi's method involves studies in contrast, tensions, clashes, and contradictions. These are, to be sure, characterised by dichotomies, but these dichotomies are not rigid; rather, one might think of them as dichotomies in motion, at different levels of culture. More simply put, Polanyi was dealing with processes over time, with complex and historical dynamics. This is the essence of *The Great Transformation*.

The institutional paradigm emphasises the common methods of Polanyi and Marx, not necessarily every substantive detail. The following passage by MacIntyre sums up the relationship between the two theorists in a somewhat dialectical statement:

> It is of course important to acknowledge the extent to which Karl Polanyi's methods in writing history were indebted to Marx's. He was one of those writers who disgarded a good deal of Marx's theoretical framework while preserving – it may not be too much to say, precisely with the purpose of preserving – Marx's historiographical insights and even extending them. (1984:254)

The relationship between Polanyi and Marx is complex. In some ways Polanyi's work is an interpretation of Marx; in some ways it is an elaboration, or at least a significant departure; in some ways it is a critique. A reading of Polanyi enables us to read Marx differently, and vice versa. The issue is not, simply, whether or not Polanyi was a Marxist.

Polanyi and Marx have developed some of the most useful methods for the comparative institutional analysis of economies in history and anthropology. They both define the economy operationally in material terms and then deal with the relationships between the formation of general concepts and the analysis of particular economies. The relationships between general and particular, constant and variable, in Polanyi and Marx are critical to the analysis and comparison of economic systems. Unless general problems are first isolated and the general processes composing production, distribu-

tion, and consumption are identified and clarified, it is impossible to describe and compare different kinds of economic formations and to understand how and why they change. Polanyi and Marx described different kinds of general economic processes; some are constant in all evolutionary types, while others are constant only in particular kinds of economies and take varying forms, depending upon historical conditions and overall ecological adjustment. For Marx and Polanyi, comparative analysis is essential to the understanding of general as well as particular economic concepts. Their work is multifaceted, highly controversial, and often confusing. It is, thus, neither unusual nor surprising to find interpretations of Marx as an economic determinist and vulgar materialist or dismissals of Polanyi as a romanticist or non-Marxist economic liberal (Cooper, 1978:139). The questions Marx and Polanyi asked about the economy and the methods they proposed for studying it are strikingly similar. Polanyi went beyond Marx, however, just as anthropologists and historians are now building upon the institutional paradigm.

4 The Formal Paradigm

The focus of this chapter is methodological, in the sense that its primary purpose is to define the formal paradigm in economic anthropology. In the course of the discussion, however, some key moments in the history of economic anthropology receive considerable treatment. I refer specifically to the work of some of the founders of the subfield: Melville Herskovits and Raymond Firth. There is also a section in the Chapter dealing with Max Weber, particularly his concepts of formal and substantive rationality, and his principal methodological contribution to the social sciences, the concept of the ideal type.

One of the most vivid memories of my early graduate student years is the figure of a distinguished, grey-haired professor entering a lecture hall with a large, cardboard carton held as gingerly as though it contained a many-tiered wedding cake. After pausing just a moment too long, he placed the box next to the lecturn, eyed it, then the audience, then his notes, and proceeded to introduce his topic. No one listened; the mysterious box presented too much competition for words, however well-chosen. Finally, as the introduction was winding down, the speaker paused, peered down at the carton and quickly up at the audience and, with a flourish, unveiled a configuration of colourful tinkertoys. 'This is a model of a Melanesian kinship system,' he announced. It was my first encounter with formal anthropological models, and I was simultaneously impressed and bewildered.

For economic anthropologists, attitudes towards formal models resemble my mixed reaction to the tinkertoy model. For some, the words 'formal model' elicit immediate acceptance and a rather cavalier, 'Are there any *other* kinds of analyses?' The concept carries prestige because of its association with economics, mathematics, and the 'hard' sciences (Finkler, 1979). For others, however, to mention the term 'formal economic anthropology' evokes confusion and tension. Some practitioners reject it immediately as a remnant of the formalist-substantivist polemic. Others avoid the concept of the formal entirely, for fear of becoming mired in one polemic or another, and take refuge in lengthy description.

I argue in this chapter that the cross-cultural analytical potentials of formal models have been greatly limited in economic anthropology by a confused concept of the formal. The concept of the formal is presently unclear for two reasons. First, it has multiple, paradigmatically

conflicting origins: classical political economy, Marxism, marginal utility economics, conventional microeconomics, and statistics. Secondly, the concept of the formal has undergone at least three shifts in meaning during the relatively short history of economic anthropology. Originally, formal meant 'quantifiable', as in readily calculated, a meaning derived from Weber. Next, formal concepts derived from marginal utility economics, which assumed all people to be self-interested maximisers responding to forces of supply and demand. The concepts were used universally to apply to all economic systems. Lastly, the term formal came to mean ideal, as in a series of postulates that would hold if certain conditions were met. Hence, the concept of the formal has changed from the original, Weberian meaning of quantifiable, to the second, marginalist meaning of universal and, finally, to the current meaning of ideal.

Throughout the history of economic anthropology, the concept of the formal has been part of one or another dichotomy that contrasts the concept of formal with its presumed opposite. Many of the terms used in the dichotomies are similar, even identical in some cases, but they carry different meanings. For example, Weber (1947) wrote of formal versus substantive rationality; Polanyi (1957b) wrote of the formal versus the substantive definitions of the economy, but he meant something very different by these terms than Weber did.

The primary purpose of this chapter is to clarify the concept of the formal in economic anthropology – first, by examining its original theoretical contexts and meanings; second, by analysing the changing dichotomies within which it has been embedded; and third, by elaborating the concept and suggesting some new applications for different types of formal models. After reviewing the substantial literature on formal analysis and formal models in economic anthropology, I outline some ways of conceptualising formal models so that their cross-cultural potentials can begin to be realised. For this purpose, I have delineated two basic types of formal models: atomistic and processual; the two models provide different opportunities for cross-cultural analyses. This chapter, then, is more than a review of the literature; it aims to move the subfield of economic anthropology in the direction of comparative, cross-cultural science by specifying new kinds of formal models and new uses for them.

Before proceeding, let me state some of the assumptions upon which this chapter is based. Advocating the clarification and expanded use of formal models should not be misconstrued as an argument for a paradigm shift in economic anthropology. Rather, formal models

provide methods for analysing data. The data may emphasise institutional or ecological factors of economic organisation, or both. Instead of a paradigm shift, a synthesis and reinterpretation of the existing paradigms is in order. The goal of the synthesis would be to begin to develop a cross-cultural science of the economy that would combine variables and methods from several paradigms, while maintaining the primacy of the institutional paradigm. There may be formal ecological and formal institutional models. The formal methods derive from the formal paradigm.

In order to carry out the synthesis, a review and evaluation of the distinctive features of existing models is needed. There are some treatments of ecological and institutional models (Gross, 1983; Orlove, 1980; Halperin, 1982), but no such comprehensive analyses of formal models. The issues surrounding a synthesis of the sort I am suggesting concern the old debates about the relationships between economics and anthropology, theory and data, deductive and inductive reasoning, and quantitative and qualitative data. Changing our perceptions and expanding our expectations of formal models must be done in order to combine elements of paradigms heretofore thought to be incompatible. For example, a formal model based upon *homo reciprocus* (humans as sharers) instead of *homo economicus* (humans as self-interested maximisers) for hunter-gatherer societies might reveal patterns and processes that have not been analysed before.

Economic anthropology has used some formal models in very restricted contexts, but two of the major 'schools' in the subfield, substantivism and Marxism, have rarely systematised their data formally. If we agree that all sciences use models and that economic anthropology is, at least potentially, a cross-cultural science, then the issue is not whether to use models, but what kinds of models to use. The relationships between models and explanations of the forms and functions of economic processes need to be spelled out. Obviously, it is possible to count things without building models, and to build models without counting anything. The relationships between model building and quantification have not been examined, however, in economic anthropology.

The resurrection of Marx's writing in contemporary economic anthropology raises some additional issues about the concept of the formal and formal analysis. There is a definite formulaic aspect to Marx's work. Perhaps one of the reasons Marx's writing has become so attractive to many contemporary economic anthropologists is that his work contains both formal and institutional elements. The pages and

pages of equations that make much of *Capital* so difficult to read, involve methods and concepts that are very similar to those used by people who build formal models. At the same time, the grounding of Marx's analysis in 'the social' means that his units of analysis are institutions. It is interesting to note in this context that, while certain of the old formalists have 'turned Marxist' in recent years (Cook, 1982; Smith, 1982, 1983), Marx's writing has never been considered in the context of formal analysis in economic anthropology.

MAX WEBER AND THE CONCEPT OF FORMAL ECONOMIC RATIONALITY

The terms 'formal' and 'substantive' as we use them today in economic anthropology are really transformations of the Weberian concepts of formal and substantive rationality.[1] Before discussing Weber's concept of formal economic rationality, it is important to describe briefly his general theoretical framework. Above all, Weber was a comparativist. He was concerned with the whole range of economic formations, from the most primitive and self-sufficient, to the most complex, capitalist economies of his time. He stated clearly that his starting point was not the market economy and that his approach to economic organisation was historically-based. Weber (1947:159) considered a range of economies, including primitive, self-sufficient economies:

> It is further necessary to formulate the concept of economic action in such a way as to include the modern market economy; so it is not possible to take consumers' wants, and their 'satisfaction', as a point of departure. The concept must take account, on the one hand, of the fact that utilities are actually sought after – including among them orientation to pecuniary acquisition for its own sake. But on the other hand, it must also include the fact, which is true even of the most primitive self-sufficient economy, that attempts, however primitive and traditionally limited, are made to assure the satisfaction of such desires by some kind of activity.

For Weber (1947:169–71), utility and diverse forms of exchange could be found in many cultures. Rational exchange and market economies were not synonymous; for instance, there were rationally oriented and highly controlled aspects of conventional gift exchange, i.e. non-market economies. Weber (1947:170–1) wrote:

> The conditions of exchange may be traditional, partly traditional though enforced by convention, or rational. Examples of conventional exchanges are gifts between friends, heroes, chiefs, princes; as, for instance, the exchange of armour between Diomedes and Glaucos. It is not uncommon for these to be rationally oriented and controlled to a high degree. Rational exchange is only possible when both parties expect to profit from it, or when one is under compulsion because of his own need or the other's economic power. Exchange may serve either purposes of consumption or of acquisition.

It is important to realise that Weber was also an institutionalist. As Talcott Parsons (1947:37) points out in his essay on Weber's economic sociology, Weber presented 'an account of the social, or perhaps better the institutional, structure of systems of economic activity and *above all* the ranges of variation to which this structure is subject. Economic theory as such is notably lacking in interest in the variability of institutional structure'. One has only to glance briefly at Weber's *General Economic History* (1966) to confirm his unique ability to study a range of institutional arrangements across cultures and across time. Weber discussed many different aspects of economic processes, from production and distribution to consumption, including land and labour organisation, agricultural technology, exchange mechanisms, forms of property and modes of appropriation. His institutional perspective is perhaps best illustrated by his writings on religion and its relationship to economic action (Weber, 1930, 1958, 1964).

For Weber, the term 'formal rationality of economic action' referred to a culture's ability to calculate or account for its economic activities quantitatively: 'the term "formal rationality of economic action" will be used to designate the extent of quantitative calculation or accounting which is technically possible and which is actually applied' (Weber, 1947:184–5). For Weber, the concept of formal rationality is relative. Systems of economic activity can be more or less formally rational, depending upon the extent to which they actually measure things in quantitative terms. Technically, the form of the calculation varies. Measurements may be in money or in kind, with monetary calculations representing the 'highest degree of calculability' (Weber, 1947:185).

> A system of economic activity will be called (formally) rational according to the degree in which the provision for needs, which is essential to every rational economy, is capable of being expressed in numerical, calculable terms, and is so expressed. In the first

> instance, it is quite independent of the technical form these calculations take, particularly whether estimates are expressed in money or in kind. The concept is thus unambiguous, at least in the sense that expression in money terms yields the highest degree of formal calculability. Naturally, even this is true only relatively, so long as other things are equal. (Weber, 1947:185)

For Weber, the market system renders calculability easiest to achieve because all-purpose money functions as a universal measuring rod. While Weber emphasised the capabilities of particular cultural systems, he by no means limited the concept of formal economic rationality to the Western market system. In his framework, theoretically, any economy can be formally rational.

POLANYI'S FORMAL DEFINITION OF THE ECONOMY

In 1957, Karl Polanyi created two definitions of the economy: the formal and the substantive. He (1957b:243) defined the formal as follows:

> The formal meaning of economic derives from the logical character of the means–end relationship, as apparent in such words as 'economical' or 'economizing'. It refers to a definite situation of choice, namely, that between the different uses of means induced by an insufficiency of those means. If we call the rules governing choice of means the logic of rational action, then we may denote this variant of logic, with an improvised term, as formal economics ... The formal meaning implies a set of rules referring to choice between the alternative uses of insufficient means.

Polanyi's formal meaning of the economy is clearly derived from Weber's concept of formal economic rationality, but it is not identical to it. For Polanyi, formal does not simply mean 'calculable' but rather 'logical', and the concept assumes that material means are scarce. Polanyi (1957b:243) defines formal economics as the logic of rational choice-making behaviour. Had Polanyi left the concept of the formal at this, we might not have had the formalist-substantivist debate in economic anthropology. That is, stated as a distinction between logical and empirical, there is no conflict between Polanyi's formal and substantive definitions. The formal meaning is simply a way of creating assumptions about an actual or potential empirical reality in order to

perform certain kinds of analyses. Unfortunately, Polanyi did not restrict the concept of the formal to logic. By broadening it and equating the formal meaning of the economy with conventional microeconomic theory, Polanyi changed Weber's very clear and unequivocal cross-cultural concept of the formal. Because, for Polanyi, the formal definition of the economy contained the concepts and categories used in conventional economics, the concept of the formal took on specific empirical content. Thus Polanyi created separate, empirically-based domains for formal and substantive analysis. The formal definition of the economy became applicable only to market economies under capitalist conditions. The substantive definition involved applying an entirely new analytical tool kit to non-market economies. Polanyi's narrow definition of the formal precluded both formal and substantive concepts from being used appropriately across cultures.

Both the nature of and the reasons for Polanyi's formal definition of the economy become comprehensible only by recognising that Polanyi had at least a double, if not a triple, agenda. Polanyi was interested in two analytical problems: (1) elaborating the substantive definition of the economy, so that the institutions organising economic processes could be analysed in a comparative framework and (2), as I have elaborated in the previous chapter, engaging in a subtle and somewhat unusually conceived Marxian critique of capitalism, one which could not overtly associate Polanyi with Marx but which would contain basic Marxian ingredients. In this context, Polanyi's formal definition of the economy had complex functions not immediately apparent from the definition itself. On the one hand, Polanyi developed the formal meaning of the economy primarily for the purpose of dismissing it in order to focus upon the substantive meaning. On the other hand, Polanyi designed the concept of the formal to circumscribe market economies and their analysis, and to avoid including capitalist economies and economies with capitalist elements in his substantive framework. Polanyi's emphasis upon non-market (non-capitalist) economies also enabled him to eliminate Marxian terminology that was designed to analyse capitalist economies. This emphasis also caused him to be labelled a 'romantic', interested only in primitive and archaic economies. He wrote not about the evils of capitalism, but about the virtues of the primitive (see also Polanyi, 1944, 1947, 1959, 1977). Thus, Polanyi developed the formal definition of the economy in order to mask what was actually a critique of capitalism in substantive analysis. The substantive meaning of the economy emphasised the

positive aspects of non-market economies. This was a subtle critique of capitalism, but a critique nonetheless.

The dual framework provided a convenient political screen behind which Polanyi could mask his Marxism, but this framework also created some confusion. By using the concepts of formal and substantive for separate types of economies, Polanyi inadvertently retarded the comparative study of livelihood processes. If substantive economics was to be the study of human livelihood, and if the study of human livelihood, in all of its diverse forms, was to be the central problem in Polanyi's writing, then how could a formation as important as capitalism be excluded?

In sum, by defining the concept of the formal in this restricted fashion, Polanyi introduced problems and confusions into economic anthropology that had not existed in political economy or in economic history. One of these problems was a separation of formal economics from institutional, comparative economics, a separation which was not present in Weber and which was absent in Marx's work as well. Polanyi took Weber's abstract, generic concept of formal economic rationality as calculability and turned it into a set of conventional economic concepts. The range of applicability of these concepts became the source of great debate in economic anthropology.

THE UNIVERSAL IN THE FORMALIST SCHOOL OF ECONOMIC ANTHROPOLOGY

Ironically, perhaps, the formalist school of economic anthropology accepted Polanyi's formal definition of the economy and gave it prime analytical importance.[2] For the formalists, the concepts and categories of conventional economic theory, including the scarcity assumption, provided the beginning of a universal (i.e. cross-cultural) science of the economy. Formalist economic anthropology begins with the assumption that scarcity is a fact of all social life. Harold Schneider (1974:17), for example, cites Lionel Robbins's definition of the economy – the allocation of scarce means towards alternative ends – as one of the 'most favored by formal economic anthropologists'. According to this marginalist definition, goods which are by their nature not scarce, such as air and land under certain conditions, do not enter the economic domain. It is only when the means are insufficient that the need for economising and, thus, economic behaviour arises. Individuals act economically by making choices about how to use their

scarce resources to the best advantage. For the formalists, as for the marginalists before them, the rational calculation of scarce means toward alternative uses became a universal activity, something which derived from the very nature of being human.

If one accepts these assumptions, then marginalist economics is not a theory designed specifically for capitalist economies; it is a universal theory applicable to any economic system.[3] Although formalists in economic anthropology did not represent a unified theoretical orientation, they all accepted the universal applicability of the concepts and categories of marginal utility economics. Schneider (1974:9), for example, indicates that there are some key differences among formalists but says: 'The unifying element among these formalists is, in contrast to substantivists, the partial or total acceptance of the cross-cultural applicability of formal theory.' Similarly, Scott Cook's (1966:323) early formalism framed the issues in terms of applicability:

> Since the impact on the field of the writings of Karl Polanyi and his followers, a clear-cut dichotomy has emerged between scholars who maintain that 'formal' economic theory is applicable to the analysis of 'primitive and peasant' economies and those who believe that it is limited in application to the market-oriented, price-governed economic system of industrial economies.

Cook's (1966) critique of Polanyi's substantivism not only marked the official beginning of the formalist-substantivist debate in economic anthropology, it also introduced a major methodological flaw into the formalist orientation. The flaw consists of the failure to differentiate what I will call the 'applicability-universality' problem from the 'inductive-deductive' problem. For example, in his discussion of the Knight–Herskovits exchange, Cook (1966:326) assumes that, if economic anthropologists fail to apply the concepts of marginalism in all cultures, they automatically are abandoning deductive (i.e. scientific) methods. Cook (1966:326) praises Herskovits for his 'change in attitude' and for achieving in his 1952 book 'greater insight into the importance of deductive reasoning in economic model building'. Cook (1966:326) cites Herskovits's reasons for the attitude change as follows:

> (1) New ethnographic data about the economics of non-literate, non-industrial, non-pecuniary societies which convinced him of the universality of the concepts and principles of economic theory

> (1952:vi) and (2) increased knowledge on his part of the scope and methods of economic theory and economists' views about economic anthropology (Herskovits, 1952:vi–vii).

It is indeed possible to use the concepts and categories of economic theory without using deductive reasoning and without building models. Even a cursory reading of Herskovits reveals his acceptance of the scarcity postulate; yet, he never came close to building a model. The false equation of *concepts* with *methods* is common in economic anthropology.

The confusion between the applicability-universality problem and the inductive-deductive problem derives from two related assumptions: (1) that conventional economic theory is the only formal scientific model for analysing economic processes and, (2) that in order to practise scientific economic anthropology, both the concepts and the methods of conventional economic theory must be accepted. At best, these assumptions represent an overly literal application of the idea of formal modelling. Economic anthropologists are just beginning to consider building formal models that involve different assumptions from those used in conventional economic theory. I will discuss this issue in some detail later. For now suffice it to say that the ambivalence of Herskovits and later, Raymond Firth, towards conventional economic theory and towards formal modelling is rooted in the confusion between the acceptance of particular concepts and acceptance of a general scientific method. The nature of this confusion is worth pursuing in some detail, because their ambivalence shaped economic anthropology at its inception and is still influencing current thinking in the subfield.

Herskovits and Firth

In an attempt to create a science of economic anthropology, Herskovits, and later, Raymond Firth, latched on to conventional economic categories, albeit with some hesitancy. Herskovits (1952:vii) says in his Preface:

> In the main, I have tried to follow the conventional categories of economics and to indicate the points at which the economies with which we are concerned diverge so sharply from our own that it is not possible to follow these conventions.

Herskovits's *Economic Anthropology* (1952) began with a discussion of 'economizing and rational behavior'. The chapter set the tone for

Herskovits's application of neo-classical economic theory to primitive economies.

Both Herskovits and Firth accepted the universality of scarcity and used it as a constant in their work. Herskovits (1952:17–18) said:

> We have seen that the scarcity of goods in the face of the wants of a given people at a given time is a universal fact of human experience; that no economy has been discovered wherein enough goods are produced in enough variety to satisfy all the wants of all of the members of any society. This is true whether the group is small or large, the mechanisms of its economic system simple or complex.

The influence of Marshall and the marginal utility school of neo-classical economics is clear throughout Herskovits's work. His emphasis upon universals is another testimony to the powerful influence of the mature discipline of economics upon the infant science of anthropology:

> It can also be taken as cross-culturally acceptable that, on the whole, the individual tends to maximize his satisfactions in terms of the choices he makes. Where the gap between utility and disutility is appreciable, and the producer or consumer of a good or service is free to make his choice, then, other things being equal, he will make his choice in terms of utility rather than disutility. One need not to accept the hedonism of classical economics to recognize the validity, on broad lines, of the proposition, at least in the terms in which we have phrased it here. (Herskovits, 1952:18)

In parallel fashion, Firth's (1967:4) statement in the Introduction to *Themes in Economic Anthropology* directly linked the concept of the formal to economising:

> As will be seen from the various essays, without expressing any very decided specific opinion, the contributions in general imply an acceptance of the view that the logic of scarcity *is* operative over the whole range of economic phenomena, and that, however deep and complex may be the influence of social factors, the notions of economy and of economizing are *not* basically separate.

In other words, as long as one could postulate scarce resources, and as long as one could count things, it was possible to practise economic anthropology as a small-scale version of conventional economic science.

The ambivalence on the part of both Herskovits and Firth towards conventional economics and the resulting contradictions in their work derived from their extensive knowledge of the differences between primitive and capitalist economies. They knew that any theory postulating the universal applicability of concepts must be ethnocentric if the concepts are derived from a particular empirical case. They must also have realised, on some level, that they were avoiding the issue of explaining variation in economic forms. Caught between the Scylla of conventional theory's ethnocentrism and the Charybdis of endlessly variable economic formations, Herskovits, especially in his last book (1952), avoided the issue entirely by resorting to endless, encyclopaedic descriptions of individual economies. Firth circumvented the problem by shifting his attention from primitive to peasant economies (Semenov, 1974), which did indeed have elements of capitalism in the conventional sense.

FORMAL AS IDEAL

By the late 1960s the logical features of the concept of the formal had almost completely disappeared. So, too, had the institutional components of Weber's concept of the formal. What remained of Weber's notion was the idea of quantification. While the formalists of the 1960s postulated universals in economic life, the formal model builders of the 1970s and 1980s abandoned the attempt to create universals in order to focus on the process of model building itself, especially as the process facilitated quantification.

Weber's concept of the ideal type is at the root of formal modelling (1949:90–91):

> This conceptual pattern brings together certain relationships and events of historical life into a complex, which is conceived as an internally consistent system. Substantively, this construct in itself is like a *utopia* which has been arrived at by the analytical accentuation of certain elements of reality. Its relationship to the empirical data consists solely in the fact that where market-conditioned relationships of the type referred to by the abstract construct are discovered or suspected to exist in reality to some extent, we can make the *characteristic* features of this relationship pragmatically *clear* and *understandable* by reference to an *ideal-type*. This procedure can be indispensable for heuristic as well as expository purposes. The ideal

> typical concept will help to develop our skill in imputation in *research*: it *is* no 'hypothesis' but it offers guidance to the construction of hypotheses. It is not a *description* of reality but aims to give unambiguous means of expression to such description. It is thus the 'idea' of the *historically* given modern society, based on an exchange economy, which is developed for us by quite the same logical principles as are used in constructing the idea of the medieval 'city' economy as a 'genetic' concept. When we do this, we construct the concept 'city economy' not as an average of the economic structures actually existing in all the cities observed but as an ideal type. An ideal type is formed by the one-sided *accentuation* of one or more points of view and by the synthesis of a great many diffuse, discrete, more or less present and occasionally absent *concrete individual* phenomena, which are arranged according to those one-sidedly emphasised viewpoints into a unified analytic*al* construct (*Gedankenbild*). In its conceptual purity, this mental construct (*Gedankenbild*) cannot be found empirically anywhere in reality. It is a *utopia*. Historical research faces the task of determining in each individual case, the extent to which this ideal-construct approximates to or diverges from reality, to what extent for example, the economic structure of a certain city is to be classified as a 'city-economy'. When carefully applied, those concepts are particularly useful in research and exposition. In very much the same way one can work the 'idea' of 'handicraft' into a utopia by arranging certain traits, actually found in an unclear, confused state in the industrial enterprises of the most diverse epochs and countries, into a consistent ideal-construct by an accentuation of their essential tendencies.

Following Weber, the basic process of model building has become the central aspect of the concept of the formal. The process involves establishing a series of expectations postulated under known or assumed conditions and then comparing these expectations with empirical data. That is, formal models compare an artificial or ideal order with a real order and usually, but not necessarily, involve mathematics.[4] Concerning the relationship between mathematics, formal modelling, and quantification, Douglas White (1973:369) says:

> Many of the problems currently modeled by mathematics are of such general relevance to anthropological theory that it is doubtful that they should be confined under the title of mathematical anthropology. What unites them under this rubric is not quantifica-

> tion, which covers a fraction of mathematics, but rather the common logical sub-structure that mathematics shares with science in the use of axiomatic reasoning. The major thrust of modern mathematical thought has been to refine the logical underpinnings of mathematical systems of analysis.

Elaborating his concept of axiomatic reasoning, White (1973:370) says: 'A model derived from an axiomatic theory contains a logical structure of equivalence between the set of axioms and the set of consequences derived from the axioms.' Writing of formal mathematical models, M. Salmon (1978:179) distinguishes between these and physical models, such as topographical maps:

> In mathematical models the components of the real system and the relationship among them are represented by mathematical relations among variables. For example, a given sample of helium gas at moderate temperature and pressure is modeled with respect to changes in pressure, volume, and temperature by the ideal gas law: PV = KT. In a mathematical model the real system is modeled by a mathematical system. The classification and analysis of such models is thus an important part of mathematical systems theory.

Abraham Kaplan's conception of formal models is close to this notion of formal as ideal (1964:274).

If we understand the characteristics of formal models in terms of sets of idealisations, it is clear that conventional, marginalist economic theory has many formal characteristics. One of the clearest statements relating the idealisations of formal characteristics of conventional economics for formal models and empirical data is by Frank Knight (1952:516):

> The chief requisite for better mutual understanding between economists and anthropologists is that the latter should have some grasp of the categorical difference between economics as an exposition of principles – which have little more relation to empirical data of any sort than do those elementary mathematics –and as a descriptive exposition of facts.

Had the 1960s formalists read Knight carefully and realised that the marginalists never intended to describe the real world, the whole controversy over applicability might never have occurred. As Knight points out, conventional economics uses models in the ideal, not in the universal sense of the formal. Ideals are not meant to exist in the real world; they are products of the human mind and culture. Anything can

be established as an idealisation for scientific purposes. Knight (1952:510) elaborates:

> Economics, in the usual meaning, as a science of principles, is not primarily a descriptive science in the empirical sense at all. It 'describes' *economic* behavior and uses the concept to explain the working of our modern economic organization and also to criticize and suggest changes. It is, of course, of some interest, in connection with the description, to point out contrasts between economic behavior and actual behavior, in our own and other culture settings, which does not conform to the principles as stated. But the interest in this contrast itself arises primarily out of the fact that the conceptual ideal of economic behavior is assumed to be, at least within limits, also a normative ideal, that men in general, and within limits, wish to behave economically, to make their activities and their organization 'efficient' rather than wasteful.

David Kaplan, who wrote 15 years after Knight, is one of the few economic anthropologists to realise at that time that conventional economics uses formal models, not in the sense of the universal, but of the ideal. Kaplan (1968:236–7) says:

> The world as depicted by conventional economics is a highly 'idealized' world. It is a world in which individuals act with complete information and foresight; in which action issues from economically rational decisions and is directed towards ends that are always maximized: in which there are no cultural or psychological restraints on translating decision into immediate action and in which all individuals make choices and act wholly independent of one another. Within this idealized world, economists have been able to move with logical consistency, deductive certainty and frequently, mathematical elegance.

The point here is that conventional microeconomics merely provides *one* type of formal model; it is not *the only* formal model. Kaplan (1968:238) emphasises the separation between formal and empirical and says: 'To the extent that conventional economic theory is formalized it contains no factual assertions whatsoever.'

At this point in the history of economic anthropology the critical variables for even the most common, low-level descriptive problems are by no means known, and the units of analysis by no means given. While Kaplan is right about the 'formal' characteristics of models, the actual construction of formal models cannot be done without

reference to some data, or at least to some hypotheses that attempt to explain a sets of data. The selection of data is critical to the formation of the model. If formal models are built in a vacuum, they may have all the features of consistency, certainty, and elegance, but they may also have the wrong variables and the wrong units of analysis for the economic processes under discussion.

Richard Salisbury's work is quite interesting in relation to formalism and to formal methodology because it separates marginalism from the concept of the formal. Writing in 1969, just one year after Kaplan, Salisbury (1969:75–76) introduced the idea of a formal analysis of 'non-classical, non-Euclidean economics':

> Classical economics formally analyses the consequences that would ensue if everyone employed a minimal strategy of concentrating on the activity of giving him the greatest comparative advantage in a non-zero sum game with a large number of players. Anthropological economics concentrates on other strategies, other payoff matrices, and other game situations. In these terms a formal analysis of non-classical, non-Euclidean economics is possible.

There are still some formalists in economic anthropology who confuse the applicability-universality issue with the deductive-inductive issue. H. Schneider is a case in point. While he argues for the applicability of the concepts of microeconomics, he also uses formal in the ideal sense (Schneider, 1974:19–20). Contrasting formal theory and the functional orientation of anthropology Schneider (1974:19–20) says:

> Formal theory is radically different from functionalism and essentially incompatible with it. Delineating limited static systems (never whole societies), it describes the conditions under which the system holds and the relevant parameters (e.g., amount of rainfall), makes certain assumptions about the conditions of actors in the system (e.g., that they are perfectly rational), and designates (usually symbolically as mathematical functions) the variables whose relation is to be studied and the values of those variables (e.g., labor – symbolized as L – varies from one worker to 100, or whatever).

To add to the confusion, in the same book Schneider (1974:1) characterises the formalist-substantivist debate in terms of 'a sometimes heated argument between the formal-theoretical and the institutional-descriptive economists'. His assumption is: That which is institutional is not theoretical, and that which is formal involves

neither institutions nor descriptions. Schneider also (1974:16) says that 'formal analysis is easiest when it deals with values that are easily quantified and obviously priced.' This puts him very close to the position of Weber on formal economic rationality.

TYPES OF FORMAL MODELS AND THEIR USES IN ECONOMIC ANTHROPOLOGY

General Considerations

The question of precisely how and in what contexts particular kinds of formal models are used for the analysis of economic processes is just beginning to be explored. Since, by definition, all formal models must operate with a set of assumptions, model formation and utilisation hinge on the following issue: On what basis does the analyst formulate assumptions for particular models? Theoretically, at least, the assumptions depend upon the problem under investigation, and the problem determines the appropriate unit of analysis. Many of the same assumptions and same units have been used for different problems in different types of societies. The almost universal use of 'economic man' as a unit of analysis (Schneider, 1974; Epstein, 1968; Tax, 1953) is probably the most prominent example in economic anthropology. The opposite situation also exists – different kinds of formal models have been used to analyse some very similar problems. For example, the variety of models that have been used for the analysis of hunter-gatherer subsistence strategies is impressive: optimal foraging strategy models and ecological models are two prominent examples (Cashdan, 1983; Lee, 1979; Winterhalder and Smith, 1981; Bettinger, 1980; Perlman, 1980; Martin, 1983). Likewise, agricultural decision models are quite diverse; they employ some of the same as well as many different assumptions and units of analysis (Barlett, 1980; Chibink, 1980; Bennett and Kanel, 1983; Ortiz, 1983).

If formal models are characterised by the kinds of units they employ, it is possible to distinguish two general types of formal models now used in economic anthropology.[5] The first type, which I will call *formal atomistic models*, focuses upon relatively autonomous individual decision-makers as the units of analysis. The second type, which I will call *formal processual models*, deals with supra-individual units, such as households or villages, and is much more closely derived from ecological and political processes. Many formal models manifest

features of both types. For example, Carol Smith's work (1974, 1975, 1977, 1983) on central-place theory (a model taken from economic geography) uses a variety of nested units – individuals functioning in market-places, and the latter as they are arranged in regional systems and subsystems. The important point is that both general types of formal models operate by creating assumptions against which the facts can be measured (Buchler and Nutini 1969a, 1969b).

In order for the science of economic anthropology to progress, it is absolutely critical to understand *both* the units *and* the assumptions underlying the two types of models. The assumptions indicate how the units are related. Taken alone, the units of analysis do not reveal very much about the model. Similarly, assumptions alone are not sufficient to define a formal model and its uses.

Formal Atomistic Models

Formal atomistic models developed from conventional microeconomic theory. Upon first inspection, they appear to be only slightly transformed versions of the old formalist economic anthropology. The key units are rational, self-seeking individuals. The major difference, however, between the units in formal atomistic models and the formalist units in economic anthropology is one of assumptions about the function of the units. In both, *Homo economicus* still has all of the same distinctive features: he simply functions in the formal model as an ideal actor, not a universal one as in the 1960s formalist conception (Plattner, 1975a; Gladwin, 1975). To repeat, the units in formal atomistic models are employed in Frank Knight's sense of the formal. In such a framework, one might postulate many different ideals against which realities could be measured.

Some early examples of formal atomistic models developed in economic anthropology (Davenport, 1960; Kozelka, 1969), but it was not until Stuart Plattner's 1975 edited collection, *Formal Methods in Economic Anthropology*, appeared that formal atomistic models were established solidly for the subfield. Plattner's work marked a watershed because it provided a new definition for the concept of the formal. Plattner employed individual decision-making units as *ideals* rather than as universals. In the introduction, Plattner (1975) describes the majority of analyses in his volume as attempts 'to predict the values of some individual variables on the basis of some combinations of other individual variables, with the environmental structure providing the conditions'. In Plattner's framework, predic-

tion and simulation are two of the main functions of formal models. For example, C. Gladwin's (1975) essay therein attempts to predict which market a seller will use, given certain quantities of fish and a knowledge of supply and demand. In the same volume, Lave and Mueller (1975) attempt to predict a migrant worker's wage, given such variables as the worker's age, prior job experiences, and education. Plattner himself analyses the economics of peddling in Southern Mexico by using a model of independent entrepreneurs. One of Plattner's (1975b:55–76) assumptions is that each peddler is a 'solitary' decision-maker with no bureaucratic or organisational decision processes to contend with. As he points out: 'The model in each work is constructed on the basis of definite assumptions about the values of certain parameters in the environment.'

Optimal foraging analyses of hunter-gatherer subsistence patterns are also examples of formal atomistic models. These models likewise use choice-making individuals as units and assume scarcity and maximising. As Martin (1983:612) points out, Winterhalder and Smith's (1981) version of optimal foraging strategy 'has at its heart the postulate that foragers maximize their net rates of energy while foraging'. Martin (1983) is very critical of the postulate that humans forage at maximum rates, and he notes Winterhalder's acknowledgement that his line of reasoning minimises the role of learning and other socio-cultural processes. While he recognises that Winterhalder uses the maximisation postulate as an ideal, Martin's point is that some idealisations are warranted and some are not. Martin says that it is perfectly legitimate, and indeed necessary, for formal analyses to contain ideal postulates if the idealisation is well warranted and the effects of what it ignores are not (as) relevant to the phenomena to be explained or predicted. Martin (1983:614) argues, however, that for optimal foraging strategy, the intervening conditions include such open-ended and ill-defined factors as the constraints of history, chance, competing goals, the presence or absence of appropriate pre-adaptations, changing environments, alternating environmental states, and necessary but mutually exclusive courses of action. We can only wonder what is left of the maximising postulate. Martin (1983:619) goes on to criticise Yesner's (1981) 'proportional harvest hypothesis' for ignoring seasonal factors that shape the composition of resources in a 'patch'. Martin also questions the patch-use model because it assumes, as does evolutionary biology, that movements between patches are random. Rather sarcastically, Martin (1983:621) says:

> Travel between patches and the search for patches is thus like a random walk in an environment in which patches are distributed randomly and uniformly relative to the movements of the forager. The forager has no foreknowledge of patch distribution or other ways of moving directly to the more productive patches and therefore 'loses' nothing in the way of travel time by moving about randomly and utilizing patches as encountered.

Martin's (1983) point is that the assumption is not warranted in the case of hunter-gatherers.[6] The ethnographic record shows that the movements of hunter-gatherers in the environment are flexible but highly structured and purposive. They are based on an intimate and extensive knowledge of the environment, including not only the location and sources of key resources but also the patterns and sources of resource variation, on an annual and seasonal basis (Griffin, 1984; Hoffman, 1984).

Formal Processual Models

Formal processual models are much less elegant than formal atomistic models. Their units are complicated processes or sets of social relations occurring in populations of different sizes and levels of organisational complexity. Different units must be employed for cultures at different evolutionary levels, and the structure of the formal processual models will vary according to the type of society being studied. Also, and very importantly, different assumptions are or can be made about the units.[7] While optimisation is still a prominent assumption in existing processual models, the models are not formulated in terms of maximising individuals, but rather in terms of an overall adaptive strategy for the system. Since the unit of analysis is a population or a subunit of a population, the model automatically operates on a social or institutional level. Psychological or biological reductionism can never be a problem in these models. Neatness and parsimony are difficult to achieve, however. Keene's (1979) models, which use linear programming techniques to analyse the traditional economy and changing subsistence patterns among the Netsilik Eskimo, exemplify formal processual models. Keene's unit of analysis is the population's subsistence system. He develops a set of assumptions for measuring observed versus expected subsistence patterns. The first assumption is that economic activities are organised, that is, that they are patterned, not random.[8] Keene's (1979) second

assumption is that the primary goal among hunter-gatherers is to obtain the basic nutritive and other raw materials necessary for the survival of a population. By pointing out that the needs of the *population* typically are satisfied whether or not they are perceived as such by the decision-makers, he (1979:370) shifts the analysis from an individual, psychological level, to an institutional and ecological plane; he also leaves room for institutional mechanisms, such as sharing, to be accommodated by the model. Keene's third assumption deals with the survival strategies of hunter-gatherers, and he presents a rather detailed discussion of the concept of cost. Cost, for Keene (1979:376), is a complex function of work effort and risk that can be understood by dividing the food acquisition processes into two stages, search and pursuit. Keene assumes that there are limits to the amount of a given resource that can be exploited in a given amount of time; time is in turn a function of seasonal variation in hunter-gatherer environments. Keene's final assumption deals with change and thus avoids the postulates of stasis and equilibrium that are implicit in many formal models.

The analytical problem for Keene is the examination of changing processes of resource utilisation by a population. Any alterations in the subsistence-settlement system can be modelled in terms of change in the costs or limits of resource exploitation (1979:370). The units employed by Keene's processual model are consistent with the units of ecological analysis (Netting, 1977; Hardesty, 1977). Keene's model does not assume, as do most ecological analyses in anthropology, that systems have a tendency to equilibrate with the environment.

Additional examples of formal processual models can be found in the ethnographic literature on peasant economies and in the archaeological analyses of state systems.[9] Chayanov's (1966) book, *The Theory of Peasant Economy*, originally published in 1925, is one of the oldest examples of a formal processual model. His unit of analysis was the peasant family farm without wage labour. Frank Cancian's (1965) analysis of age and the cargo system in Zinacantan is another example of a formal processual model. Cancian develops a formal model that allows him to predict whether or not cargos will be filled by people of appropriate ages.[10] A third example is Zeitlin's (1982) critique of the distance-decay model of distribution. He shows that sociopolitical factors must be figured into any comprehensive analysis of the processes involved in the evolution and maintenance of long-distance networks of commodity distribution. His article raises some important questions about the ability of

formal models to describe patterns and explain changes in economic processes.

POTENTIALS AND LIMITATIONS FOR FORMAL MODELS IN ECONOMIC ANTHROPOLOGY

The question of the uses and the limitations of formal models in economic anthropology is just beginning to be explored fully. Can formal models be used for explanatory purposes, or must their use be confined to simplified predictions and descriptions? What is the relationship between formal models and different theoretical orientations in anthropology? Are some orientations more or less conducive to formalisation than others?

Economic anthropologists are beginning to explore the possibility of using formal models in non-market contexts. For example, White (1973:395, 399) examines optimisation analysis and its application to non-market societies and says that complex predictions can be made outside of the context of a market economy. He analyses Kapauku agricultural processes by breaking them down into separable but related decision-problems of the individual. Interestingly, White (1973:419–20) states that formal axiomatic analysis is not necessarily incompatible with the categories of analysis of Polanyi and Dalton. One of the most sensitive recent discussions of the limitations and potentials of formal models in economic anthropology is by Allen Johnson (1980:19–20), who raises questions about 'what formal models can and cannot accomplish':

> I take it for granted that formal model building based on rigorous deductive reasoning is a powerful aid in the analysis of economic behavior, in nonindustrial as well as in industrial settings, but I am concerned about the tendency of model builders to become absorbed in the interiors of their models and to lose apparent interest in their outward, empirical usefulness ... the formal model is by itself virtually uninterpretable without reference to an ethnographic context that can be provided only by participant observation over a long term of field research. This is no momentary obstacle to complete formalization of a problem but is, rather, an inherent limitation on the extent to which formal models can account for observed outcomes of agricultural decisions.

By 'account for', Johnson apparently means simulate or predict, not

explain. He is sensitive to the relationship between quantitative and qualitative data, (1978:141–57) and notes that, for a number of cases in which economic anthropologists have compared quantitative predictions with empirical data, a small, but significant portion of the data is accounted for by the model. He (1980:22) says that, 'in each case, it becomes necessary to tap qualitative ethnographic considerations to explain why the majority of the data fail to conform to predictions in the model' (see Mitchell, J. C. 1967).

Formal models provide baselines, not explanations. Formal models are not theories in any explanatory sense, although they must select variables, units, and processes in terms of a theoretical orientation. This point has not been sufficiently appreciated in the literature of economic anthropology. The implicit assumption that variables, units, and processes are obvious or 'real' reflects a kind of naïve empiricism. At the same time, formal models have been restricted by ethnocentric premises about the possible range of assumptions and processes available for formalisation. Many analysts have pointed to the limitations of formal models, especially with regard to their explanatory capabilities. Salmon (1978:181) says, for example:

> But one can produce a mathematical model that fits the real system very well, and still fail to provide a causal explanation for the phenomena. Most scientists, for example, recognize that the ideal gas law does not explain the behavior of gases under changes of temperature and pressure, though it can certainly *predict* such behavior. The correct explanation of this phenomena is given in terms of statistical laws governing motions of molecules that make up the gases.

Salmon (1978:182) says in summary: 'Mathematical models, even when they fit, do not in and of themselves constitute satisfactory explanations.'

If models cannot explain things, what can they do? Here, White's (1973:401) statement is useful:

> What is interesting is that these models [optimizing analysis, decision theory, game theory, linear programming] provide a test of fit between various models of highly standardized optimization criteria, such as can be expressed along a utility scale, or of fit between the stated or implied goals of actors and the outcomes of actual behavior. They do provide a means of examining the predictions of different axiomatic models of optimizing behavior, in

comparison with behavioral outcomes or statistical distributions of behavior within a population.

In short, the most important use of formal models is in the clarification of the logic of a problem (cf. Kaplan, 1968).

CONCLUSION

The concept of the formal in the social sciences has had a rather long and involved history, during which binary oppositions have prevailed. Originally, for example, the term formal was part of Max Weber's famous dichotomy, formal versus substantive rationality, roughly translatable as quantitative versus qualitative. Following Weber, but with some significant departures, Karl Polanyi (1957b:243) derived two 'meanings' of economic and wrote of the formal and substantive as 'the two root meanings of "economic"'. Polanyi's fervent appeals to economic anthropologists to use the substantive rather than the formal meaning of 'economic' triggered the now infamous formalist-substantivist debate of the 1960s (Cook, 1966; Dalton, 1961), which polarised the subfield of economic anthropology. More recently, economic anthropologists have begun to use formal methods and to separate their 'meaning' of formal as ideal from the formalist-substantivist debate's definition of the formal as universal (Plattner, 1975a; Johnson, 1980). In its recent methodological context, formal has become associated with the theoretical or deductive in contrast to the descriptive and the inductive – and most of the simple-minded ethnocentrism has disappeared (see Cowgill, 1986; Bergner, 1981; A. Kaplan 1964).

There are two related problems with dichotomies as they have been used in economic anthropology, and these problems have had a significant effect upon the concept of the formal. The first has to do with the general nature of binary oppositions. Dichotomies define things by negation, so that one or both parts suffer from vagueness and imprecision, from over simplification, or from reification. Weber, for example, clearly defined the concept of formal economic rationality, but his concept of substantive rationality lacks precision altogether. For Polanyi, the situation was just the reverse: his substantive meaning of the economy is clear, albeit abstract and for that reason difficult to use, but his formal meaning of the economy needs a knowledgeable translation.

The second issue has to do with ways in which changes in one half of a dichotomy affect the definition of the other half. Polanyi changed Weber's meaning of formal economic rationality and perpetuated a kind of simple-minded, dualistic thinking by insisting that formal economics can be used for certain types of economies and substantive economics for other types. In a nutshell, the ensuing formalist-substantivist debate can be summed up as follows. Formalists argued that formal economic concepts were universally applicable and, therefore, truly cross-cultural, and that substantivist concepts were particularistic because they were descriptive and unsystematic. Substantivists, on the other hand, argued that formal, in the sense of conventional, economic concepts were particularistic and ethnocentric and that only substantive concepts were cross-culturally applicable because only they dealt with patterns and variability in livelihood processes. In sum, when formal is opposed to substantive in Weber's framework, formal means quantifiable. When it is opposed to the substantive meaning of the economy in Polanyi's framework, formal comes to mean universal. When formal is opposed to descriptive in the current parlance, it means ideal.

Elements of these dichotomies have persisted in the subfield of economic anthropology. The notion that formalists count things and build models, whereas substantivists deal with abstract concepts or complex descriptions, but not in systematic ways, is still very common. In this framework, it is unclear where the Marxists 'fit'. Are they thinkers or counters? By dichotomising not only his concepts but their domains of applicability, Polanyi himself contradicted his own Marxist, comparative approach to the economy by restricting both formal and substantive economics from fully cross-cultural use. We now understand that Polanyi had good reasons for masking his Marxism, but Polanyi also completely ignored both the formal aspects of Marx's thought and the issue of formal models *per se*. Polanyi did this at the same time that he developed the formal (in the sense of ideal) models of reciprocity, redistribution, and market exchange.[11]

As the parts of the dichotomies changed, so did the concept of the formal. Dichotomies have also affected formal modelling itself in some very subtle ways. Both the construction of formal models and their applicability have been unnecessarily restricted by overly rigid, dualistic thinking, which takes a number of different forms. For instance, one common assumption is that, if formalists use individuals as their units of analysis, institutions must take on secondary importance in the model and provide only the background within

which individuals act rationally (Barlett, 1980). This assumption has prevented analysts from asking some crucial questions: What are the relevant units for formal models? How are the units linked in different kinds of demographic, historical, political and ecological contexts? Ultimately, these are questions about process.

There is no reason why formal models cannot be constructed so that institutions and processes are the units of analysis. Formal processual models potentially are more useful than the existing formal atomistic models for purposes of cross-cultural comparative analysis because they can be sensitive to institutional arrangements. For example, it is possible to build models of reciprocal sharing processes and take into account the optimal factors or limiting conditions under which hunter-gatherers, or tribal peoples, for that matter, can adapt and reproduce, changing their subsistence patterns or keeping them the same. In order to do this, units such as extended families and bands or camps would be the relevant units of analysis. It should also be possible to construct models that will enable analysts of peasant societies not only to predict but also to explain the success or failure of agrarian reform at the village level. This could be done in terms of such variables as the distribution of political offices among families over time, the quality and number of political and economic ties between local, regional, and national elites, the local resource base, the carrying capacity, etc. A sufficient number of descriptions of agrarian reform attempts exist in the literature to allow models of this sort to be constructed (see Chapter 6).

There is one caveat, however. In order to facilitate prediction and explanation, formal models must be used in a comparative framework, that is, more than one comparable case must be included in the analysis. This can be very tricky, for it requires not only appropriate units of analysis, but also comparable units in comparable cases. The cases must be chosen carefully and the variables in the formal models must be used consistently. The formal analysis of institutional arrangements can be accomplished if we think in terms of processes; the processes must be conceived not only comparatively, but historically, that is, as changing, dynamic relationships between units. The units we use to build our models can be fashioned in many different shapes and they may be arranged in an infinite number of ways. In a very rudimentary form, the units may simply be part of a flow chart that orders relationships between variables (Plattner, personal communication). Or, the units may be subjected to highly

elaborate mathematical manipulations. The models themselves will aid in rendering the data comparable and the analysis consistent and logical if we pay attention to the quality of our variables as well as how to quantify them.

5 Production and the Organisation of Labour among Hunter-Gatherers[1]

This chapter illustrates one kind of controlled comparison, one that holds the general structural type constant, in this case, hunter-gatherers, while varying the ecology. The ethnographic cases include band-level hunter-gatherers and one complex hunter-gatherer group in California, the Tolowa. Relationships between factors which are ecological, specifically seasonal, and factors which are institutional, specifically those concerning the organisation of production processes, constitute the primary focus of the chapter. These relationships bear critically upon patterns of labour organisation among hunter-gatherers – patterns that are based primarily upon age and gender. The basic argument is that because hunting and gathering represent only part of the totality of productive activities in such societies, quantitative assessments of the relative proportion of hunting to gathering do not reflect accurately the organisation of labour for the production of material livelihood. An understanding of the organisation of labour requires a qualitative analysis of the features of production processes in societies without domesticated plants and animals. The concept of production for hunter-gatherers must also be revised and broadened to include: (1) the movement of people from one ecological zone to another (2) the manufacture of clothing, and (3) most importantly, food processing and preparation for storage and consumption, including the procurement of food-processing materials, such as water and firewood. For hunter-gatherers, food processing activities are just as essential to subsistence production as food procurement itself (Suttles, 1968:64). If we so modify the concept of production, we find a basically egalitarian pattern of labour organisation for hunter-gatherers in a variety of latitudes. This egalitarian pattern can be explained in terms of a complex series of seasonally variable ecological forms and sociopolitical units that together shape the nature and organisation of a broad range of productive activities. For example, when resource availability renders the nuclear family the primary unit of production, the organisation of labour is at its most unspecialised, and the roles

played by the sexes are the most equal and interdependent.[2] In brief, production processes must be conceptualised in qualitative institutional and ecological terms and then placed in their changing seasonal contexts before the organisation of labour can be analysed and subjected to quantitative comparisons. This chapter focuses upon the organisation of labour according to gender. Chapter 7 will deal with age as a variable in the organisation of economic processes.

The gender division of labour in hunter-gatherer societies has received considerable debate in the recent anthropological literature (Service, 1966; Friedl, 1975; Lee and DeVore, 1968; Slocum, 1975; Rohrlich-Leavitt, Sykes and Weatherford, 1975; Ember, 1978; Begler, 1978). Some have focused upon the relative subsistence contributions of male hunting vs. female gathering (J. Brown, 1975; Lee, 1984; Ember, 1978); others upon the ecological bases of flexible band social organisation (Damas, 1968; Woodburn, 1968a, 1968b) or the seasonality of the subsistence base (Stuart, 1977); and others upon questions of women's status in hunting-gathering societies (Leacock, 1978; Begler, 1978; Slocum, 1975; Friedl, 1975; Hammond and Jablow, 1976; Martin, 1974; Martin and Voorhies, 1975).[3] Yet, none of these analyses have explained variations or stable patterns organising labour between the sexes in a framework which considers the changing ecological and institutional contexts shaping particular kinds of productive activities. Nor has attention been given to the composition (by sex) of production and consumption units as they vary seasonally.[4]

In a more general sense, all of the previous treatments present a deceptively simple picture of the organisation of labour, one which muddles our understanding of the dynamics of production processes among hunter-gatherers. The mere fact that men hunt animal protein and women gather plant foods and small animals reveals little about the relative contributions of the sexes to the production of material livelihood. Further, the assumption that the relative quantities of animal and vegetable foods in the diet reflect accurately the sexual division of labour is subject to question when considered in a seasonal ecological framework.

After reviewing some of the general arguments about patterns of the division of labour by sex, I shall analyse subsistence strategies and sex roles by using five case studies of hunter-gatherers in a range of latitudes, environments and culture areas: the !Kung of the Kalahari desert of Botswana, the Ona of Tierra del Fuego Island, the Tolowa of Northern California, the Great Basin Shoshoni, and the Central

Eskimo. These cases allow for the analysis of subsistence production among hunter-gatherers with significant maritime resources as well as for those without.

The method used is what Eggan (1954) called controlled comparison, allowing for a high quality of analysis of specific cases with similar structural features. With regard to the problem of the organisation of labour, detailed re-analysis calls into question the findings of large-scale, cross-cultural studies. The laborious task of piecing together the ethnographic data for analysing the organisation of labour through the use of multiple sources, yields returns which eventually will allow us to make meaningful quantitative statements about the relative contributions of the sexes to subsistence production. In brief, the basic argument is: (1) Given technologies based entirely upon human muscular energy, seasonal variations in the resource base affect both the quality and quantity of animal and vegetable foods available in the environment as well as the limits and requirements of food processing and storage. (2) The available resource base in turn affects the physical (energy) and the social (organisational) requirements of obtaining, processing and storing food. (3) Concomitantly, the ways in which groups of people arrange themselves in the environment and the size of population groups change seasonally, influencing the number and composition of producers (production units) and consumers (consumption units) and, consequently, the organisation of labour for material livelihood. Over the annual round, the relative contributions of the sexes evens out with males and females contributing in complementary, though not identical, patterns that reflect a basically egalitarian social organisation and a relatively unspecialised labour organisation. This is true for hunter-gatherers in northern latitudes as well as for those in arid and tropical environments and can be said to be the pattern regardless of whether one classifies fishing as hunting or as gathering (Lee, 1968; Ember, 1978). What is important for our purpose is the examination of who does what in which season.

PATTERNS OF THE ORGANISATION OF LABOUR BY SEX

In a recent article, entitled 'Myths About Hunter-Gatherers', Carol Ember (1978:439) uses the data in the *Ethnographic Atlas* (Murdock, 1967) to question the idea that 'gathering is the most important subsistence activity in hunter-gatherer economies (and the related

idea that women contribute more than men to the economy)'. In this regard, Ember is critical of Richard Lee's (1968) survey of hunter-gatherers, especially of his reducing the proportion of North American cases (but not the proportion of cases from other areas of the world) in his sample. Ember argues that, since 80 per cent of the hunter-gatherers in the *Ethnographic Atlas* are in North America, where hunting and fishing are generally more important than gathering, Lee's reduction of the proportion of these cases inflates the apparent importance of gathering. Ember (1978:441) also notes that Lee re-classified shellfishing from 'fishing' to 'gathering', thereby inflating the relative subsistence importance of gathering once again. Ember takes all of the societies in the *Atlas* summary that depend *almost* entirely on gathering, hunting and fishing, and shows that, even if equestrian hunters are omitted, gathering contributes less than half of the calories in 77 per cent of the cases (1978:440).

Ember recognizes that calculations of 'what is typical of hunter-gatherers' may vary considerably by geographical areas: SubSaharan Africa, East Eurasia, Insular Pacific, North America and South and Central America. Her results indicate that the importance of hunting vs. gathering does in fact vary geographically. Gathering contributes 60 per cent of the calories in sub-Saharan Africa and 50 per cent in the Insular Pacific; in East Eurasia gathering and fishing each contribute 33 per cent of the calories: fishing is most important in North America, contributing 41 per cent of the calories; and hunting is generally most important in South America, contributing approximately 50 per cent of the calories (1978:445–6). On the basis of these calculations, Ember makes the following generalisations about the relative contributions of males and females to the subsistence effort, thus characterising the division of labour by sex for hunter-gatherers:

> Not surprisingly, since the importance of gathering shows geographical variability, so does the relative contribution of men and women to subsistence. Both in Sub-Saharan Africa and the Insular Pacific – where gathering is more important than any other activity – women typically contribute more than men to subsistence. But in most areas of the world, men typically contribute more to subsistence. Since most geographical areas have men typically contributing more to subsistence and since there are proportionately few societies with women contributing more than men (only 13 out of 163), the current notion that women typically contribute more to subsistence than men among hunter-gatherers clearly needs to be

revised. Men may generally contribute more to subsistence than women because hunting and fishing generally account for more than half the caloric intake in most hunter-gatherer societies (1978:446).

While Ember's criticism of Lee's sampling method may have considerable merit, Ember's own analysis raises other problems. First, Ember completely ignores seasonal variation, apparently assuming that resources, units of social organisation and, thus, production units remain uniform throughout the year in a given latitude (see also Martin, 1974:17). More importantly, Ember assumes that the relative proportions of hunting to gathering reflect accurately the division of labour between the sexes. In other words, if females do not gather, they do not contribute to subsistence.

Ernestine Friedl's (1975) discussion of four patterns of sexual division of labour among hunter-gatherers also requires comment before we turn to the case materials. Friedl's four basic patterns indicate the relative contributions of hunting vs. gathering to subsistence. In Pattern I, gathering overwhelmingly predominates and both men and women spend most of their productive time gathering; the Hadza of Tanzania are one example (Woodburn, 1968a). In Pattern II, both sexes hunt communally and both engage in gathering or fishing; the Mbuti of the Congo rainforest are another example (Turnbull, 1961, 1968). According to Friedl, in Pattern II: 'Hunting forays, under these conditions, are usually drives in which animals are forced either into a net or into some other central impounding place by the joint efforts of men and women, although the men actually kill the animals ... Men and women sometimes also simultaneously gather and transport foods like nuts when they are in season, and both sexes join in fishing during heavy fish runs' (1975:18–19). The Washo of the Great Basin of North America are another example (Downs, 1966). In Pattern III, exemplified by the !Kung of the Kalahari (Lee, 1968, 1972a, 1972b; Marshall, 1965) and the Tiwi of North Australia (Hart and Pilling, 1960; Goodale, 1971), men hunt and women gather; women contribute more than half the food supply, while men contribute 30–40 per cent by hunting. Friedl notes that the sexes seem to contribute about equally to subsistence in these three patterns, even though the ratios of gathering to hunting and fishing are different in each. In Pattern IV, men provide large game as the only source of food, while women contribute to subsistence by processing meat and skins. Friedl says that the Eskimo in general exemplify this pattern (Chance, 1966; Spencer, 1959, 1972; Burch and Correll, 1972).

There are similarities as well as differences between Friedl and Ember. While they agree generally about the relative importance of hunting vs. gathering in different geographical areas, their views of the nature of the division of labour are different. For instance, Friedl implies that the simple ratio of hunting to gathering may not reflect the division of labour by sex; in her first three types, gathering varies in importance, while the contribution of women to the subsistence effort remains generally the same, about 'half or more' (1975:19). Implicit in Friedl's generalisation are two related notions: (1) It must be the case that women engage in productive activities other than gathering, such as activities involving food processing and storage (Suttles, 1968). (2) As in the case in Pattern III, males and females share work normally thought to be the domain of one or the other sex. In all hunting-gathering societies, men hunt the available large game animals, either alone or collectively. Fishing is more problematic, since both males and females may participate, depending upon the type of maritime production and, to some extent, the technology employed. Most analysts, however, have assumed either implicitly or explicitly that protein procurement is in the male domain and therefore, for aquatic foragers, have classified fishing, which contributes an average of 57 per cent of the subsistence base, as a productive activity undertaken exclusively by men, with women taking on the processing tasks associated with fish and shellfish harvesting (Martin, 1974:13). Explicit here is the notion that in order for women to figure importantly in the subsistence effort, gathered vegetable foods must predominate in the diet. It is clear, however, that at certain seasons, both men and women engage in gathering, depending upon the resources available (animal and plant foods, as well as labour) and the consumption needs of the group. These generalisations are borne out in the following case studies.

THE !KUNG

The !Kung Bushmen of the Kalahari Desert of Botswana's Dobe Area have two seasons, dry and rainy. The dry season occupies at least six months of the year, from May to October (Lee, 1968:31). There is some indication that the dry season may be somewhat longer than half the year, as Lee indicates in a chart (1968:32), since the first rains do not begin until December. During the dry season, people cluster around sparsely distributed,[5] permanent waterholes, whereas during the rainy

season, population groups are smaller and more dispersed to take advantage of a variety of water sources. Within the dry season, the number of camps at each well and the number of persons composing each camp varies (Lee, 1968:31).

Rainfall not only varies seasonally, creating flexible sizes and spatial arrangements of population groups, it also may vary as much as 300 per cent from year to year (Lee, 1972a:130). Lee reports that just to the southeast of Dobe, in a run of 46 years, July 1922 to June 1968, mean annual rainfall figures indicate that drought occurred in 17 years (37 per cent), and, of these, 12 years (26 per cent) were classified as severe drought when less than 70 per cent of average rainfall occurred (Lee, 1972a:131–2). He estimates further that the probability of drought occurring at Maun (300 km by air southeast of Dobe) is about 2 years in 5, and of severe drought, 1 year in 4. In the Dobe area itself the probability of drought and severe drought would be even higher and more erratic since rainfall is lower overall (350 mm at Dobe vs. 462 mm for Maun). Based upon a seven-year period of research (1963–69) in the Dobe area and the Marshall's research (1952–59) in the Nyae Nyae region, Lee calculates that drought conditions probably characterise about half the years (Lee, 1972a:132).

What do these data on seasonal and yearly environmental dynamics indicate about the seasonal and yearly ratios of hunting to gathering and what do they tell us about the overall organisation of labour? It should be noted here, that despite the rather substantial quantitative data on the Dobe !Kung, it is very difficult to extract from the ethnography the precise quantities and proportions of hunting and gathering activities in the dry and rainy seasons, much less the patterns of hunting and gathering in periods of drought and severe drought.

With respect to male hunting activities, we do know, however, that game is more plentiful in the rainy season. Since water is available in most areas, the !Kung can move their camps to good hunting ground (Yellen and Lee, 1976:44), as well as to spots near good mongongo forests. Hunting of large and small game is more productive in the rainy season because the chances of obtaining meat while travelling only short distances are greater. Women contribute to hunting efforts by bringing information about animal tracks, their age, and their direction of movement (Draper, 1975:82). By contrast, in the dry season, and during periods of severe drought, hunting (always less reliable than gathering) is extremely unreliable because game is not only less plentiful, it is more dispersed and further from the clusters of human population.[6]

Not insignificantly, Lee's (1969, 1979) input-output analysis of !Kung Bushmen subsistence greatly underplays the importance of hunting at all seasons. For example, he says that by far the most important ecological determinant of subsistence is the distribution of water sources, next comes the availability of plant foods, and, of only minor importance are the numbers and distribution of game animals. Without mentioning animals, Lee, in his section on seasonal subsistence patterns, then says: 'Since the Bushmen camps of necessity depend on water sources, they can exploit only those vegetable foods that lie within a reasonable walking distance of water. Food sources that lie beyond a reasonable walking distance are rarely exploited' (1969:78). While Lee devotes a section of his paper to 'foraging strategy', he devotes none to 'hunting strategy'. Lorna Marshall clearly states that both men and women gather in the dry season:

> When the dry season sets in, the problem is to carry enough water from the water hole to the veldkos area in ostrich egg shell containers and to carry enough veldkos back to the waterhole. It is a ceaseless labor.
>
> The distances the !Kung travel between water and fertile areas in these gathering trips vary from a few miles to twenty or thirty. The people do not manage greater distances except in the rainy season, when they go as far as seventy-five miles to a mangetti forest.
>
> When the people go to gather mangettis or tsi, the men always accompany the women and help to gather and to carry the heavy loads – as much as they possibly can – back to the water hole. (1965:249–50)[7]

The !Kung social structure also mediates against regular hunting in the dry season. Since population groups are larger and the number of available hunters on hand is greater, hunting tends to have a 'stop-and-go rhythm' in which 'a man might hunt three days in a row and then do no hunting for ten days or two weeks' (Lee, 1972b:348). Lee suggests that, in part, the rules of social organisation dictating generosity and reciprocity are responsible for the intermittent hunting pattern. '[A]fter a run of successful hunting, during which he has played host at several meat distributions, the hunter stops hunting in order to enjoy the benefits of some of the reciprocal obligations he has built up' (Lee, 1972b:348).[8]

Gathering, an activity in which both men and women participate, occurs year round (Lee, 1968:32). Lee (1984) reports that men do 22 per cent of the gathering. What seems to vary is not the frequency

of gathering activity, but rather the kinds of resources gathered. When the high-protein mongongo nuts, the most desirable gathered food, become 'gathered out' in the sense that the distances the !Kung must travel to reach them in the dry season become too great and thirst outweighs hunger, the !Kung eat a variety of roots, bulbs and resins.[9]

Given the length of the dry season and the possibilities of extreme variations in rainfall over periods of several years, an argument can be made that the proportion of hunted foods in the !Kung diet may be a great deal less than the 30 per cent or 40 per cent indicated by Lee. During dry spells, it may simply be necessary for both men and women to concentrate their productive activities upon the more reliable gathered foods, as the Hadza seem to do. Draper reports that men will collect water in the dry season:

> Water collection is normally considered to be women's work, particularly when the water source is close to camp, perhaps fifteen to twenty minutes' walk. However, when the people were camped several miles from water, men participate regularly in carrying water back to camp. In the months of August, September, and October of 1969, I observed two of the /Du/da camps where water was three miles distant. In this situation men and women both worked at bringing in water. Only on the occasions when several of the men were absent from camp for several nights on hunting trips did their wives collect water daily for the remaining members of the family. (Draper, 1975:87)

Significantly, these data reveal that the !Kung will move their camps as far as three miles from permanent waterholes even at the end of the dry season in order to extend the range of their gathering territory. (By this time the mongongo nuts within three miles of the waterholes are almost certainly gathered out.) This adjustment is only possible, however, if male labour becomes available for collecting and transporting water, another indirect indication that hunting is at a low ebb by this point in the dry season.

In sum, for the !Kung we can say that during the dry season and during periods of drought, the ratio of hunting to gathering looks much more like what Friedl (1975) describes for the Hadza, who devote only a minor part of male energies to hunting. The bulk of Hadza subsistence is procured by male and female gathering activity (Friedl, 1975:18). In the Hadza case it is clear that, since both sexes devote their energies to gathering, the increase in the proportion of gathering to hunting *per se* does not necessarily increase women's contribution to

the subsistence effort. Rather, the allocation of productive tasks for the !Kung in the dry season reflects the complementarity and interdependence of the sexual division of labour. Women contribute at least half or more of the subsistence effort. How much more than half depends upon the season. Thus, the simple ratio of hunting to gathering does not reflect the organisation of labour for !Kung production.

THE ONA

Ecology and Resource Base

The general topographical features of Tierra del Fuego Island, on which the population of 750 Ona reside, may be characterised as a vertical ecology: a low-lying plain not exceeding 600 feet in altitude on the northeast half of the island and a hilly area as high as 600–1800 feet to the south and west extending to the south coast and characterised by high, rugged, usually a snow-covered chains of mountains. The climate varies by altitude and region as well as by season, although rivers, streams, lakes and springs provide water year round. Temperature ranges are not as extreme as in comparable (northern) latitudes (mean annual temperature range is only 17° F, in contrast to a range of 59° in Goose, Newfoundland). Climatic conditions such as the altitude, which affects regional variations between coast and island, wind chill factor and variation in the length of the day all influence the hunting of guanaco the most desired protein food. These animals inhabit the inland deciduous forest zone which, because of its inland location and relatively high altitude, is more subject to freezing conditions than areas on the coast, where the seeds of tussock grasses and berries are found along with important fungi (Stuart, 1977:258). Near the coast, in the better drained areas of the tussock grass, small rodents (tuco-tuco) similar to guinea pigs constitute another important resource. These rodents are also found in the northern and eastern zones where leafless trees allow sunlight through to support grass for seven months of the year (1977:259). Many species of migratory birds add to the sources of protein as does marine life, particularly the southern blue mussels, which are abundant year round (1977:259). Also available are several species of fish and crabs as well as seal, a source of meat and fat. Men spear or harpoon larger fish. Fishing with a line is an exclusive task of women (Gusinde, 1961:272). Following Bridges (1950), Stuart de-

scribes the population (density = 0.12/mi. sq.) as divided into four groups which move seasonally from the coast to the interior, thus including the major environmental zones (1977:260).

Seasonal Subsistence Patterns

Winter

Winter lasts about six months and is characterised by cold temperatures, short days, and scarce terrestrial protein resources (Stuart, 1977:257). Guanaco, ordinarily hunted by men, scatter and are difficult to stalk at this time; the small tuco-tuco rodents and foxes are hunted intensively by men, women and children in winter. Men also hunt the cormorant, a large marine bird. Groups of women, however, produce the most important protein foods by collecting shellfish, primarily mussels and limpets (Lothrop, 1928:109; Gusinde, 1961:256). Thomas Bridges reports: 'The mussel is decidedly the staff of life and sometimes the sole food of the people through the winter ... There are seven sorts of edible mussels, of which four are very fine' (1977:90). Gusinde (1961:252) notes that it is the woman's 'duty to bring in lower animals and vegetable products ... taking the great majority of her produce from the animal kingdom' (1961:253). Mussels are plentiful in all seasons (Gusinde, 1961:285).

During the winter the population is relatively dispersed between lowland forests and grass-shrub zones near the coast. Camps are small, consisting of 4 families or about 20 persons and it is not uncommon to find single families encamped. Human mobility is limited by ice and snow (Stuart, 1977:266).

Spring

In spring, beginning in early October, the Ona men kill seal with bow and arrow, or occasionally, with nets. Women collect mussels, limpets and conch as well as tree fungi. Geese and duck return in spring; goose eggs are collected by women, children and men (Gusinde, 1961:274).

Spring sealing camps are the largest regular Ona encampments (Stuart, 1977:270) with groups of 50 to 80 people split between the coast and the large woodlands. The abundance of seal (male production) combined with the abundance of shellfish (female production) accounts in large part for the relatively large population groupings. Significantly, guanaco, the Ona's most desirable protein resource, is least important in the spring season (Stuart, 1977:273).

Summer

The summer season is characterised by rain, moderate temperatures, and longer days with daily changeability (Stuart, 1977:257). Here mussels collected by women are the most important single resource. Other shellfish (limpet and conch), fish and eels, are also important sources of protein (Stuart, 1977:270). Women also collect and roast grass seeds, which they grind and mix with water (Stuart, 1977:271).

In summer the population locates on coastal zones because hunting is not productive. Stuart (1977:272) writes: 'The lesser importance of male hunting pursuits at this time is indicated by the inclination of Ona men to work on the various Bridges farms in the summer (when wives were supplying food) but not in the fall. For it was fall during which the Ona returned to the highlands again, hunting guanaco and carrying on their lodge activities' (Stuart, 1977).

Autumn

In the autumn, hunting by groups of two or three men is the primary productive activity; guanaco are now in their prime and tuco-tuco – as well as geese and ducks – are also available. Women cook the guanaco, dress the hides, and manufacture guanaco robes. They also butcher geese and ducks. Women's autumn gathering activities include picking barberry.

The Annual Round

For at least half the year (winter and summer) and probably in three out of four seasons, womens' labour contributes the large part of the protein base. Stuart suggests institutional features pointing to the contribution of females to subsistence:

> In spring, access to coastal resources was important, and littoral resources were plentiful. Although the Ona female's role in subsistence activities has generally been minimized, I suggest that her importance was great on a seasonal basis. At this time, it appears that economic ties with females were emphasized. The exploitation of seal herds and an occasional stranded whale likely provided more calories in one place than at any other time of year. In such instances, it appears that individuals gathered together from a wider social network ...
>
> During the summer, we find a situation similar to spring – a recurring interest in affinal relations plus a heightened emphasis on or interest in the exploitative potential of female labor. (1977:275)

Interestingly, however, Stuart's chart summarising resource utilisation and seasonality under-represents females' importance in subsistence.

THE TOLOWA

The Tolowa of Northern California are another group of hunter-gatherers who base their diet upon both marine and terrestrial resources, which become available at different seasons. Unlike band-level hunter-gatherers, the Tolowa live in villages in a rich environment along the coast of northwestern California (see Basgall, 1987 and Bouey 1987). They relocate their villages on a seasonal basis in order to exploit different, although abundant, food resources. Resources include acorns, sea-lions, cormorants, smelt, eels, and two species of salmon as well as game (deer and elk), shellfish, and a variety of other foods, including berries and certain flowers (Gould, 1966:68).

The two seasons, dry and rainy, provide the organising framework for male and female productive activities. In the dry season, June through to September, men fish for salmon with nets and spears and, Gould notes, 'occasionally a few women might help in this' (1966:69). Only men, however, fish on the open ocean and in the surf. During August and sometimes into September, men spend evenings catching smelt in the surf, while women camp on the beach around the clock to prepare the smelt for storage. Preparation includes placing the fish on driftwood logs in the sun to dry by day and laying them out on straw by night covered by burlap. Gould notes that each of these daily and nightly drying processes requires approximately 2 hours of female labour, depending upon the quantities of fish involved. Gould reports:

> When I observed these activities in the summer of 1965, between three and five bushel-tubs were being caught each evening by the men, and the accumulation of fish being dried on the beach was considerable. During the day the women sit around and shoo the sea gulls away – a trifling task but one requiring constant attention. (1966:70)

In the autumn, both men and women gather acorns, but women always gather shellfish, berries and camass roots, and women transport all of these foods from the place of collection to the main village (Gould, 1966:69). Women also collect and carry firewood (DuBois, 1932:254). Gould notes, however, that collecting food is

only a relatively small part of the day's activities for most Tolowa women. Food processing occupies most of the women's productive time:

> Of greater importance was the fact that women were chiefly responsible for the preparation of game and fish (caught by the men) for storage. It was the women who would arise before dawn practically every day to pound the acorns into flour. As was true throughout native California, the women were responsible for the complete processing of acorns into edible mush and patties. They also had to check the acorns in storage periodically to see whether moisture was causing any damage. If the acorns were soft or showed any signs of fungus, they were removed from the baskets by the women and spread out in the sun to dry. (Gould, 1966:69–70)

In addition, the women perform all the smoking and drying operations on the fish and venison brought in by the men (Gould, 1966:70). The women preserve baskets of fish during the rainy season, which lasts almost eight months, from October through May. This is done by placing layers of seaweed between the fillets, mainly to absorb moisture (Gould, 1966:69).

Production units in Tolowa society are polygynous households, each man and woman engaging in a full range of productive tasks. Aside from the shamans, who are always women or male transvestites, there are no occupational specialists among the Tolowa (Gould, 1966:70). Exchanges of subsistence goods occur constantly within households (Gould, 1966:71), and men's and women's productive tasks are interdependent. Whether food is procured by hunting or gathering or by males or females, it must be processed for storage and consumption. The Tolowa live in a rich environment in which obtaining food is relatively easy. The time-consuming, labour-intensive tasks are required not for food procurement *per se*, but for food processing. Processing involves constant and tedious work, performed only by women (Gould, 1966:71). As Gould notes, the larger a man's crew of female labourers (wives), the more food he can expect to store in his household (1966:71). The Tolowa 'buy' wives, the price taking the form of treasure items (Gould, 1966:74; DuBois, 1936:56). They also exchange subsistence goods (food) for treasures which in turn allow a man to acquire more wives. The more female labour a man can 'command', the more stored food he has at his disposal, the more treasure he can acquire, and the more females he can 'buy', to

store more food. The whole system of exchange ultimately rests upon female labour.

GREAT BASIN SHOSHONI[10]

Seasons and Resource Fluctuations

As Steward (1938, 1955) describes them, the Great Basin Shoshoni relied upon pine nuts and other wild vegetable food (100 species) for their subsistence; these were gathered primarily by women, but also by men. The Shoshoni relied only secondarily upon animal protein procured by men with the aid of women and children (Steward, 1955:104). A number of factors contributed to low levels of meat consumption. Animals were relatively scarce and the limited grasslands precluded species from occurring in large herds. Only small herds of antelope occurred with any regularity and frequent slaughter depleted their numbers considerably (1938:33). Storage periods for meat were short, both for technical reasons and because of consumption needs. Dried rabbits would not keep for more than two weeks. When longer storage periods were possible technically, consumption needs prevented meat supplies from lasting. The meat of large game, for example, which could be cut into thin slices and dried in trees, would keep longer than two weeks but was usually consumed quickly (Steward, 1938:83). These factors worked to increase the importance of seed gathering. Even during periods of seed shortage, however, when hunting was of relatively greater importance, the Shoshoni relied considerably upon rodent hunting, an activity in which both sexes engaged (Steward, 1938:83). Similarly, the Great Basin Paiute hunted both rats and crickets; again, men and women participated (Egan, 1977:47–51). Women carried baskets of crickets on their backs, some of which held over two bushels (1977:48).[11] Ground squirrels (gophers), which were very numerous in certain seasons, reportedly were hunted by 'squaws' – numbers ranged between 25 or 30 per half hour (Egan, 1977:53–4). Women diverted streams in order to flood out the rodents (Coon, 1977:54). In short, Shoshoni women procured and transported significant amounts of animal protein resources – in addition to their collection of vegetable foods in seasonal cycles.

For the Great Basin Shoshoni cycles of plant growth divided the year into four seasons:

Spring
Stems and leaves, cooked or eaten raw, appeared in the early spring near streams, lakes and low hills, areas where snow disappeared first (Steward, 1938:20). Spring was also the season for communal rabbit and antelope drives (Steward, 1938:81).

Summer
In the early summer, the desert valley and moist hills produced ripening seeds of herbaceous and other plants. Seed gathering occurred primarily between July and September. During the late summer, edible roots began to mature and in combination with berries, became the major food sources. In the absence of roots, stored seeds provided the bulk of the diet in the late summer. Steward (1938:20) points out that the harvest period and the quantities of seeds gathered in any locality were restricted because (1) plants were greatly dispersed, (2) the seeds of most species fell before many could be gathered, and (3) seed production was unreliable since it was dependent upon rainfall.

Autumn
Pine nuts began to ripen in the early fall. Depending on rainfall patterns, the quantities available varied in different areas and from year to year (Steward, 1938:20). Around late October or early November, first frosts opened the cones and made the nuts ready for harvest (Steward, 1955:105). Fall was also the season for large rabbit drives (Steward, 1938:82).

Winter
Winter was generally a time of food scarcity, during which the Shoshoni relied primarily upon food stored in seed caches near winter camps. Families aggregated in winter encampments, depending upon their proximity to pine nut caches.

Steward notes considerable geographical as well as seasonal variation in the annual round:

> The annual round of food quest, which was scarcely sufficiently fixed to be a routine, varied in different ways. Mountain sheep might be hunted by individuals in the Koso Mountains or the Sierra Nevada and deer in the Sierra Nevada. Fish were taken in Rose Valley and, with poison, in Little Lake ... Other animals eaten were bear, badger, chuckwalla, gopher, mice, rats, doves, eagles, hawks,

> crows, snakes, mountain lions, wildcats, but not coyotes, wolves, frogs, magpies, or grasshoppers. To vary the vegetable diet, acorns might be procured from the eastern foot of the Sierra Nevada. (Steward, 1938:83)

Fish, however, seemed to occur with some annual regularity in fixed places. While fish were running, groups of families came from considerable distances to fish for a few weeks, after which they dispersed (Steward, 1955:106).

The Organisation of Labour

Individual nuclear families participated in summer seed gathering and were the primary production units, often travelling 30 or 40 miles to procure the harvest (Steward, 1938:20). 'A woman gathered as much, perhaps a little more, alone than she could in company with others; and once gathered, all seeds were the exclusive property of the gatherer and her family' (Steward, 1938:20). Family production units also gathered pine nuts:

> In gathering the pine nuts, each family restricted itself by common understanding to a limited area, because there were so many pine nuts in the locality as a whole that no one could gather them all before they dropped and because each family could harvest more if it worked alone. The different families remained from several hundred yards to a mile or more apart. Each gathered pine nuts as rapidly as it could and stored them in earth caches. If the harvest was good, it might support the family throughout most of the winter (Steward, 1955:105)

Small-scale spring rabbit hunting could be done by individual men using spring-pole traps (Steward, 1938:81), or large rabbit drives involved many more participants, including families who would co-operate if they happened to be in the vicinity of places with numerous rabbits (Steward, 1938:82). Coon notes on the basis of Egan's material on Great Basin Indians (1977:50) 'that in a game drive, or "surround" women and children are not excluded. The more noise the better.' Both men and women participated in communal antelope hunts (Steward, 1938:35).

In sum, the following can be said about organisation of Shoshoni labour. Steward argues for the Shoshoni that for all practical purposes, the nuclear family was a self-sufficient economic unit with an

interdependent and complementary organisation of labour as its basis. More precisely, this means that nuclear families are the primary production units, with males, females and in some instances, children in certain seasons, performing identical or very closely related productive activities. For example, though women are the primary seed gatherers, Steward tells us that 'men helped somewhat in collecting pine nuts', and that 'Both sexes fished' (1938:44), while women primarily were responsible for the preparation of foods, as well as for housekeeping, the manufacture of pottery, basketry and most clothing, Steward also reports that the California and Nevada Shoshoni differed from the Paiute in that the men helped prepare skins and did some sewing, especially of moccasins (1938:44). While men hunted large game, fashioned chipped flint instruments and digging sticks, made blankets and built houses, women also manufactured the tools they used. Both men and women hunted rodents, carried wood and water, transported seeds and gathered materials for making pots, baskets and metates (1938:44). All of this points to an unspecialised organisation of labour in which there is a great deal of overlap and even equivalency in the tasks of males and females. Steward argues further that the basically egalitarian pattern of labour organisation carries over to marriage, determining some of its features. He says, for example: 'The matrimonial status of each sex was, with a few exceptions ... substantially equal. If native male dominance was to man's advantage, women's somewhat great economic importance in seed gathering off-set it. There were virtually no non-economic activities which either sex would use as a social lever. The family therefore was a well-balanced bilateral unit, neither sex having appreciable advantage' (1938:242).

THE ESKIMO

> The sexes have almost equal status in this twilight land (Jenness, 1964:29)

The Eskimo data on the relationship between seasonal cycles of economic activity and patterns of labour organisation are extremely difficult to sort out. Great differences can be found not only between inland and coastal groups, but also between groups which have experienced different kinds and degrees of contact with complex societies.

As Friedl and others have pointed out, the ratio of hunting to gathering is greatest for Eskimo groups in general, but this ratio varies seasonally (Mauss, 1906), and taken at face value, still leaves many questions unanswered. Critical among these questions are the relationships between the size and composition of human groups at different seasons, the resource base, types of productive activities and the patterns of labour division. Central Eskimo groups such as the Copper, Netsilik and Iglulik (Damas, 1968, 1969, 1972) clearly require production units of different sizes, depending upon the kind of productive activity. Damas describes seasonal production patterns for the Copper Eskimo that require different kinds of work groups:

> ... A large number of persons was required for breathing-hole sealing. This factor had a strong influence on the aggregation of people during the winter months. Winter aggregations ranged in size from about fifty to perhaps two hundred persons, with the average being around one hundred. This range might have represented the optimum number of hunters that could adequately or profitably exploit a circle five miles in radius around the camp ... Larger aggregations were fleeting in duration, and smaller ones also did not seem to have a long life during the ... sealing season.
>
> In the spring, dispersal into smaller groups probably also had its economic motivations, for caribou were generally scattered into small herds, and fish, which were the most important source of food at that season, were also not highly concentrated but spread more evenly in lakes and streams. Larger aggregations occurred at the sites of the late summer fish runs. The number of good fishing sites was not great, so that factor alone may have accounted for the tendency to aggregate at those times. Another aspect of that situation is that a large number of fish enabled more people to live together for a time. (1972:23–4)

In the spring and summer women are expected to fish and to act as beaters at the caribou drives (Damas, 1972:43). The Netsilik and the Copper Eskimo hunt caribou primarily from August to October (autumn), but also, secondarily from May to August (Damas, 1969:45).

> Drives were organized so that women and children channeled the animals through rows of rocks, arranged in such a way as to

> resemble men ... , toward bowmen or lancers who waited at points of convergence in firing pits. (Damas, 1969:44)

For the Netsilik, caribou hunting 'was a collaborative activity involving a division of tasks between beaters [women] and spearers [men]' (Balikci, 1968:80). In certain Central Eskimo cases, women contribute to discussions deciding the tactics to be employed in caribou hunting (Jenness, 1964:159).

For the early spring Jenness (1964:116) reports women engaging in a variety of hunting and fishing tasks, including the shooting of game and the preparation for storage:

> During the next six days we scoured all the hills around us, discovering a few caribou. On every excursion we were joined by Leaf, The Runner's wife, who had borrowed her husband's .22 rifle to shoot a ptarmigan. I lent her my own rifle on one occasion when we were stalking a herd of caribou, and she killed a magnificent bull, the finest we saw on Victoria Island. The other women devoted all their time to fishing, and to drying and caching the meat and fish that began to accumulate in camp. (1964:116)[12]

During the late fall, the principal productive activities for the Copper, Netsilik and Iglulik were the sewing of winter clothing by women, after which winter sealing resumed as stores of food from the summer, by this time, had run low (Damas, 1969:44). Women's contribution to sealing is somewhat unclear, although Jenness describes younger women as being 'as well versed as men in the peculiar habits of the seal, often [going] out with the hunters to escape the monotonous care of clothes and blubber' (1964:93). Boas indicates that Central Eskimo women co-operated with the men in certain kinds of communal seal hunts (cf. Boas, 1964:77; Hammond and Jablow, 1976:72). Jenness, reporting on the Eskimo of the Coronation Gulf, describes 'women, sheltered behind low walls of snow ... fishing for tom-cod to replace the seals their husbands could not catch' (1964:214).

It is clear that for the Netsilik and the Copper Eskimo and for the Utku (Briggs, 1974) as well, 'fish were probably more important than caribou' (Damas, 1969:44). Briggs says, for example:

> The Utku live almost entirely on fish. Caribou are hunted intensively in the autumn for winter clothing hides; but a man is lucky if he gets eight animals – and perhaps another three or four during the rest of the year. A seal is an event. The families I lived with got

> two in the two years (more or less) that I spent with them, and that was by accident when the seal blundered into a fishnet. (1974:265)

While the Utku cannot possibly hunt seal efficiently because their population of 35 people is simply too small, their almost total reliance upon fishing reflects patterns which may not be atypical of other Eskimo groups. During the major part of the spring, summer and autumn, for example, the Copper and Netsilik population groupings were quite small and fragmented, consisting of between 15 to 20 people. With the exception of the large winter sealing villages, only for brief periods of one to three weeks would the Copper and Netsilik groups reach a size of fifty or more (Damas, 1969:47), and these groupings were at the site of fish runs. Given these data and given that women do engage in fishing, as well as fish and meat processing, the female contribution to food production may be greater, at least for certain groups of Central Eskimo, than has previously been thought.

It should be noted, also, that the pattern of predominant fish production for the Utku, Copper and the Netsilik contrasts with the Iglulik reliance upon caribou and sea mammals. As Damas argues, this can be accounted for in terms of microecological variations: the vegetation in the Iglulik area (Baffin Island) supports extensive herds year round, whereas on Banks, Victoria and King William Islands and on Boothis and Melville Peninsulas (areas of the Netsilik and Copper Eskimo) poor vegetation keeps resident herds at a minimum (Damas, 1969:42).

What is the impact of increased sea animals, vegetation, and caribou hunting upon the division of labour by sex? If females give equal time to caribou hunting as men, acting as beaters as do Netsilik women, then the presence of caribou exploitation would have an impact upon female contributions to food production. On the other hand, in so far as females do not hunt large sea mammals, the Iglulik men probably spend more time, overall, in hunting than do either Netsilik or Copper Eskimo males. At the same time, however, these factors must be weighed against the fact that increased vegetation would not only support caribou, but also, presumably, increase the quantities of potential gathered products. We do know, for example, that the Iglulik share food in extended family units, the minimal sharing unit, in contrast to the Copper, for whom the nuclear family is the major unit. This may or may not indicate the exchange of products between the sexes; it does suggest some possibilities.

The important point is that within these units, whether nuclear or extended families, the organisation of labour is still relatively

unspecialised. By necessity, labour tasks must be performed at certain times and this often involves crossing traditional sex lines. Briggs's description documents this in rather vivid terms:

> Eskimos are pragmatic people. There is nothing holy to them about the sexual division of labor; neither is there, in their view, anything inherent in the nature of either sex that makes it incapable of doing some of the jobs that the other sex ordinarily does. So if a family is short of daughters, a son – often the eldest son – may be brought up to help his mother. In addition to being taught the usual male skills, he will be taught some female skills ...
>
> Similarly, if a family has only daughters, a father may decide to bring up one or two daughters as hunters, so that they can help him and also that, if anything should happen to him, the family will not be left without a provider. Again, the older daughters tend to be chosen for this role. Such girls will go hunting with their fathers from the time they are small (1974:270–71).

In addition to their food procurement activities women prepare skins for clothing and food for storage, meat as well as fish. Both are extremely laborious activities involving multiple steps and, sometimes, aggravating physical conditions such as cold winds blowing on wet hands trying to cut meat for drying or gut fish for storage in hollow stone caches (Briggs, 1974:274). In addition to carrying out the tasks of child-rearing, females cook, prepare skins for clothing, and pitch and break camp. Jenness reports: 'While the men erected their (snow) huts the women built low ramparts around the outer walls to increase the warmth inside and to serve as storage places for the bales of clothing' (1964:32–3). Wives and daughters also pull sleds in front of the dogs (Jenness, 1964:41), backpacking considerable loads in summer. These are all occupations the women are expected to share with men.

All of this points to the interdependence of male and female activities in Eskimo society:

> The interdependence of male and female work is obviously complex. When seal hunting has been good, women are extremely busy and may feel somewhat pressed, because seal skins spoil if the blubber is not removed from them within a day or two. They may also work long hours sometimes if a man is in need of a new pair of boots or a new fur parka. In this sense, the rhythm of their work is dependent on that of the men. But the men are also dependent on

> the pace of the women's work. A man cannot hunt until his parka is finished, nor can he move his family to spring camp until his wife has finished making the tent. (Briggs, 1974:275)

The interdependency is complex, depending greatly upon the limitations of production established by seasonal and ecological variables.

CONCLUSIONS

Seasonal variations affect the size, composition and organisation of productive units as well as the kinds of productive activities possible at any given time. The egalitarian and interdependent organisation of labour can be explained by considering these seasonal ecological factors in relationship to the distinctive features of hunter-gatherer technology and social organisation: the reliance upon human muscular energy, for example, politics by consensus, and no individually exclusive access to productive resources (Leacock, 1978:249; Lee, 1982; Leacock and Lee, 1982). These relationships create a flexible and dynamic division of labour among hunter-gatherers, involving not only the crossing of normative sexlines on both a daily and seasonal basis, but also variations in the rhythms and timing of work activities for both sexes throughout the annual round.

The emphasis upon ratios of hunting to gathering, the equation of hunting with male production and gathering with female production, and the assumption that the sum total of hunting and gathering activities reflects accurately the production of livelihood for subsistence have impeded our understanding of economic processes in general and the organisation of labour in particular among hunter-gatherers. The commonly-held notion that in northern latitudes, where the gathering of vegetable foods is often minimal, females' contribution to subsistence is also minimal, is not supported by the data if they are interpreted in a framework which conceptualises the institutional and ecological features of production and material processing. Females not only procure food; they prepare food and clothing for present and future use. For the Eskimo, warm and water-resistant clothing is an essential element of production, equivalent to any piece of technology. For the Tolowa, Shoshoni and Eskimo, food processing for storage and consumption is as important as procuring food in the first place. Fishing, often considered to be a predominantly male

activity, is often done by women, or by both sexes. In maritime environments women also contribute significant amounts of protein resources to the diet by collecting shellfish. Over the course of the year, the relative contribution of the sexes to the production of material livelihood for hunter-gatherers in all environments tends to even itself out, with females contributing at least half, and often more than half of material livelihood, in a manner which indicates sex-role complementarity (Leacock, 1978).

The nature of the complementarity can be understood only by examining carefully subsistence procurement and processing in particular seasons and under specific ecological conditions. These conditions set the patterns and units of production and, thus, the organisation of labour. What varies seasonally is the ratio of specific productive activities to one another: the proportion not only of hunting to gathering, but also of hunting to fishing, and of food procurement to clothing manufacture, food processing, and preparation of food for storage and consumption. This appears to be the case for all environments. Everywhere the processing of foodstuffs for domestic consumption is done mainly by women.

In sum, it is not sufficient to take a single ratio of productive activities, for example, hunting to gathering, as an accurate reflection of the organisation of labour. Seasonal variation must be taken into account, but more importantly, the definition of production itself must be reframed to take processing of food, clothing and tools into account. The fact that men actually do the killing of large game should not lead us to overlook the fact that in many cases women (or even children) make the killing possible. Anthropologists still tend to focus upon the dramatic act of the kill, to the exclusion of labour that makes the kill possible. Among band-level hunter-gatherers the male–female division of labour remains unspecialised. Female and male contributions to production complement one another, albeit in different ways according to season and overall ecological adjustment.

Many important questions remain. Binford (1980) has made the distinction between foragers, for whom movements correspond to the availability of plant and animal resources, and collectors, for whom movements of groups are minimised and for whom storage facilities are extremely important. For the Northwest Coast (Schalk, 1981) says it is his impression that the importance of storage increases northward because of the general decline in the length of the production season. With increased storage, we can predict an increase in the importance of food processing in preparation for storage.

The implications of the forager/collection distinction for the organisation of labour among hunter-gatherers remains yet to be spelled out. If women are the primary processors, then potentially the effect of the distinction upon our understanding of the organisation of labour is considerable (Weissner, 1982).

On another topic: The popularity of optimal foraging models (Smith and Winterhalder, 1981; Smith, 1983; Martin, 1983; Hawkes and O'Connell, 1985; Bettinger, 1980; Blurton-Jones, 1986) has raised questions for understanding the organisation of labour (see also Thomas, 1986). Are certain ways of organising labour more efficient than others in certain seasons? Can we develop formal models for understanding the organisation of labour for hunter-gatherers both complex and simple (Woodburn, 1980; Price and Brown, 1985; Phillips and Brown, 1983) that take the variables of processing and seasonality into account? Chapter 4 deals with the issue of formal modelling in detail. Lastly, how can processing and seasonality be analysed in a comparative, cross-cultural framework so that female and male contributions to production can be understood in a range of structural types?[13]

6 Administered Production: Continuities in Mexican Political Economy

This chapter is a comparative analysis that illustrates the importance of political institutions as organisers of productive resources in agrarian economies at the local level of the Mexican nation-state. The framework for the comparative analysis is historical and ethnographic. First, a 50-year microhistory of the Yucatecan village of Chan Kom indicates a progressive monopolisation of land and labour resources by political administrators. Secondly, an examination of pre-colonial and colonial forms of labour organisation in Yucatan indicates continuities in patterns of land and labour organisation over time. Thirdly, two brief ethnographic comparisons confirm the importance of political institutions organising production processes. Local administrators historically have used their connections to national political institutions to control the allocation of productive resources and the channels of access to distribution networks, including international money markets as well as marketplaces. From pre-Columbian times to the present, local administrators, whether they were pre-colonial Maya territorial leaders or post-revolutionary *ejido* officials, have used state-controlled resources to their own advantage.

In 1910 Mexico experienced a revolution, the major objective of which was to break up the haciendas of the Porfiriato and redistribute land to peasant villages. Article 27 of the 1917 Constitution legalised public communal land called *ejidos* and by the mid-1930s village *ejido* land was administered through state and federal mechanisms. After almost a half century, however, land reform has not succeeded in changing pre-revolutionary patterns of land tenure. In some cases, in fact, peasants in villages with *ejidos* now labour on elite controlled latifundia – estates remarkably similar to the large-scale production units of earlier periods in Mexican history. My purpose here is to examine how and why, despite a major land-reform revolution, the structure of resource organisation seems to be returning to the *status quo ante*.

Administered land and labour refers to the organisation of productive resources by people who occupy political offices in the Mexican nation-state. States consist of hierarchically organised local

and territorial units. This means that they are arranged in a series of nested units – such that larger units have control of smaller ones (Hunt and Nash, 1967). The nation state of Mexico, for example, is divided into states (*estados*), with centres, i.e. capitals. States, in turn are divided territorially and politically into *municipios* (municipalities) which have principal or head towns (*cabezeras*). *Municipios* are divided into villages which themselves are internally stratified. In this hierarchially organised system, larger units have power over small ones, i.e. people occupying offices at higher levels in the nation-state hierarchy control people occupying roles at lower levels (Simpson B. 1963; Taylor, 1972).

The analysis of politically administered land and labour has three dimensions: theoretical, ethnographic and historical. The theoretical dimension considers the nature of the institutional arrangements organising productive resources in peasant societies. The ethnographic dimension is comprised of the detailed microhistorical case of Chan Kom, a village in Yucatan (Redfield, 1941, 1950; Redfield and Villa, 1934), and includes, for brief comparative purposes, two other cases: Atencingo in the state of Puebla (Ronfeldt, 1973) and Cholul in Yucatan's henequen zone (Raymond, 1971). The historical dimension focuses upon the persistence over time of structural similarities in the organisation of land and labour, the two key productive resources in agrarian state systems (Gibson, 1964; Gruening, 1928; Kirchoff, 1954).

The continuities in politically organised productive resources are striking and these political arrangements are *the* critical non-market elements in the development of agrarian economies in nation-states. The state's maintenance of politically organised resources in contemporary *ejido* communities in part explains land reform's failure. The continuities in patterns of resource organisation form cyclical patterns of land tenure and labour organisation – patterns that might be interpreted as new or idiosyncratic if viewed only in the brief post-revolutionary timespan.

One of the primary theoretical goals of this chapter is to further the analysis of the institutional arrangements organising economic processes, in this case, the political organisation of productive resources. I propose the concept of state administered resources as a general non-market concept with an institutional base. Concepts such as the Asiatic mode of production (Marx, 1964), hydraulic society (Wittfogel, 1957), redistribution and administered trade (Polanyi, 1957a) are more particular, related concepts. All of these require political institutions as major organisers of economic processes. In

addition, political access to and mobilisation of productive resources must be understood in relation to the institutional arrangements organising product distribution. The underlying political organisation of resources constitutes the fundamental link with Mexico's past.

The most important distinctive feature of rural agrarian economies in state systems is that they are institutionally heterogeneous. That is, whole economies cannot be pigeon-holed neatly into market and non-market categories. Rather, a complex mix of market and non-market institutional arrangements shape the organisation of production and distribution processes. By focusing upon institutions this analysis applies some of the notions of Marx, Polanyi and Wittfogel to the study of production in state systems.

The first section of this chapter describes the progressive monopolisation of productive resources by political administrators in Chan Kom. The second section is an examination of pre-conquest, colonial, and pre-revolutionary institutions for organising land and labour in Yucatan. The comparative cases of contemporary *ejido* communities follow the historical analysis. All of the contemporary *ejido* villages produce both subsistence and cash crops. In all cases, bureaucratic structures link the villages hierarchially to state and national political institutions, forcing them to rely on the nation-state apparatus for providing and/or administering productive resources: land, labour, water and credit.

In post-revolutionary Mexico, *ejido* lands consist of land grants administered by the federal government through state and village political officials. *Ejidos* may either be worked collectively or parcelled out to individual *ejidatarios*. Agrarian law prohibits the subdivision and sale of *ejido* parcels, although the parcels may be inherited intact. At the village level, the land administrator (*comisario ejidal*) allocates land parcels to *ejidatarios*, according to his estimation of the appropriate quantity and quality (Cancian, 1965:19; Edel, 1966; Finkler, 1974; Lewis, 1951:105; Redfield and Villa, 1934:105; Vogt, 1966:38). For collective *ejidos*, the administrator, usually called the *socio delgado*, controls the distribution of land and work tasks (Raymond, 1971; Ronfeldt, 1973; Wilkie, 1971).

Whether *ejidos* are individually or collectively worked does not seem to affect the success of land reform. Although there is some evidence that collective *ejidos* can improve the economic well-being of peasant producers over the short run (Wilkie, 1971), in the long run *ejidos* seem to facilitate administrators' ability to monopolise resources. Peasant producers, deprived of land, often find themselves forced to leave their villages. In Yucatan collective *ejidos* turn into large,

administratively controlled landholdings, comparable to pre-revolutionary forms.

A NOTE ON THE ETHNOGRAPHIC MATERIALS

Chan Kom is a rather famous 'little community' in anthropology, primarily, because it has provided the empirical base for Robert Redfield's archetypal folk society. Unfortunately, however, justifiable rejection of Redfield's construct of the folk-urban continuum caused generations of anthropologists to ignore or give only cursory attention to the unusually detailed historical and ethnographic data that Redfield and Villa Rojas collected on Chan Kom. Redfield's data are far more important than his theoretical constructs. Chan Kom is the only peasant village that I know of to have been studied by anthropologists at four different points in time.

The Chan Kom ethnography spans more than 50 years. The village was first studied by Robert Redfield and Alfonso Villa Rojas in 1929 (see Redfield and Villa, 1934); it was revisited by Redfield in 1948 (Redfield, 1950) and subsequently was restudied and re-analysed by Victor Goldkind (1965, 1966). Mary Elmendorf (1974) has conducted several studies in Chan Kom; the major one focused upon Mayan women. Since Redfield and Villa named their informants, it has been possible to analyse stratification patterns historically by tracing family names. The diary written by Alfonso Villa Rojas records, in a blow-by-blow fashion, movements of people in and out of Chan Kom as well as political events, economic transactions, and religious schisms within the village itself. Villa was the village schoolteacher at the time of Redfield's first study and he later became a *bona fide* anthropologist. Because Villa Rojas paid careful attention to economic transactions, his diary is one of the richest sources of data in the ethnographic record on changing peasant economies. In addition to Villa's diary, Redfield provides detailed case material on the leading political figure in the village.

Unfortunately, Robert Redfield's talents as a fieldworker who recorded detailed descriptions of the complex parameters of economic organisation have not been recognised. Though his writing is anecdotal rather than systematic, Redfield describes nuances of economic life that most students of peasant economies have overlooked. For example, he deals with the issues of how the value of resources and products is determined and he describes the different

market and non-market mechanisms that set the value of land and labour. The price of maize in Chan Kom is governed by national and international markets, but this does not mean that all prices in Chan Kom are market-prices nor does it mean that everything in Chan Kom has a price. Redfield is sensitive to the fact that economic transactions are affected by multiple institutions. Since Redfield conducted his studies by befriending the elites of Chan Kom, we have extremely good data on the economic transactions of people who play political roles.

In addition, the Chan Kom ethnography is one of the few to indicate the larger complex economic and political contexts within which third world villages exist. For example, under certain circumstances legal rights of individuals in Chan Kom extend beyond local authorities to municipal, state, and national levels (Redfield and Villa, 1934:104). Political authorities in Merida, the capital of the state of Yucatan, control many of the resources available to Chan Kom citizens. Although Redfield's primary concern was with the 'folk culture' and village community as an entity in itself, his ethnographies contain data on the links between political institutions and roles within Chan Kom and those in the surrounding villages, towns and cities.

Economic and Political Background: An Overview

Chan Kom is a village of predominantly Mayan speaking people in the north central part of the Yucatan Peninsula. In 1929, 14 per cent of the population spoke Spanish. Geographically, Chan Kom is between the henequen area to the northwest and the tropical forest settlements to the south. Production in Yucatan is not as specialised regionally as it is in other areas of Mesoamerica. Consequently, regional markets are almost non-existent. Most of the manufactured products bought and sold in Chan Kom have been produced in Merida, in Mexico City, or in the United States (Redfield, 1941:156).

As I have noted above, Chan Kom participates extensively in a cash economy, much of which is market-organised. Maize, which is grown using a simple slash and burn technology, was a cash crop in 1931 and remains so in 1948 (Redfield, 1950:171). Over several years, a man must grow twice as much maize as his family consumes in order to convert half of his crop to cash for buying textiles, soap, sugar, salt and other staples (Redfield and Villa, 1934:56 and Redfield, 1941:44).

> People take the road to the market, as well as the road to the milpa. As maize is regularly sold that other goods may be bought, maize

> becomes a measure of other values; goods and labour are sold in terms of maize; it is like money. But the value of maize is fixed outside of Chan Kom, in remote markets of the towns and city. To changes in this market price everyone in Chan Kom is attentive ... If the price goes down, the travelling merchants sell little in Chan Kom, local economic enterprise languishes, the scheduled fiesta is cancelled or a more modest program of entertainment is substituted (1934:51). The amount of money in circulation depends on the time of the year and the value of maize; just after the annual harvest has been sold, there is more, on the other hand, if people have withheld their surplus maize from the market for a better price, most purchases must be made with eggs, maize or hens. (Redfield and Villa, 1934:61)

When the price is low, people do not sell their corn. Maize reserves exceeding what is needed for the coming year customarily are not accumulated. Under conditions of low corn prices, the Chan Kom milpero reduces the size of his yield, or does not plant corn at all, and lives on the corn left from the year before (Redfield and Villa, 1934:51). Most of the saleable maize is sold to travelling merchants who come to Chan Kom; or it is carried to Valladolid and sold. Most trade in fact is carried out via the town market in Valladolid, the travelling merchant, and the village store. People in Chan Kom also sell livestock to traders from Valladolid, an activity which becomes increasingly important with the decline in land availability.

Prices for many services performed in Chan Kom are not governed by markets. For example, specialists such as the midwife, the barber, and the shaman charge a price for their services, but the prices are matters of tradition. This means that, often, part of their remuneration is in food or rum (Redfield and Villa, 1934:69), and that the basis for determining the value of the services is entwined in patterns of mutual obligations manifested by gift giving (Redfield, and Villa 1934:59).

The institutional arrangements organising land and labour reflect the complexity of the economy. A combination of monetary and non-monetary elements are associated with different kinds of land-holding units and with different work arrangements. For example, rights to public communal land (*ejidos*) are rights of usufruct only. Rights to private lands include the right to dispose of land by sale. In 1929 such property included several tracts of agricultural land outside of the village proper. This land could be bought and sold and there were recorded titles (Redfield and Villa, 1934:64). Some work arrangements involve wages; others, for example, *fagina* labour

for public works such as roads, schools, and churches, involve no monetary compensation. *Fagina* is said to operate for the collective good of the community. For the most part, however, labour in the village does not involve money transfers. People perform work in corn fields and garden plots with the aid of nuclear and extended family members. When corn is scarce outside of Chan Kom, the village may have as many as 200 outsiders working for wages in its corn fields (Redfield and Villa, 1934:220). There is little indication, however, that wages are determined by a labour market. Not surprisingly, conflicts within Chan Kom arise over the question of the private rights of individuals versus the collective rights of the community. These disputes figure importantly in the shift from corn to cattle production in late Chan Kom.

To summarise thus far, the economy of Chan Kom is complex. It is an economy with an intricate mix of principles and mechanisms governing transactions of productive resources, products and services. The character and scale of these mechanisms change through time. Ultimately a single family monopolises productive resources and shifts from small-scale corn production to large-scale cattle production.

COMMUNAL LAND AND LABOUR: *EJIDO* AND *FAGINA* IN CHAN KOM

Chan Kom's *ejido* organisation went through several phases in the village's short history. In each phase the system of administered labour (*fagina*) required labour from the *ejidatarios*. Administrative control of one productive resource (i.e., land) meant some control over the other (i.e., labour). As land resources became increasingly consolidated by the administrators, labour recruitment for public and private works came under tighter administrative control. An estate began to form in Chan Kom based upon the political control of resources for subsistence and cash crop production.

In 1926 the local agrarian committee petitioned the national committee (Comisión Nacional Agraria) for *ejidos*, putting into effect a two-way transaction of land for tax money. By law each *ejidatario* holding a parcel of land was obligated to pay 8 per cent of the value of his crop in taxes to the national committee (Redfield and Villa, 1934:105). As the president of the local agrarian committee, the *comisario ejidal* is the focal point of the tax-collecting and land-distri-

buting system. Theoretically, equitable land distribution was ensured by rotating the personnel who occupied the role of *comisario ejidal*. In fact, the opposite occurred.

Every village male was required to perform *fagina* labour as a public service without remuneration (Redfield and Villa, 1934:78). The village *comisario*, a role separate from that of *comisario ejidal*, set *fagina* tasks and participants. Residence in Chan Kom could not be established without a man's prior agreement to perform *fagina* and fulfilment of *fagina* obligations was essential for maintaining residence and full citizenship status, including rights to communal land. Neither absence from the village nor other obligations, however pressing, excused failure to perform *fagina* labour. A man who reneged his *fagina* obligations could be subject to a variety of penalties: assignment of extra work by the *comisario*, severe punishment, arrest and imprisonment. Ultimately, citizenship rights, could be revoked and residence in the village terminated. During Robert Redfield's first study , *fagina* required between one-sixth and one-quarter of a man's productive time, an amount exceeding the obligatory time in most villages in the region. The *fagina* system enabled administrators to mobilise the collective labour resources of the village. *Fagina* labour built the plaza, the streets of Chan Kom, a new school, and 12 kilometres of roadway. Later in the history of the village, *fagina* labour produced a church and other public works projects, as well as corn for sale.

Fagina's cost to the citizen could be measured partly in monetary and material terms, and partly in labour, depending upon the task. In one instance, contributions to village improvements included the following: ten loads of *sascab* (soft limestone used for mortar), ten of lime, two beams, 2.2 pesos, and one week of labour. At other times, *fagina* consisted solely of labour. We have data to indicate that village men would alternate working in groups of ten for ten days each on the construction of the cuartel (Redfield and Villa, 1934:238) without remuneration.

Theoretically, all men spend equal amounts of time engaged in public work. In fact, 'the most public spirited do more than the others' (Redfield and Villa, 1934:81). The measure of 'public spiritedness' was directly proportional to a citizen's tolerance for servility, and willingness to perform *fagina* became a litmus test indicating loyalty to the *comisario*, who functions as a patron to his loyal village clients. Ultimately, the administrators organised labour to work on their own large landholdings.

MONOPOLISATION OF ADMINISTRATIVE ROLES AND PRODUCTIVE RESOURCES

Chan Kom's *ejido* grant, in 1926, of 2400 hectares of land constituted a 'funneling in' of resources to the coffers of the person who played the role of *comisario ejidal*. Since the 1930s and into the early 1940s, members of one elite extended family and their allies occupied the official *ejido* administrative roles. With the exception of a brief interlude in the early 1940s, family members monopolised all administrative posts. For four consecutive three-year terms before 1958, the role of *comisario ejidal* was occupied by the same individual, a half-brother of the head of the primary elite family (Goldkind, 1966:330). Since the *comisario ejidal* adjudicates land disputes and restricts the size of *milpas*, occupation of the post gave one family power to monopolise the majority of *ejido* land and water sources. They allocated land to members of their own family, concomitantly depriving unco-operative and hostile citizens of land and water.

At the time of Redfield's first study, one elite family had already held a monopoly of *ejido* and *non-ejido* land. This family's harvest of corn was 190 *cargas* greater than all other harvests. By monopolising inalienable land this family could sell for profit a quantity of corn far exceeding that of the other productive units in the village (Goldkind, 1966:67; Redfield and Villa, 1934:53).

The majority of village citizens cultivated corn almost entirely for subsistence needs, but three extended families cultivated comparatively large amounts for sale. Victor Goldkind's analysis of Redfield's and Alfonso Villa's data on *milpa* holdings (Table 6.1) shows a marked wealth differential even among the relatively wealthy elite.

Although Goldkind emphasises the characteristics shared by the wealthy class, his chart indicates that one holding is approximately five times larger than the average holding of the other members of this class. Further, according to Goldkind's calculations, an average family of four or five must have harvested a *milpa* of 1.3 hectares to satisfy its annual consumption needs. The estimate is based on an annual consumption of 1096 kilograms of corn with a harvest of 840 kilograms per hectare. Following Redfield's estimate that a family must harvest twice as much corn as it consumes to generate cash for staples, 2.6 hectares are required. Seventeen families worked land to harvest enough for corn without staples. Twenty met the corn plus staples requirements. Nine holdings, composing 20 per cent of the total number and 50 per cent of the total cultivated area, produced

Table 6.1 Number and area of *milpa* holdings cultivated in Chan Kom in 1930

Size of holdings (hectares)	*Number of holdings*	*Area (hectares)*	*Average area (hectares)*
28	1	28.0	28.0
4 to 8.0	8	47.2	5.9
2 to 3.9	20	53.4	2.7
0 to 1.9	17	22.1	1.3
Total	46	150.7	3.3

Source: Based on Goldkind's analysis (1965:867) of Redfield's and Villa's data (1934–53).

substantially above the corn plus staples requirement. These latter holdings generated a sizeable amount of cash from the sale of corn (Goldkind, 1965:867).

By 1948 the *ejido* system clearly was managed by its administrators for accumulative purposes. The members of the primary elite family were the most enthusiastic supporters of a critical change in *ejido* land rights: the implementation of permanent exclusive rights of land use within the *ejido*:

> Others, however, are developing limited private land within the *ejidos*. This is possible through a modification made in recent years in the law as to communal village property, which, I am told, provides that every shareholder (*ejidatario*) in the communal land may receive from the government a certificate establishing his exclusive right to a certain parcel of land within the *ejido*, subject to the condition that within two years from the granting of the certificate the holder works the land and continues to work it for two years. The right is not ownership, for the *ejidatario* may not sell the land. He may, however, transmit his right to his son. (Redfield, 1950:57)

While the establishment of exclusive rights did not imply the right to sell the land, it did enable the elite families to control use and inheritance. In fact, the elites opposed land sales vehemently, for if land entered the market it could not be controlled so easily. Consequently, the village elites designed the law so the exclusive rights

granted were usufruct rights only, not rights of disposal. Thus the 'innovation' of 'private' use rights did not change the non-market structure of the *ejido* system, but rather facilitated the system's control by administrative fiat. Monopolisation became easier once periodic reallocation of the plots was no longer required.

LINKAGES BETWEEN ADMINISTERED LAND AND ADMINISTERED LABOUR IN CHAN KOM

Mechanisms of land monopolisation in Chan Kom can be understood more fully by examining the relationship between land and labour administration. After Chan Kom's acquisition of *ejido* lands in 1926, the importance of *fagina* increased. The administrators increased *fagina* obligations in order to build a new square, a school, and a road to connect Chan Kom to Chichen Itza (Redfield and Villa, 1934:30).

One elite family's manipulation of the *fagina* system paralleled their use of the *ejido* system and contributed to their land monopoly. Kinsmen of this elite family occupied the office of *comisario* as well as that of *comisario ejidal*. Throughout Chan Kom's history the post of *comisario* was almost always filled by an agnate or an affine of the primary elite family. In 1931 the *comisario* was the head of the elite family, and when in 1935 Chan Kom's political legal status was changed and it became a municipal capital (*cabecera*) (Redfield, 1950:10), the first municipal president was the same person. The second *presidente municipal* was a consanguineal kinsperson of the elite family head, and the third was a member of a family that had long been traditional allies of the aforementioned elite family.

A citizen's refusal to perform *fagina* obligations resulted in his loss of rights to village land. According to state and federal laws, village lands were owned by the village and administered by a village representative, the *comisario ejidal*. House lots were part of the *fundo legal*, a rectangular area of 15 hectares inside the *ejidos*. When the *ejidos* were granted in 1926 this site was confirmed by law, making house lots communal property (Redfield and Villa, 1934:65). The grant entitles new residents to receive a house lot as a right of village citizenship in good standing. Houses were considered inalienable village property, since they were built using co-operative communal labour. When citizens refused to perform *fagina*, village authorities deprived them of house lots. The same authorities determined the conditions under which legally inalienable land for houses could be

sold. The following case illustrates some of the linkages between land and labour administration. A man who refused to perform his *fagina* obligations attempted to sell his house lot to a merchant. Villa reports the case as follows:

> Last night justice was meted out in the *comisaria*. The case was that of Juan de la Rosa Pat, who, in spite of the repeated summons of the *comisario*, would not fulfill any of the twenty days of *fagina* contributed by all the other men toward the opening of the new road (to Chichen Itza). Therefore, when yesterday he arrived from Santa Maria, with the intention of collecting all his belongings so as to move them definitely to that *rancheria*, he was ordered to present himself in the *comisaria*, where besides the *comisario*, a crowd of curious persons had already come. When the summoned man appeared he made it clear, not too pleasantly, that he would no longer stay in the village because the authorities were too demanding and imposed so many *faginas*... The *comisario*, knowing further that Don Rosa was negotiating for the sale of his lot to a Kaua merchant, made plain the impossibility of such an action, because those who break off their village membership lose their rights over their village lands. Don Rosa, less arrogant than at first, withdrew, and the *comisario* and the others present agreed that Don Rosa's house and other property could be sold by the *comisaria* to any person desirous of settling in the village, provided only he be not a merchant, and further, that the proceeds of such a sale should be devoted to public improvements. (Redfield and Villa, 1934:292)

The two administrative roles, *comisario* and *comisario ejidal*, mutually reinforced one another to solidify the authority of both roles. When the roles are occupied by the same person, power over resources can most easily be monopolised. Don Rosa Pat's refusal to perform *fagina* labour caused him to lose his right to sell his (as noted, legally inalienable) lot. Had he not wanted to sell it to a merchant and had he performed his *fagina*, the administrators probably would have overlooked the sale, although it is possible that the administrators still would have prevented the sale so that they could claim the house lot. Clearly, however, the administrators gave themselves special privileges, controlling whether the transaction was to be monetary, who the purchasers were to be, and how the proceeds from the sale were spent. Thus when the head of an elite family or one of his kinsmen was *comisario*, the family not only controlled the specific *fagina* tasks; it also allocated the penalty money received from a citizen's refusal to

perform *fagina* obligations. Administrative coffers benefited whether *fagina* took the form of labour or a fine imposed for uncitizenlike activity: the definition of proper citizenship was set by the administrators as well.

Political administrators in Chan Kom also controlled distribution processes in a manner that contributed to their monopolisation of productive resources. The three elite families in the village owned or controlled all village stores; thus their incentive to prohibit additional merchants from settling in the village. Of the four stores in the village, three were privately owned by the heads of the three elite families. The fourth store was set up as a 'co-operative', and ostensibly was established to prevent the other three stores from excessive profiteering. Administrators controlled prices. Since, however, the heads of the three elite families controlled the co-operative's board, they profited from their private enterprises and from the so-called 'co-operative'. By monopolising credit channels through store patronage, administrators could tap another resource base. That is, the stores were the major source of staples and, in the absence of cash, villagers could repay their debts with labour on the administrators' *latifundia*. As the number of itinerant peddlers declined in Chan Kom, the stores became more important both as product distribution centres and as credit sources. The labour supply on administrators' *latifundia* increased in direct proportion to the number of citizens willing to become clients for their elite patrons.

FROM CORN TO CATTLE

The administrators also had begun to engineer a shift in the focus of productive activities in Chan Kom. Estimates and partial counts in 1948 indicated four to five hundred head of cattle in contrast to 'perhaps two score' in 1931. Concomitantly, corn production had decreased. Five of the leading citizens were planting *milpas* half the size of those in previous years. All were engaged in some form of commerce.

From where was the cash generated for the purchase of such large quantities of livestock? Political administrative mechanisms of land and labour organisation provided institutional bases for a series of chain reactions: the *ejido* land monopolised by the elite family could not be sold, but nothing prohibited selling products grown on the 'communal' land. In 1948 one family head generated so much cash

from the sale of corn that he was able to purchase a three thousand mecate tract outside the *ejidos*.

By 1961 subsistence agriculture was replaced by livestock raising in Chan Kom and minifundia replaced latifundia. Roads to facilitate the flow of commerce and enhance the political autonomy of the village had been built using co-operative communal labour. The westward road to Merida runs in the opposite direction from Cuncunul, contributing to Chan Kom's break with its former municipal *cabecera*. By using the debts created through their store patronage, administrators recruited labour for agricultural and livestock production, often, however, much more subtly than they recruited labour for public works. The end result was the same, however. A man's expenditure of labour time and energy for public works, such as road building, is not available for subsistence or cash-crop production. In Chan Kom such expenditures were rather substantial and did, in fact, cripple the subsistence effort. However, even had sufficient labour time been available, land was becoming increasingly scarce. There is some indication that even at the time of Redfield's first study, villagers generated cash not by labouring on their own land and selling the products of their labour, but by working on the rapidly expanding latifundia, either directly through wage labour, or indirectly to repay debts in the stores. In both cases, the same people who adminsitered the communal land resources set the terms of labour remuneration.

Given the facts of land monopolisation, the decline in corn production might be interpreted as a sign of the rich getting richer and the poor, poorer. This is true to some extent, but the population figures reflect a careful manipulation of the size of the labour force and the mode of production by the ruling elites. By 1948, in 19 out of the 73 households in Chan Kom, one or the other spouse was a member of the ruling elite family (Redfield, 1950:69). Most members of the competing elites had moved out of the village. During 1949 the third elite family migrated, together with a large number of other families of lower status. In 1958 another large exodus occurred in which the remaining members of the second elite family and a large number of other lower status families also left Chan Kom. This left the original elite family in complete control. According to the Mexican census (Redfield, 1950:200), the population of the village in 1950 had decreased to 322 from 445 in 1948. The census of 1960 reported the Chan Kom population to be 319 (Goldkind, 1966:328). By 1948 the number of cattle in Chan Kom increased by more than ten-fold. Two score of cattle in 1931 grew to more than four or five hundred head.

Concomitantly, corn production decreased. Five of the leading citizens were planting fields half the size of those in previous years. All of the leading citizens were engaged in some form of commerce. The cash to purchase livestock and additional land was generated from the corn grown on inalienable land. Political administrative mechanisms of land and labour organisation originated a series of chain reactions. The land could not be sold, but nothing prohibited selling products grown on inalienable land. The head of the first elite family was the major livestock holder. He had also managed, by 1948, to purchase a large tract of land outside of the communal area.

Eventually, deprived of land and saddled with obligations to perform communal labour, all political opposition to the major elite family was eliminated by migration. Because many landless villagers were forced to migrate, the demographic profile of the village had changed to fit the new production needs, in turn reflecting a careful administrative manipulation of the size of the labour force. Cattle production is much less labour intensive than corn production. Thus, dissident political elements could be eliminated without jeopardising the production process. Those who remained in Chan Kom became landless labourers for the primary elite family. These changes were made possible because the members of the first family controlled land and labour; their control over labour built roads providing access to regional markets. They controlled product distribution in the village through the stores, and they prohibited other merchants from receiving land for houses and thus from residing in Chan Kom. Hence, control and access to infrastructure and markets aided the shift from corn to cattle. Markets organised products, but not the factors of production. It was possible to buy cattle with the cash generated from corn sales. The underlying political organisation of resources originating from the nation-state polity enabled the first elite family to produce the large amounts of corn for purchasing land and cattle.

Chan Kom had always produced corn as a cash crop. The village had historically used a combination of administered co-operative labour and wage labour. Large quantitites of land commonly were allocated by political administrators; this land was inalienable, while some land remained private property. Roles administering land and labour have been linked to regional and national political units in a hierarchical organisation. Early Chan Kom was a village economy subject to regional authorities; late Chan Kom was a regional economy subject to national authorities. Administrators of land in early Chan Kom already were allocating communal land to themselves in an inequitable

fashion. They were already using villagers as agricultural labourers and there is even some indication that wage labourers were imported from neighbouring *rancherías*. Periodically, the administrators would sponsor fiestas in order to recruit labourers, redistribute food resources, and cultivate the favour of their clients. These fiestas, of course, were held at some cost to the administrators, but they were necessary, for until 1935 administrators in Chan Kom were subject to the municipal authorities in Cuncunul, the municipal capital (or *cabecera*). Any dissatisfied villagers theoretically could appeal to municipal authorities. In 1935, Chan Kom broke from the municipality of Cuncunul and became a municipal capital itself with subject villages. The chief adminsitrator was the first municipal president. After 1935, in order to register grievances, villagers had to go to the state capital of Merida, a considerable geographical and social distance for a poor monolingual Maya Indian.

The elevation of Chan Kom's political legal status to a municipal capital effectively rendered roles administering land and labour in Chan Kom completely autonomous. The local government was run, not surprisingly, by the same elite family. By depriving citizens of all recourse, the shift up one notch in the hierarchy of state political legal units effectively insulated the local elite from regional and national authorities. Unco-operative labourers could be forced to migrate. They were dispensable because livestock production required a smaller labour force than corn production. Thus, small landholdings became incorporated into a single large landholding, but the underlying political organisation of productive resources did not change. The critical change was in the relative position of the political roles organising resources; they moved up in the nation-state hierarchy, changing the relationship between political administrative roles and the labour force. The production process changed by narrowing labourers' choices to forced compliance with administrators' demands or, alternatively, to forced migration.

In sum, the difference between early and late Chan Kom cannot be explained merely in terms of the absence or presence of institutional features. Rather, it must be understood in terms of the ways in which these features affect production processes. The land shortage was aggravated by the fact that the ecological conditions in this part of Yucatan necessitate fallowing cycles of between ten and twelve years. There were two types of economies in early and late Chan Kom, one household based *minifundia*, the other, administered *latifundia*. Local

administrators quite effectively narrowed the options of people in Chan Kom to three: (1) people became allies of the elite family, (2) people opposed the elite family and migrated, or (3) people remained in the village at the service of the remaining elites. Those who remained had to be working outside of their own *milpas* to survive; their only alternative was to work for the administrators. Clearly the administrators had organised labour for their own productive purposes. Goldkind indicates that *fagina* probably included work for the head of the elite family, who is quoted by Goldkind as follows: 'We don't allow a newcomer to settle in Chan Kom if all he wants to work at is making milpa. We want people who like to herd cattle. My sons and I don't want Chan Kom to become a community of poor people' (1966:340).

By the early 1960s the poor in Chan Kom were occupying roles not at all unlike labourers on pre-revolutionary forms of *latifundia*. The shift to cattle proved both economically and politically advantageous. Cattle production required fewer labourers than corn production, making labour easier to obtain and control. Dissident political elements could be eliminated without jeopardising production potentials. In fact, the shift to cattle increased profits by lowering labour costs.

The shift to cattle production was facilitated by the political organisation of land and labour that created insufficient land for the majority of the population and burdensome obligations in the co-operative labour system. Certain elements of the population were forced either to co-operate or to leave the village. Thus we have a feedback between political and economic processes and the achievement of a monopolisation of wealth through a series of administrative acts.

Under these conditions markets for corn and cattle became facilitating devices, i.e. facilitators of cash for the purchase of productive resources. Markets distributed products but did not allocate factors of production; it was possible to buy cattle because corn could be sold at market prices for cash. However, the underlying non-market (political) organisation of land and labour resources made the production of such large amounts of corn and, eventually, cattle possible in the first place.

PRE-COLONIAL AND COLONIAL: LAND AND LABOUR ORGANISATION

The pattern of resource organisation and monopolisation indicated in the microhistory of Chan Kom has some deep historical roots. In

pre-colonial Yucatan the *halach uinic* governed the provinces or independent states through local town heads (*batabs*), many of whom were his kinsmen. The *halach uinic* performed religious functions as well, and he and the *batab* were sometimes referred to as the colonial *comisario* (Roys, 1943:60). The *halach uinic* collected tribute from the towns of his province, including communal labour services. The office of *halach uinic* commonly was occupied by one family in each province. Local *batabs* exhibited variable amounts of power. When appointed by the *halach uinic*, *batabs* were subject to his orders. In the province of Cupul, in which Chan Kom was located, lesser towns were dominated by the larger, more powerful ones. In a relationship not unlike that between contemporary municipal *cabeceras* and their subject villages, a local leader's power to control resources depended upon his accountability to the leader of a larger unit. When the territorial ruler's power was centralised, *batabs* did not receive tribute, but when the *batab* was more autonomous he collected tribute at the local level. According to Ralph Roys (1943:33), *batabs* received preferential use of land and, through the tribute system, the power to exploit the labour of subordinates. Control of productive resources by people occupying political roles enhanced their ability to accumulate additional wealth.

Spanish political institutions were easily superimposed upon indigenous arrangements. Under Spanish rule the political roles organising land and labour shifted to the *conquistadores* who replaced pre-colonial administrators. Although markets organised product distribution, they organised land and labour only minimally. There was one important difference between pre-conquest and post-conquest resource organisation. Land and labour patterns in the pre-conquest period were relatively dispersed, with some consolidation by the nobility. Throughout the colonial period, however, resources progressively became concentrated in fewer hands.

> Up to the middle of the eighteenth century everything favored the accumulation of land in a few hands. Encomiendas which could not be divided, *mayorazagos* which preserved intact the holdings of the aristocracy, the concentration of property in the hands of the clergy, all had contributed to the maintenance of large holdings. (McBride, 1923:60)

Encomiendas consisted of resource grants from the crown to the conquerors in return for their exploits in the New World. Grants included conquerors' rights to use peasants' labour for agriculture in

one or more indigenous villages, as well as rights to exact tribute and personal services. The non-marketability, indeed, the non-transferability, of these grants by the *encomenderos* was another essential feature of the system. *Encomiendas* could neither be sold nor inherited. Thus, the *encomienda* was a political institutional arrangement in two senses: first, it was sanctioned by the crown government and procured labour by government grant. Second, the *encomienda*'s administrative apparatus was superimposed upon landholding communities, controlling its affairs and its resources and, in effect, replacing local government. *Encomienda* interests in Yucatan were even stronger than in the rest of Mexico. In Mexico as a whole 55 per cent of the towns were held in *encomienda*; 90 per cent were organised as *encomiendas* in Yucatan (Scholes, 1937:4; Strickon, 1965:42). In addition, the *encomienda* system lasted longer in Yucatan, until 1785, than it did anywhere else in Mexico (Cline, 1953:99). The majority of the *encomiendas* were in the north and engaged in both livestock raising and in agriculture. A good market for livestock in Cuba in the mid-sixteenth century created the conditions for *encomiendas* to thrive (Chamberlain, 1948:330–31).

In Yucatan the crown set aside separate land to be held in common by each community and administered by the local indigenous leaders with the aid of the village council. *Encomenderos'* rights included using Indian labour for private house construction as well as for building public works projects such as roads and walls. Ostensibly these *fagina* obligations were to be performed every Sunday as a community work force, but, more often than not, the *encomendero* used the labour on his own private land without remunerating the workers in any manner, either with wages or with food (Molina Font, 1941:21).

Although the *encomienda* grants formally were grants of labour, not land, some lands were granted to the *encomenderos* and the system of administration permitted *encomenderos'* monopoly of both land and labour. Small parcels served as the core around which larger holdings grew as adjoining lands became annexed by the administrators (Whetten, 1948:92–3). The crown stipulated that the land could not be sold or exchanged for six years, after which the allotment became a permanent possession (Chevalier, 1963:57). Some viceroys gave *mercedes* (gifts of land) as rewards in return for military services (Chevalier, 1963:58). Those who provided more services simply received more land from the administrators.

During the conquest period *encomenderos* developed private tracts within the *encomienda* in all major regions of the Spanish Indies. Many holdings were inside the limits of their own inalienable *encomiendas*

(Lockhart, 1969:416). The fact that the *encomiendas* originally were grants of labour and not land facilitated consolidation, for as labour grants, little attention was given to the determination of boundaries. As a result, land title became extremely insecure and subject to dispute, rendering property transfers by sale extremely difficult. Since it was never clear exactly how much land was being transacted, *encomenderos* easily became proprietors of rather large estates that eventually came to be called haciendas (Tannenbaum, 1929:105). 'Thus a hacienda would be born under the cloak of an encomienda ... The encomendero could create a hacienda within the encomienda. Encomenderos could and did develop haciendas within the encomienda, though we do not know how often this occurred' (Lockhart, 1969:417). It is clear, however, that the process of land consolidation by which haciendas developed was similar to that which transformed Chan Kom from a pueblo with parcelled *ejidos* to a head town of a *municipio* (county) that resembled these early haciendas. When *encomiendas* finally were abolished in Yucatan in the eighteenth century (1785), the *encomenderos* bought up the core area of their former grants, the *planta*, where the centre of the developing hacienda was located (Strickon, 1965:44).

Not only did *haciendas* develop out of the manipulations of *encomenderos*, they functioned like *encomiendas* as well, using similar institutional arrangements for organising productive resources. If the *encomendero* was a political administrative appointee of the crown who controlled the lives and resources of a group of people within a given territory, the *hacendado* played essentially the same role, minus such extensive crown sanctions. As Lockhart describes it, 'The encomendero and later, the hacendado, were cut from the same cloth; they were patriarchs of a special kind who ruled both the countryside and the city' (1969:419). Both administered a system of compulsory labour and both controlled extensive land resources.

Many of the same principles for organising work operated on *encomiendas* and *haciendas*. In a manner similar to that of the *encomienda*, labour obligations on the *hacienda* were highly systematised. *Hacendados* required non-resident workers to work one day per week (usually Monday) on estate lands – hence, *luneros*. In exchange for water and the use of other estate facilities, *luneros* also were required to perform a variety of *fagina* labour; failure to do so resulted in a fine. The internal economy of the *hacienda* was organised by a system of administrative privileges and prerogatives that avoided remunerating labour and made it possible for estate work to be

accomplished with little monetary cost. *Fagina* was a perfect mechanism. Wages, when used, functioned according to administrators' dictates.

The *tienda de raya*, or hacienda store, also organised labour. The store manipulated goods, cash, and labour so the hacienda was assured a constant labour supply with a minimal cash outlay. Labourers could obtain subsistence goods on credit; their value was then deducted from their pay, leaving the worker only a small amount of cash at the end of each week. The remainder was merely a question of accounting (Luis Cabrera, cited in Whetten 1948:103–4). In Yucatan the institutions of *fagina* and *tienda de raya* created an almost unbreakable tie to the *hacendado*. Before a worker could leave the hacienda he had either to pay his debts himself or find someone to cancel them for him. Since for most workers payment by either means was impossible, few managed to free themselves from the estate (Raymond, 1971:94; Stephens, 1963:351).

In the henequen area a worker could not leave one hacienda for another without a ticket (*boleta*) certifying that its holder was debt free. If caught away from his 'home' hacienda without these 'identification papers', an individual risked jail. Two categories of debts operated in 1832: the *chichan cuenta* (small debt) and the *nohoch cuenta* (big debt). When a number of small debts accumulated, the total became a large debt. Workers were only made aware of their small debts; when these were paid off, workers were informed of the big debt, which they could not pay. This system of debt categories functioned as an extremely efficient administrative control device to prevent workers ever from escaping the grips of the *hacendado*. A law in 1843 stated that workers' debts had to be carried out on open books, but such formal legislation only worked against the labourers, for the books only provided evidence to the proper authorities that the worker, who could not read, was in fact in debt (Camara Zavala, 1947:492; Raymond, 1971). To add to the *hacendados'* control, the workers' remuneration was not only extremely low (48.5 cents for working one mecate of land at the peak of industry in 1916), it was often paid in scrip money redeemable only at the *tienda de raya*, the *hacienda* 'company' store. Howard Cline reports that by the 1880s 20,767 families were held in debt peonage (Cline, 1947:46).

Just before the Caste War the state legislature of Yucatan enacted measures to bring labourers to the southern frontier. One series forced labourers to move from one *hacienda* to another, stipulating that only administrators could sever the worker–hacienda ties (Betancourt,

1953:53; Raymond, 1971:102). Under conditions of labour scarcity, this system could recruit labour. Alternatively, when administrators wanted a smaller labour force, it could dismiss workers. In the Yucatecan henequen zone of the late 1880s, the system increased the labour supply.

In sum, to control land and labour organisation meant to control the means of production. Whether *encomienda* or *hacienda*, the institutional arrangements organising land and labour are almost identical. Political administrative roles control productive resources. As James Lockhart so concisely says:

> All in all, the replacement of the encomienda by the hacienda involved only a slight shift in emphasis, whatever the factual details of institutional development. A semigovernmental domain, serving as the basis of a private economic unit, gave way to a private estate with many characteristics of a government. (Lockhart, 1969)

COMPARATIVE CASES OF CONTEMPORARY *EJIDOS*

Patterns of administrative control and the resultant monopolisation of productive resources by administrators can be found in several *ejido* communities in contemporary Mexico, both within and outside the state of Yucatan. Marked similarities between these and the Chan Kom case show continuities with past forms of administered land and labour. The fact that productive resources, land and labour, are prevented once again from entering the market creates an illusion of reform that in fact renders productive resources easier for local administrators to control.

Two brief case studies of *ejido* organisation follow: the first case, Atencingo (Ronfeldt, 1973), in the state of Puebla, is a town of collective *ejidos* on which is produced the area's major cash crop, sugar cane. The second case, Cholul, located in the henequen producing area of the Yucatan (Raymond, 1971), is a village comparable to Chan Kom (Climo, 1974; Kirk, 1974, 1975).

In both Atencingo and Cholul, the *ejido* administrative apparatus went through several organisational phases during which both its structure and its personnel changed. In each phase and in both cases, administered land implies a system of administered labour. Why some *ejidos* were organised collectively and others were parcelled individually, can be answered by analysing the impact of collective versus

parcelled *ejidos* upon labour organisation. Parcelled land implies one kind of work organisation and possibilities for administrative control of labour; collectivisation implies others. Once land becomes monopolised by administrators, as it did in Chan Kom, the differences between collective and parcelled *ejidos* blur. The organisation of monopolised land in Chan Kom greatly resembles the organisation of collective *ejidos* in Atencingo.

Atencingo

Atencingo was granted 8268 hectares of *ejido* land in 1938. The decree, signed by President Cardenas, specified the size and location of the lands expropriated from each hacienda as well as the disposition of water rights. All work was to be organised collectively on all land. No individual parcels were allocated.

The administrative organ of the *ejido*, the *ejidal* co-operative society, determined work schedules and wages and was charged with annual planning and investment through its control of the delivery and the sale of the sugar harvest to the mill. Funds to the co-operative for sugar and rice crops were to be provided on credit (with interest) by the mill administration, not by a government agency such as the National Ejidal Credit Bank. Membership in the co-operative was to consist only of 2043 *ejidatarios* whose names appeared in the census lists. Only the former peons of the haciendas were eligible to be *ejidatarios*; only sugar and rice could be grown.

In the initial stage of the *ejido*, the manager of the mill (Pérez) selected the manager of the co-operative. Pérez was a client of the mill owner (Jenkins), who was a close ally of the governor of the state of Puebla. Jenkins and Pérez controlled recruitment to all administrative roles in both the *ejido* and the co-operative, filling all of the co-operative's leadership posts (both elective and appointive) with their trusted employees and kin, among them, specially hired gunmen. Using membership as a reward for friends and allies, they stacked the co-operative with illegal members by placing the names of hundreds of mill workers, administrative employees, and special confidential personnel on the co-operative's payroll. These people became eligible to receive dividends even though they were not *ejidatarios*. The workers had no control over either wages or dividends; those who did not work hard and conform to the established work and pay schedules were easily replaced. By the mid-1940s many of the founding *ejidatarios* had been replaced by landless day labourers (Ronfeldt, 1973:44).

At this initial stage, the *ejido* and the co-operative organisation allowed Jenkins to maintain control of former *hacienda* land as well as labour recruitment. The collective *ejido* avoided the inefficiencies of minifundia by instituting collectivisation for profit making. This is another example of politically organised (non-market) factors used to produce crops for market sales.

Because it relied on protection from the state government, however, Atencingo's owner-manager alliance proved extremely fragile. Administrators' control depended upon a regional power domain consisting of a network of alliances with state officials. When the governor of Puebla died, their enterprise could no longer survive (Ronfeldt, 1973:65).

Significantly, in the *ejido*'s second phase in Atencingo, the so-called reformists who followed the corrupt Jenkins and Pérez regime also embedded their administration in a network of political alliances, only of a slightly different sort. Resource organisation proved to repeat a familiar pattern; after an interim period in which the co-operative became separated administratively from the mill, and the relationship between the co-operative and the mill deteriorated to the point of financial crisis, a special state government commission was created to take charge of the co-operative. The administrator of the co-operative was a government appointee, but his functions did not differ from the Jenkins–Pérez pair. Between 1952 and 1961 the two managers of the commission administered the Atencingo *ejido* and controlled the livelihoods of the *ejidatarios*. They rewarded hard workers with better jobs and higher dividends, better and larger plots of land for their individual use, and offices in the administration of the co-operative. Unco-operative *ejidatarios* received only low level and infrequent work and lower dividends. Like their predecessors, the new administrators hired outsiders to work in the fields. Again, a peasant's livelihood depended upon his willingness to co-operate with the administrators of productive resources.

Still another variation of the same pattern manifested itself in another phase of the Atencingo *ejido*. In 1961 J. Guadalupe Ramírez Vargas, as the manager of the co-operative society, became the administrator of land and labour in Atencingo. The government had officially pulled out; on paper the *ejidatarios* were left to control the co-operative. In fact, the administration of the co-operative resembled that of Jenkins and Pérez. By the end of 1961, the Ramírez regime controlled the majority of elective and appointive posts in both the *ejido* and the co-operative. Despite a mandate against long terms in

office, the same group of Ramirecistas rotated administrative posts among themselves and Ramírez remained manager. Initially Ramírez advocated parcelled *ejidos*, but once he was entrenched in office, Ramírez reversed his stand and called for collective organisation. This allowed him to control resources much more efficiently by giving his supporters more desirable, higher-paying jobs, as well as more productive plots. Rights to productive resources, in turn, enabled his allies to secure regular dividends and gave them access to credit and loans. Opponents of Ramírez often received no work at all, a situation that could then be manipulated further by the administrator to his own advantage. Since dividends could only be received after fulfilling the work requirement of a minimum of 180 days, dividends could be withheld from those who failed to work. The administrators regarded the minimum work requirement with much more flexibility when it came to giving dividends to Ramírez's supporters, a condition only encouraged by the presence of an abundant supply of wage labourers from Oaxaca and Guerrero.

Yucatan: Henequen-producing *ejidos*

Similarly administered resource control and patterns of monopolisation can be seen on the henequen *ejidos* of Yucatan. Before 1955 the Henequeneros de Yucatan, the initial administrative organ, had a double purpose: the organisation of both production and distribution. It managed the sale of all henequen fibre produced by the *ejido* co-operatives and private smallholders. It also organized and directed the productive activities of all the credit societies (Raymond, 1971:140).

At the local level an administrator was assigned by the Henequeneros to each *ejido* unit. Daily operations were financed by advance payments determined on the basis of a number of different tasks completed by the members, who were paid weekly. Theoretically, dividends were determined at the end of each year by balancing the total value of the fibre produced against the credit sums advanced by the Henequeneros. As one might expect from the preceding cases, however, the benefits to the *ejidatarios* fell extremely short of those to the administrators.

After formal dissolution of the Henequeneros in 1955, the local administrator organised work by distributing materials and tasks. The critical productive resource was the rope needed to tie the henequen leaves to produce the standard bundles of fifty leaves. Since payment

was based on piecework, the number of ropes a worker received in a given day determined the number of bundles he could produce. Failure to comply with the will of the administrator resulted in a reduction of a man's allocation of rope. The administrator here, like the *comisario ejidal* in Chan Kom, becomes the controller of livelihood.

The now familiar patterns of administrative control over productive resources are repeated in the henequen village of Cholul, where administrators charged fees to individual *ejidatarios* for the use of land. The amount of land available was directly proportional to the fee. The administrator also controlled work tasks and the number of workers. By adding false names to the work sheets, additional money could be collected. Since payments for work at the local level were made on the basis of number of workers, the administrators, after distributing the pay to the actual workers, could pocket the wages of fictitious ones.

SUMMARY, CONCLUSIONS, AND THEORETICAL IMPLICATIONS

Post-revolutionary Mexican land reform established political institutional arrangements for organising productive resources. These arrangements resemble past forms. Reform established dependency relations requiring peasants to demonstrate loyalty in order to receive land and jobs. In all cases, resources become monopolised at the local level. Whether *ejidos* were instituted as collective entities, or whether they gradually became consolidated, as in Chan Kom, the control of resources, in the long run, remains in administrative hands for administrators' benefit.

The literature often treats this phenomenon of resource monopolisation through administration as *caciquismo*, or bossism (Friedrich, 1965), describing control as feudal:

> Ricardo Rincon, who functioned as the First Agrarian Authority of Tapiluła from 1923 to the end of 1938, became a tyrant ... dedicated to the exploitation of his fellow ejidatarios and transformed the ejido into a feudal estate of which he was the absolute master. (Simpson, 1937:370)

The political-economic pattern by now is a familiar one.

The Spanish crown gave *encomenderos* prerogatives over Indian labour, requiring Indians to perform 'public' duties. In law as well as in fact, the *encomenderos* functioned as political administrators of

productive resources. Through a series of political manœuvrings, *encomiendas* were transformed into haciendas. *Encomenderos* annexed land by administrative fiat, bending the law to favour their exclusive rights to land. Administrators retained their rights to control labour, obliging peasants to perform forced labour tasks for the *hacendado*. Where wages existed, administrators decided their value; control of credit merely tightened the reins of administrative power through institutional arrangements such as *fagina* and the *tienda de raya*, or company store with its scrip money.

In Chan Kom, similar political arrangements for organising land developed from the *ejidos*. Because they occupied political administrative roles, certain individuals conferred upon themselves differential access to productive resources: land, labour, and water. Through *fagina*, the administration of labour involved a system of creditor–debtor relationships, which was exacerbated by the village 'company stores', owned and operated by the administrators of productive resources. The stores operated much like the *tienda de raya* of the pre-revolutionary haciendas; *fagina* became a form of tribute. By manipulating the organisation of public *ejido* land and public communal labour, local political elites monopolised both land and labour resources in Chan Kom. In a half century Chan Kom changed from a village with parcelled, corn-producing *ejidos* to an organised *latifundia* resembling a cattle hacienda. A village of small-scale corn farmers became so transformed through a series of administrative acts that allocated land on the basis of a citizen's willingness to fulfil communal labour obligations.

Similar control processes operated in the contemporary *ejidos* of Atencingo and Cholul. In all three cases post-revolutionary land reform provided a base for controlling rights of access to resources through the occupation of administrative positions. The administrators monopolised productive resources and the *ejidatarios* became pawns in the accumulation process.

The post-1910 land reform and redistribution provided another political base upon which consolidation of land could occur once again. Land taken from *haciendas* became the province of the nation-state, which in turn created a bureaucratic organisation for resource monopolisation (land, labour, water and credit) at the local level.

One theoretical point to be made here is that, contrary to predictions of theorists of modernisation, non-market institutions and roles organising productive resources have by no means dropped out to

make way for the market. Rather, the institutional arrangements organising land and labour have changed remarkably little. They have remained to a large degree public, with private linkages to government. Thus, they maintain the tradition of private right in public office (Stein and Stein, 1970:viii).

Land and labour have retained their political organisation in various historical contexts by the fact that these resources are administered by people who are incumbents of political office. The specific units administered vary; they may be designated formally as private or public (for example, *haciendas* are generally considered to be private property, whereas *ejidos* are public entities). The sanctions for their existence may be different, but the administration of land and labour historically has involved similar structures of control over material and human resources. The units involved may be a pre-conquest village, an *encomienda*, a hacienda, or a twentieth-century 'folk society'.

In this context, the notion that all land that is not bought and sold is 'communal' (the implication being that it is used for the welfare of the community in some reified sense) is a romantic myth. This view emphasises the welfare component over the control component of the institutions involved in the administration of land and labour by assuming that land will be allocated for 'the community's' benefit. Such notions reinforce other romantic images of rural agrarian peasant societies as homogeneous, isolated, traditional societies with tightly knit and benevolent cultural and social systems, images that deny the fact that stratification as well as conflict have been prominent facts of peasant life in Mexico, and elsewhere, for centuries. The stratification system involves political roles both in and outside of the village community, roles that control rights of access to resources so the stratification system is maintained and intensified (Wittfogel, 1957).

Examining the relationship between the organisation of production and distribution in the Mexican context reveals a basic pattern of institutional arrangements that has organised land and labour. Since the conquest, there have been markets for products in Mexico – wheat, cattle, land and sugar markets in colonial times and sugar, henequen, cattle and corn markets of modern times. This has not been true of land and labour, however.

In contemporary Mexico non-market transactions of land and labour are necessary for participation in market-organised distributive activities because they furnish the factors of production for marketable items. Cash generated from selling products in markets in turn facilitates the acquisition of resources, such as credit, necessary for

production processes. In rural Mexico small-scale credit is often organised by non-market institutions.

This analysis examines the political mechanisms integrating communities into the life of the nation-state; these are non-commercial institutions organising productive resources. Politically organised resources exist alongside commercially organised product exchanges. The notion that political institutions are one of a number of ways of organising people and resources that is not necessarily less modern or less integrative than commercial mechanisms needs to be explored more fully. For many purposes political mechanisms may be more sophisticated and effective; they are easier to control than market arrangements (see Wittfogel, 1957).

As a result of the manipulation of *ejido* administration and *fagina* labour, large, landholding estates form once again in contemporary Mexico. This is a striking continuity. The basic structure of political-administrative control of resources did not change with the 1910 revolution. That continuities exist in Mexican history is not a new argument, but the character of the institutional arrangements generating the continuities has not been fully analysed. The analysis here shows that similar structures of administrative control seem to produce similar results, namely, the monopolisation of productive resources on the part of elites at the expense of peasantry. If one analyses the organisation of land and labour by political institutions and roles, it becomes possible to understand the return to *latifundia* in contemporary Mexico. The institutional arrangements represent no sharp break with the past. The organisation of the means of production can be understood in terms of historical continuities that have now become familiar patterns in Latin America (Carrasco, 1978).

7 Age and the Institutional Paradigm

INTRODUCTION

Individuals in all cultures grow old, change their productive tasks, and their involvement in economic processes. The socal units within which individuals produce, distribute and consume their livelihood change with time and thus, age. The fact that age has been treated only serendipitously in anthropological studies of economic processes is a reflection of our own culture's denial of the inevitable aging process (Myerhoff, 1978). Aging processes are as much a part of culture as production or distribution processes, and they are linked in variable and intricate ways in different cultures.[1]

This chapter uses an evolutionary framework to examine the contexts within which age operates as a principle organising economic activity. I focus upon the ways in which age structures the organisation of economic processes in some societies while in others, age seems to be subsumed under more powerful institutions. As such, this is an exploratory theoretical piece, designed primarily to use age as a stimulus for revealing questions about the analysis of economic processes in different types of societies and to relate these questions to larger theoretical issues.

The analysis of age as an institution organising economic processes depends greatly upon the type of society under consideration. Before meaningful comparisons can be drawn, either for processes of aging and the life course, or for processes of livelihood, a framework within which comparisons can be carried out must be established. Although the framework I use is an evolutionary one, it is used to establish a set of categories for comparison and to facilitate hypothesis formation. It is not meant to suggest unilineal development, nor is it meant to delineate stages, in the nineteenth-century sense of the term. Stated most simply, my general hypotheses are: (1) In pre-capitalist societies age is an institution in the sense that it shapes economic processes such as the organisation of labour and the allocation of resources for the production of material livelihood. (2) In capitalist systems age is not an institution, but rather a dependent variable which, instead of controlling, is controlled by market economic institutions, and, to some extent, technological processes.

I use age in several ways in this chapter. In some instances age refers to demographic age distribution; in others, individual chronological age; in still others, life cycle stage as culturally defined, or level of physical functionality. This last is particularly important in determining contributions to subsistence in societies which rely solely or primarily upon human muscular energy. Ideally, I would have liked to be consistent and use the word with a single meaning. The data and the nature of our language, however, do not allow it. Nevertheless, I think the general argument that age changes from an institution to a dependent variable in the organisation of production and distribution, still holds regardless of the specific meaning(s) of age employed. Within structural types it is possible to find patterns delineating the relationships between age and fundamental processes of production, distribution and consumption. To propose an evolutionary framework is not to exhaust the range of evolutionary types. It is to attempt to organise some questions which may lead to the addition of more detailed qualitative and especially quantitative data to an otherwise primarily descriptive and anecdotal ethnographic record concerning age and the economy in human societies (Nag, 1973:10).

If we assume that the quality as well as the quantity of an individual's contribution to the livelihood of a household, a village, or a nation varies over time, then the task becomes one of explaining the variation. Who works, for how long, at what sorts of tasks in different societies? What does an understanding of the variation tell us about production processes? If we know the answers to these questions, our understanding of economic processes in different cultures is greatly enhanced. Why, for example, are the elderly marginal in capitalist economies and key resources in others? What kinds of institutions, relations of production, and ecological settings in different cultures create economic importance for certain categories of individuals at particular points during the life course? Given the increased and increasing longevity of populations in industrial societies (Fries, 1980), what are the economic implications, theoretical as well as practical, of long-term dependency of the old upon the young?

Conceptualising time is critical for understanding both aging and economic processes. As individuals age, their economic relationships in social units such as households, villages and cities change. The social units themselves exist in historical time and therefore change ecologically, demographically and technologically. In a sense, then, to pose the question of age as a variable in any cultural process is to inquire about time and social structure. Recognising that the

cross-cultural examination of age and economic processes presents many of the same problems as studying any process in cross-cultural perspective, I will examine the theoretical possibilities for a more precise understanding of processes of production, distribution and consumption which derive from dealing with issues concerning age and the life course.

AN EVOLUTIONARY FRAMEWORK

If aging processes are universal in human societies, so are processes of gaining a livelihood. The intersection of these two basic processes demands attention not only because individual producers and consumers must go through their life courses, grow old, and change the nature of their productive efforts, but also because production units themselves change with time and thus mature in some societies within an individual's lifetime, in others over many generations. Households age and so do villages, cities and nation-states.

Age touches upon every facet of economic life, but it does so differently in different cultures. The ways in which production units and labouring individuals change with age depends greatly upon the political, technological, and ecological contexts within which the units operate. In cultures which are demographically small, technologically simple, and politically egalitarian, age and sex together determine the organisation of labour in society. In most pre-capitalist cultures, age and kinship statuses overlap to set patterns of labour organisation. In more complex and politically stratified social systems, age is only one of the many principles dividing labour, and it is subordinate to social class.

In part, the failure of ethnographers to deal with age as a variable in economic processes is a theoretical issue and relates to some of the ongoing debates in economic anthropology. Problematic conceptualisations of the nature of production processes have made it as difficult to deal with age as with gender. Chapter 5 shows that to confine production to hunting and gathering activities alone in band-level societies results in a totally inadequate understanding of the division of labour by sex. I suspect that the same could be said of age. For agricultural societies, farming is not the only productive task connected with the maintenance of livelihood, yet discussions of the division of labour often remain confined to activities surrounding cultivation (cf. Nag, 1976). In the long run, a focus upon age as a

variable will provide some of the longitudinal data needed to understand the changing relationships between processes of production, distribution and consumption and will bring some of the historical considerations which have always been part of the craft of archaeology and ethnohistory into the mainstream of cultural anthropology.

I begin with egalitarian societies, both band-level hunter-gatherers and sedentary horticultural societies, and ask the general questions: how do people at different ages participate in the subsistence effort and what kinds of contributions do people make? I then deal with ranked and stratified societies, first chiefdoms and then state-level societies with increasingly larger and more complex political units. By organising the ethnographic material in this way, we can ask a series of questions: once human societies become sedentary, how does age affect economic organisation in general and the organisation of labour in particular? What is the relationship between population size, the age pyramid, and age principles in the overall economic organisation in pre-capitalist societies? How does the development of the state and class stratification affect economic roles for people of different ages? Does the development of class stratification *per se* eliminate or significantly weaken age as a dominant economic institution, or do capitalist institutions such as private property and wage labour also have to be present and significant?

It should be noted that technology alone does not suffice to classify cultures as similar or different. Societies with horticultural technologies, for example, differ enormously along a range of variables, among them, population size, resource base, and degree of political centralisation and ranking. At one end of the continuum, egalitarian horticultural societies such as those in the Amazon Basin, exhibit economic processes which are, in many respects, similar to those of hunter-gatherers. At the other end of the pre-state continuum are horticultural societies such as the Trobrianders with much larger populations and an economic organisation closer to that of pre-industrial states. Most peasant producers in nation-state systems practise some form of horticulture. In some cases, peasant horticultural production units are small households, more simply organised than horticultural production and distribution units at the chiefdom level. The latter may comprise a clan, a group of clans, or a whole village population. Controlling for technology, the implications of the size of the production unit for the allocation of tasks among people of different ages needs further analysis.

For all horticultural societies, the use of root crops or grains results in closer birth spacing (Draper, 1975; Kolata, 1974). With sedentization and increased population size, certain infectious diseases such as measles, mumps, rubella and smallpox, begin to become significant (Cockburn, 1971). In the short run, however, there is some evidence that children and old people fare better in a sedentary context than they do as members of a nomadic foraging culture. Howell reports, for example, that !Kung families who, in the 1960s were burdened by the sick or handicapped or by many children or elderly, had a tendency to congregate at Bantu cattle posts. Healthy !Kung tended to gain weight on the high calorie diet provided there (1979:50). It should be noted though that the !Kung contact with the Bantu pastoral agriculturalists involves the !Kung in relations with a culture which is several steps up the evolutionary ladder. How do these patterns affect age as a principle of economic organisation? More precisely, how do these factors affect the proportions of young and old in the population and in turn the allocation of people among economic activities? We know that prolonged survival of incapacitated individuals, young or old, is less likely in nomadic than in sedentary populations (Dunn, 1968:224).

Hunter-Gatherers

If we look at data on lifespan for hunter-gatherers, we find some contradictory, or at least highly variable, data. Dunn tells us, for example, that by modern European or American standards, life expectancies for hunter-gatherers are low, but they compare favourably with expectancies for displaced hunter-gatherers, many subsistence agriculturalists and poor urban people in the tropics (1968:224). Richard Lee, in the same volume, reports that among !Kung Bushmen of the Dobe area in a population of 466 individuals, no fewer than 46 individuals (17 men and 29 women) were over 60 years old, a ratio comparing favourably to the percentage of elderly in industrialised populations (1968:37). Howell (1979:35) describes an 82 year-old man whose hunting days were long since over, but who still had the ability to walk long distances when the group moved and who could still collect much of his own food. This is an interesting statement for several reasons. It indicates the viability of an elderly man, and exemplifies the flexibility of the sexual division of labour. Older males take on the female task of food collecting. Lee further says that adolescents assume adult responsibility late in life; the young

are not expected to provide food regularly for the group until they are married (between the ages of 15 and 20 for girls, five years later for boys); approximately 40 per cent of the population in camps contribute little to the food supply.

Biesele and Howell represent a somewhat different view of the contributions of the elderly in !Kung economy. They say that older men and women make up the core of a !Kung camp. Because of their long-term association with a particular waterhole, the old maintain stewardlike control over water and food resources in a region. They are resource managers who control rights to *the* critical resource: water. The aged also are repositories of essential technical knowledge concerning seasonal fluctuations in local resources, animal behaviour, and the like. The elderly pass on their accumulated knowledge as part of their stewardship of gathering areas and hunting grounds. Thus, their status can be seen as directly related to their economic contribution. In order to exploit the Kalahari environment effectively with the technology at their disposal, the San need the elderly's detailed knowledge of plant and animal life (Biesele and Howell, 1981:84).

Elderly !Kung engage in decision-making and senilicide is rare. Lee says: 'Long after their productive years have passed, the old people are fed and cared for by their children and grandchildren. The blind, the senile, and the crippled are respected for the special ritual and technical skills they possess' (1968:36). Lee describes four elders at one waterhole who were totally or partially blind. Apparently this handicap did not prevent their active participation in decision-making and ritual curing. The !Kung allocate work to young and middle-aged adults; children, adolescents and the elderly lead a life of leisure (Lee, 1968:36). For both ecological and technological reasons, !Kung food-getters must be grown adults (Draper, 1976:216). They must be old enough to be sufficiently knowledgeable about the locations of various plants and animals, but not too young or old to walk 16 kilometres or more a day while often carrying at least one child in addition to the harvest.

In a later volume Lee (1979:263) presents some problematic patterns of age and productive effort. He arranges 28 Dobe adults into three age categories, old (60+), middle-aged (40–59), and young (20–39), and says that work effort declines with age from 38 per cent workdays for the young to 29 per cent for the old. Lee also says that overall the men work harder than the women in all age groups. For men, the middle-aged work the hardest, with young and old men

contributing equally. For women, the hardest workers are the young, and the work effort declines much more dramatically with age. The problems, I think, derive from several points. First, Lee's definition of workday is confined to 'a day in which one person collected food for the camp or a day in which one man went hunting'. By restricting production to hunting and gathering, Lee excludes water-getting and food preparation, both time-consuming activities performed almost exclusively by women. Water procurement becomes more difficult as the dry season progresses and groups must travel greater distances from the waterholes to gather (Draper, 1975). Lee's data on age also reveal a key point about the division of labour by sex. As I have noted earlier, as the area around the permanent waterholes becomes hunted-out, in order for men to be working so consistently, they must be engaging in women's work, namely, in gathering activity, an activity much easier to perform when a man is either a young and inexperienced hunter or is too old and debilitated to hunt (see also Biesele and Howell, 1981).

The subject of food taboos in relation to age needs comment, for age significantly affects consumption patterns. For the !Kung, food taboos apply to younger people in the various stages of reproductive life. These taboos are often relaxed at the cessation of childbearing. The prohibition on ostrich egg consumption is a case in point. The eggs are reserved for the very young and the very old, and are prohibited for people of both sexes still actively engaged in reproduction. The belief system says that ostrich eggs make reproductively active people crazy if they eat them; older people are said to be past the danger of having their minds affected by the rich food (Biesele and Howell, 1981:90). An alternative explanation might be that since eggs are soft food, they may be reserved for people who have difficulty chewing hard food, especially when grinding mongongo nuts with mortar and pestle may be inconvenient – in short, the very young and elderly.

The abundant environment of the Australian Tiwi hunter-gatherers illustrates the conditions under which viable producers are relieved from active production roles. All males between the ages of 14 and 25 remove themselves from food-production units for long periods of the year. After the age of twenty the young men do contribute to household food production, but Hart and Pilling point out that 'only a very well-off tribe could afford to allow so much time off from food production to all its young hunters' (1960:95). Since Tiwi women contribute substantially to subsistence from a very young age (Goodale, 1971:38–9) by doing the great bulk of the foodgetting (Goodale, 1971:169), the division of labour by sex, created in large

part by matrilineal kinship, early bethrothal and polygyny, combined with the abundant maritime environment, permit the leisure of male youths and males in general. Were the Tiwi living in the Arctic, the leisure of young male producers would be out of the question, at least for most periods of the year.

Complementing the Tiwi data is a study by Rose (1960) of the Groote Eylandt Aborigines of Northern Australia, a maritime food-collecting group in which 'there was almost always meat [protein] of sea origin' (1960:82). Here the distribution of the food was carried out primarily by older men (1960:82). Rose (1960:87) argues that polygyny among women varies considerably with age. He has suggested that rates of polygyny are high for women in their child-bearing years because the demands upon women are greatest at this point in the life course. Rose also argues that monogamously married women tend to die out sooner because women have difficulty supporting themselves without the help of co-wives. While his data are extremely limited, his ideas merit testing with the use of historical and cross-cultural data.

The Eskimo represent a famous and opposite situation to that of the !Kung and Tiwi. Hoebel has argued that senilicide was general among the Eskimo because they were unable to sustain the old in times of stress (1954:76–9). Citing numerous anecdotes illustrating requests for death from old people, Hoebel states that senilicide, invalidicide and suicide are manifestations of the same postulate that underlies infanticide: a harsh life with a small margin of safety. People who cannot contribute their full share to productive activities forfeit the right to live (1954:76).

The Eskimo and the !Kung Bushmen undoubtedly represent two extremes of scarcity and abundance for hunter-gatherers. In abundant environments the data describing the relatively small contributions of the very young and very old may be more of a testimony to the bountifulness of the environment than a statement about age as a variable in the subsistence strategies of hunting and gathering societies. Such extreme differences do raise questions about the relationships between seasonal resource fluctuations, overall adaptive strategies, and the variability of roles for young and old in egalitarian societies. If we combine these data with our knowledge that, in general, malnutrition (patent, and perhaps even borderline,) is rare for well-adapted hunter-gatherer populations because of diverse dietary resources, the Eskimo are indeed atypical.

In sum, the role of age in egalitarian hunting and gathering societies is related more strongly to resource availability than to any other variable. Whereas ecology does not seem to affect the overall egalitarian division

of labour by sex among hunter-gatherers, environmental scarcity or abundance does limit how many non-producing consumers, young and old, a society can afford, both in the long and short run.

Egalitarian Horticulturalists

Egalitarian horticultural societies consist of small village populations. Many, such as those in the Amazon Basin, are semi-sedentary populations living in villages which relocate every five or six years. The Cashinahua of lowland South America are one example (Kensinger *et al*, 1975). Young or newly settled villagers may co-exist in a single culture with older, more mature ones with full-blown gardens near the end of their productive cycle. New villages require a great deal of energy to clear and plant the new gardens as well as to maintain a viable level of subsistence in the village by hunting and gathering until the gardens have begun to produce. Once the gardens have come into production, gathering subsides. The longer a group stays in an area the more uncertain hunting becomes. At the other end of the village life-cycle, resources may be hunted and gathered out and soil less productive. Thus, just before the village moves, the population may be nutritionally stressed, so that mortality rates rise. As different subsistence activities become more or less prominent, the division of labour will change (Baksh, 1985; Paolisso anf Sackett, 1985).

The division of labour by sex changes as males and females age. For both males and females, age may reverse traditional economic roles as they are defined by sex. For example, the Mundurucu of the Brazilian Amazon Basin have different expectations of women at different points in the life course. During child-bearing years, women are supposed to be basically passive in almost all domains. Retiring and demure behaviour is the norm; male company is not sought and males and females occupy separate physical and social domains. By contrast, post-menopausal women can sit anywhere, with males or with females and men will defer to an older woman by making room for her. Older women may also speak freely and with credence and authority that may influence people's behaviour (Murphy and Murphy, 1974:105–6).

A comparable case to the Mundurucu are the Machiguenga, another horticultural group in Southeastern Peru (Johnson and Johnson, 1975). Allen and Orna Johnson's analysis of male–female relations and the organisation of work among the Machiguenga is useful, not because they pay any explicit attention to age as a variable in the division of labour, but rather for the questions which can be

derived about age and economic organisation from their careful and detailed analysis of the division of labour by sex. Like the Mundurucu and many other lowland South American groups, the Machiguenga derive their subsistence from slash and burn agriculture combined with hunting and collecting.

Johnson and Johnson argue that for the Machiguenga, men's work is far more physically demanding than women's work. Men work long, strenuous hours in gardens and at other tasks with few interruptions. In terms of caloric expenditure, men expend an average of 3.3 calories per minute in manufacturing activity and 4.5 calories per minute in garden labour. Women expend an average of 1.6 calories per minute (1975:643). One obvious question, of course, is how many hours, on the average, do men and women work?

If these data are indeed accurate (and I would suggest that the energy requirements of gathering have, perhaps, been underestimated), then the question is, what is the relationship between age and an individual's productive life in this society? When can a man no longer hunt? Do men work fewer years than women? Do men die younger? Do men at some point take on women's tasks? Do they switch from producers to distributors and finally exclusively to consumers? To what degree does the physical nature of the work task impose limitations upon people in different stages of their life courses? These questions have been asked more often for women of childbearing age. We know, for example, that cultures deal very differently with the same biological processes when it comes to allocating work tasks around reproduction. How flexible can cultures be when it comes to the division of labour by sex? Does the biology of aging impose some of the same kinds of limitations upon work in all cultures or do cultures vary just as much in their ways of allocating work to the elderly, for example, as they do in allocating work to child-bearers?

Hammond and Jablow (1976) address some of these issues in small-scale kin-based societies and imply that it may be easier for elderly women to maintain productive work in the domestic sphere than it is for elderly men to work in the public sphere. While women may not expend as many calories per minute as men, their work in many societies begins at a younger age and lasts well into old age. Women's economic life centres upon the household and is intimately bound up with the work of other women. Only extreme senility or death ends a woman's working life.

> An industrious and clever girl is undoubtedly a credit to her own kinsfolk, especially her mother, and she will be an asset to her

> husband. In her own household she will go on using those skills she learned as a girl. With the passage of time she may delegate some of the tasks to growing daughters and to daughters-in-law, and eventually even to granddaughters. As an older woman she may thus be relieved of the more arduous work, but she is never completely idle. Whatever work the old woman does is important to her self-esteem. Her self-image demands that she continue as a productive member of the community as long as she can. (Hammond and Jablow, 1976:68)

This passage raises the issue of whether the inherent flexibility of work in the domestic sphere contributes to the longevity of women. With sedentary life comes a marked distinction between public and domestic domains in the lives of men and women.[2] Without making assumptions either about the exclusivity of these domains for the sexes, or about the ranking of the domains on a single prestige scale, we can ponder the implications of the public–domestic dichotomy for the division of labour by age. Women begin their domestic worklives earlier and continue their production tasks until their deaths. Does this contribute to the longevity of women, or does it shorten their lives? We need more research which examines changes in the productive roles of women and men when they are isolated from both older and younger generations, i.e., when there is neither anyone from whom to learn or to whom tasks can be delegated.

The importance of age as an institution in horticultural societies depends greatly upon the unit or units of production. In egalitarian horticultural societies such as those in the Amazon Basin, the household is the fundamental unit of production and consumption; households are composed of several extended families and are also primary units of distribution. Within households senior women co-ordinate the work of groups of female kin (Murphy and Murphy, 1974:132). Young women, working primarily in the domestic sphere, begin contributing to the economy much earlier than do boys. Seven-year-old girls will monitor one-year-old siblings. While similar patterns of older and younger sibling relationships are found among hunter-gatherers, it is difficult to conceive of a seven-year-old carrying a one-year-old for long gathering expeditions and it is indeed rare to find young girls in hunting-gathering societies doing much work at all. Girls generally experience considerable leisure until they are married. In contrast, young girls in sedentary societies work as soon as they are physically able. Male children, on the other hand, work much less hard than do female children. For example, male Mundurucu children begin small-scale hunting at around the age of 10. Adult hunting

begins at age 14 (Murphy and Murphy, 1974:75). The sedentary base seems to provide the young and the old much more opportunity to contribute to the economy. Perhaps this occurs because of the population's short lifespan. Murphy and Murphy note that grandparents take care of children, but add as a qualifying phrase, if they are still alive (1974:173).

For horticultural societies, warfare may play a significant part in fixing the age ratios of the population. While Polgar (1972:206) estimates that warfare seldom kills more than 10 per cent of males of reproductive age, Chagnon studied one Yanomamo village in which nearly 50 per cent of the males were killed in war (Chagnon, 1974). As populations grow larger and denser they are also subject to infectious diseases, many of which, such as malaria and tuberculosis, are not in and of themselves life-threatening but which, when combined with other conditions such as malnutrition, can cause early death. All of this points to a shorter lifespan for many horticultural peoples than for hunter-gatherers, and thus, perhaps the necessity for beginning one's economic life at an early age.

To summarise, for egalitarian horticulturalists, sedentary life has a greater effect upon the division of labour by age than it does upon the division of labour by sex. The sexual division of labour looks very much like that for hunter-gatherers but the age division is quite different. People in sedentary economies begin work at a much earlier age and they remain working much longer.

Ranked Horticultural Societies

It is more difficult to generalise about age as a variable in the economies of larger, more complex, ranked horticultural societies such as the Trobriand Islanders or the Tikopia. Ethnographic emphasis upon kinship has excluded age. African age systems are often described in terms of their contributions to ritual, not their role in subsistence activities (Gulliver, 1965). This raises an important issue for the study of primitive economies: age and the relationship between ceremonial and ordinary exchange in societies at the tribal and chiefdom levels. By ceremonial exchange, I mean exchanges which take place in a religious context, or which primarily enhance power and prestige, not subsistence. By ordinary exchange I mean exchanges which occur outside of strictly ritual contexts and which are oriented toward everyday subsistence needs. Empirically, there is overlap between these two types of exchange and one is often accompanied by

the other. For example, exchange of kula valuables in the Trobriands is usually associated with the exchange of foodstuffs. I suggest, however, that the prominence of ceremonial exchange, especially in societies at the chiefdom level, necessitates a rethinking of age in the economy. How old does one have to be to act effectively as a big man, for example? Can a young chief marshal more resources by virtue of his kinship rank than a young big man whose kinship status may carry him less far in achieving his goals? Oliver says that Siuai men of Melanesia gain wealth and renown because of what they do beyond subsistence, not because of their vitality, economic solidity, general knowledge, or age (1955:73). In so far as it may take time to be able to marshal sufficient resources to engage in activities beyond subsistence, older men certainly have an advantage. Oliver describes a kind of reciprocity between young and old:

> While age by itself does not command great respect in Siuai, the offspring are usually tenderly affectionate towards aging parents, demonstrating by word and deed that they feel an obligation for their welfare. If the parents occupy the same hamlet or neighbouring hamlets, the son or daughter will oft times perform much of the work of clearing and cultivating their parents' garden. Or, if they live too far apart for that, they will usually take along baskets of food when they return for visits. As it is explained: 'When we were children they fed and cared for us well; and now that they are aged we repay by giving food to them. For, if we did not, they would surely starve.' (Oliver, 1955:209)

For the Siuai there is clearly a high correlation between age and high rank as an active feast-giver and leader.

Highest ranking leaders had been involved in competitive feasting for some 25 years previously (Oliver, 1955:390). Young leaders start out with substantial support from kin. A comparable ranked society is that of the Coast Salish of the Northwest Coast of the United States, and a similar pattern of kin support for leaders who grow powerful with age can be found. In the pre-contact period, all political and economic leadership was in the hands of the old. In order to become powerful elders, however, people had to have seniority in a large, wealthy family (Amoss, 1981:33). Coast Salish adults were named such that generational position defined the most important roles (Amoss, 1981:230). Generational position, combines with high kinship rank to create the prerequisites for leaders who can engage in the elaborate redistributive feasts (potlatches) for which many groups on the Northwest Coast are famous.

The Trobriand Islanders, with their highly elaborate kinship and exchange systems and their rich and mixed agricultural/maritime ecological base (see Malinowski, 1978; Uberoi, 1962; Weiner, 1976), are a third case of ranked horticulturalists. Weiner has written an entire book on the life cycle of the Trobriands from the point of view of ritual and exchange. Focusing on exchanges of male and female wealth within a life course framework, she says that Trobriand exchanges operate through transformation during the specific phases in the life cycle (1976:19). For the Trobrianders, age also seems to be a variable which is embedded in kinship structure. Malinowski maintains, for example, that:

> The structure of the sub-clan is also modified by the principle of seniority, that is age and superiority of generation give a man greater importance and a higher status within his subclan ... The various groups recognize with regard to each other a relative seniority. Thus, one of them is regarded as the eldest, that is, the most important. (1978:345–6)

Age in the form of relative seniority serves to rank kinship groups and to determine the economic roles of people within the clans.

Trobriand women's economic roles take a somewhat different trajectory through the life course, and these roles are complicated by the matrilineal kinship system. Before marriage, a girl works on her father's soil to produce goods for her parents' household and her father's sister's household. When she marries she will share her husband's gardens and consume from them. Her own soil is held by her mother's brother; it will be inherited by her brother and he will provide for her as well.

Work tasks for males also change through the life course, but again, for the Trobriand case, within the framework of kinship. While the gardening team retains a core of permanent workers, its composition changes over time. Young boys cultivate with the garden team for a period of time, but when they mature they return to their maternal community. They are replaced by young men of the local descent group, who return from their villages of birth (father's villages) to join their maternal uncles and their subclan. The cycle continues as these men marry women from alien subclans (Malinowski, 1978:357).

In sum, age as a principle of economic organisation in ranked horticultural economies contrasts greatly with the patterns seen above for egalitarian horticulturalists. Whereas age and kinship statuses complement one another in egalitarian societies, with age possibly

superseding kinship, in ranked societies age is always in some way, if not subordinate to, embedded in the kinship system (Barnes, 1962, 1973).

The question of age as an institution organising economic processes in horticultural and pastoral societies with age grade systems is in great need of further study. Since age grade systems and unilineal descent systems tend to exist simultaneously (Ritter, 1980), we may ask how do age and kinship principles affect economic roles for individuals and groups? Are age grades categories of producers, or categories of productive activities? Do the variables of age and kinship complement and crosscut one another? Or do age and kinship organise different domains of culture? Which casts a wider net of relationships, age or kinship, and what bearing does the network have upon economic life? Does one's kinship status affect economic roles differently depending upon an individual's particular point in the life course?

Evans–Pritchard contends that age is expressed in a kinship idiom (1940:258). Gulliver says for the Jie, '[A]lthough the age group is only a weak corporate group... nevertheless bonds of friendly equality between members of a group cut across the parochialism of clan and settlement to provide a wider network of personal links than kinship and neighborhood afford' (1965:186). The question is, how important are these age-based links for economic activity? Do they operate to facilitate productive activities as through labour exchanges? Are age connections part of the structure of distribution networks? The relationship between labour division by age and that by sex remains, to my knowledge, unexplored for age-grade societies.

State Systems, Peasants and Proletarians

At the state level, age operates very differently in economic organisation from kin-based egalitarian or ranked societies. With the development of class stratification systems based upon private property, age becomes a dependent variable, subordinate to class in the structuring of economic processes. The higher a person's social class, the greater his longevity. In most instances longevity is inversely related to a person's actual contribution to subsistence. That is, the greater one's ability to extract a surplus from subordinates, the longer one lives. In state-level societies class becomes the independent variable for dividing labour in society. Again, age affects production processes differentially, depending upon the units

of production, and the political and economic contexts within which the units are found.

If the household is the dominant unit of production and work is primarily organised by the household, the age composition of the household can greatly affect production processes. The Russian economist A. V. Chayanov, in his book *The Theory of Peasant Economy*, addressed the problem of age as a variable in the household economy which he called the family farm, a subsistence unit without wage labour. For Chayanov household life cycles were critical determinants of production processes. The labour product, or amount produced, is not the same for all family economic units, but varies according to a number of factors, among them, family size and composition. Age is an important variable because the number of workers in a household depends primarily upon the age and life cycle stage of the family members. As the age ratios change in a family, so will the labour product: dependent children and elderly members contribute more and less respectively, over time.

In what is probably one of the most sensitive descriptions of age as a variable in a rural agrarian economy, Conrad Arensberg, in *The Irish Countryman* (1968), reaffirms Chayanov's analysis of the family as a subsistence production unit. Both children and the elderly contribute to the subsistence base, the former as performers of small tasks such as errand running and child minding, the latter as managers and decision-makers. Young and middle-aged adults perform the heavy physical work under the aegis of older males and females. As long as a married man's father is present in his household, that man is a 'boy' who is economically subservient to his father. Thus, even a 45-year-old married man is not in the Irish peasant social structure an economically viable adult. Similarly, women in this patrilocal system are under the wing of a mother-in-law. This has its benefits, for example, providing help with child care and relief from many responsibilities while pregnant, but it also has its emotional costs. Theoretically, this is an interesting system. It provides a role for the elderly, while at the same time providing much needed help for young adults (see also Streib, 1972; Birdwell-Pheasant, 1985; Schuman, 1985).

The leisure time of hunter-gatherers is something peasants cannot afford. Rural agrarian economies in state systems are subject to many outside demands. The pressure to bring products to market on a certain day and the vagaries of the market-determined pricing system are only two such pressures. In order to meet these demands, a great deal of labour is required and it must be recruited from all available

sources. It is not surprising that children are taken out of school to help with the harvest. Whereas hunter-gatherers can subsist without the labour of the very young and the very old, the primary peasant producers, young and middle-aged adults, need all the help they can get to produce their subsistence, distribute the products effectively and reproduce the labour force. The help comes from children and the elderly. The Irish countryman's farm is a well-functioning system which is a viable adaptation to the larger political and economic context within which the family farm must operate.

Judith Friedlander's (1976) description of the multiple economic roles of a 65-year-old grandmother and head of a household in Hueyapan, Mexico, raises another set of questions regarding age and the division of labour in peasant households and villages. As a small landowner, subsistence agriculturalist, market woman and curer, Doña Zeferina plays a variety of social and economic roles. These roles are public, but not political. Her work contrasts greatly with that of her 32-year-old daughter-in-law whose work is entirely in the domestic sphere, i.e., primarily child-care and food preparation. How typical is Doña Zeferina, her household, and its division of labour by age? While large-scale statistical data are missing for this particular village, I suspect that the Hueyapan case, in which childbearing women perform domestic work and older women play economic roles outside of the domestic domain, is probably common.

Whether or not age ratios within households influence the conditions under which members of peasant households allocate work to domestic or public domains would be worthy of systematic research. The relationship between reproductive patterns and work outside the domestic sphere also merits further exploration. We know that many peasant women work in public spheres during their child-bearing years, but the conditions under which they are able to do so are not known. Household lifecycles and the needs of households at particular stages are likely to be significant determinants of how old the major producers or income earners will be.

Peasant villages have a great variety of mechanisms for providing for the economic viability of household consumption units. D. Kagan (1980:71) documents the 'loaning' of grandchildren to their grandparents in a Colombian peasant village. By providing labour and social support for their households, the children keep the old people independent. The arrangement also provides subsistence relief for the grandchild's nuclear family. With one less mouth to feed, the other children will receive better nourishment. This arrangement presumes,

however, that the labour of the child on loan is, at least temporarily, not needed in his nuclear household and acts to redistribute labour in the village. Neighbourhood ties may also function to ensure the maintenance of the elderly as long as a reasonable exchange of services can be arranged. Such arrangements seem to be particularly common among women. In another example, Kagan describes a woman with four children in Bojaca, Colombia, who takes an elderly neighbour, with whom no kin ties were shared, into her household to help her with her work (1980:71).

In virtually all rural agrarian villages in the third world, households must have access to cash. In general, young men and women provide much of it, often having to leave the village and become wage labourers to do so. Older peasant women may have few marketable skills, and they may no longer be strong enough to be traders or wage workers, but they do provide child-care services which enable their daughters to work. It is not uncommon for older women to maintain their adult daughters when the daughters are periodically – often seasonally – unemployed. This is the case for Doña Zeferina who, in addition to controlling land resources, has special marketable skills as a curer (Friedlander, 1976).

Under certain conditions, older males may be able to maintain a cash income longer than their female counterparts either by calling upon the labour of younger clients who have become indebted to them, or by calling upon the support of peers. In the Caribbean, for example, males at all ages and classes tend to associate in peer groups which by definition are composed of age mates. Caribbean crews are both work groups and units of sociability (Wilson, 1969, 1971). Peasant women, on the other hand, if they stay in their native villages, may have greater access to subsistence goods through kin networks as well as to a sporadic cash income earned through wages or through selling small items in the village (Rothstein, 1979:256).

For peasant economies in which the household is the smallest of a number of larger productive units and in which wage labour is predominant, age operates differently than in household-based, subsistence economies. When young adults, particularly women, leave their extended family support systems behind in villages to seek work in towns and cities, their economic as well as their social viability may be compromised by the absence of younger and elderly women to provide child care. The dependent and often exploitative relationships created between spouses, and the inacessibility of the family farm, to use Chayanov's term, as a source of subsistence goods

and reserve labour may also present severe hardships for recent migrants.

Anna Rubbo (1975) describes the plight of poor women of childbearing age once they give up subsistence production in rural villages to become wage workers on commercial plantations in a Colombian frontier town. Among other things, Rubbo describes a society which has become age segregated to meet the exigencies of agrarian capitalism. Teenagers and the elderly are left behind in the rural villages, leaving young adults and small children to cope without traditional economic and social supports. Concomitantly, the village economy is undermined as more and more productive adults leave the rural areas (Gill, 1985; Godoy, 1985).

Considerable research has been devoted in recent years to the 'peasant-to-worker transition' in rural agrarian economies, and this research raises some interesting issues regarding age and economic change (Minge-Kalman, 1978; Holmes, 1982). Among these are issues of work loads for older adults whose children have left the village for educational and/or economic reasons, and are not available to work. Cole and Katz have described a peasant-to-worker transition strategy based on child labour. When households are under economic stress, children will be sent as migrant labourers. They describe groups of children from South Tyrol who appear in the Kindermarket of South Germany, where they were known to be auctioned off for a summer's work. Their earnings were negligible but their absence meant one less mouth to feed (1973:50).

Processes of colonialism, modernisation, development and general incorporation into the world economy have many ramifications which differentially affect age groups and the ability of age to structure economic activity. For example, as industrially manufactured goods begin to replace traditional craft items, not only are whole occupations eliminated, but apprenticeship relationships which provide important roles for the elderly and which were common in pre-colonial periods, also became extinct. For much of Africa and Latin America, traditional weaving, both for males and females, is no longer done. For teenage Ben'ekie males in Zaire, idleness and unemployment replace weaving apprenticeships (Fairley, 1981). For the older people to whom the young men traditionally would have been apprenticed, occupational status is lowered. My own fieldwork in the West Indies shows a similar pattern. Few job opportunities exist, especially for male teenagers of the lower classes. While females can usually work as market women or in the domestic domain, teenage males, since they

have not attained full adult status, but yet are not dependent children, have few if any economic opportunities. In Grenada, older teenage males may be employed as shop tenders, but such jobs often require minimal literacy and transportation to the capital. Even if the former conditions can be met, the jobs are extremely scarce. Expectations of upward mobility increase daily as radio communications and, in many parts of Latin America, television sets appear in barrio dwellings. As peasant villages come increasingly into contact with modern industrial societies and traditional age and sex statuses are undermined, male teenagers change from important subsistence producers into often frustrated consumers, frustrated because unlike their female counterparts they have few sources of income other than those which are illegal (Stein, 1984).

Patron–Client Relations

Patron–client relations are common in peasant societies. They involve exchanges of goods and services between people playing roles representing fundamentally different class positions. By definition, a patron is someone of higher means if not higher social class than the client (Wolf, 1966a, 1966b). While patronage and clientage are primarily based upon differences of social class, one can also ask how, if at all, age functions as a factor in developing patronage relations.

I suspect there is an age limit below which one cannot become an effective patron and above which one can no longer function as one. The determinants of the upper and lower age limits of patronage will vary from culture to culture depending upon a whole series of variables ranging from whether or not physical labour is required, to how much time it takes to acquire political and economic connections at the regional and state levels. There is a dynamic to patron–client relations which is based on several factors, among them, changes in the role of a patron during the patron's life span. Such changes may involve, for example, the accumulation of more and more clients, or alterations in the patron's relationship to production processes. Over time, patrons may accumulate productive resources such as land, and increased access to communication and transportation, such as vehicles. As the patron controls more resources, he or she potentially can control more people. Does patronage depend on age? We know that there is a class component to patronage, but is there an age component? Are patrons always older than clients? Or always younger? Is there an age gap or differential?

In the West Indies, as lower class individuals grow older they do not accumulate productive resources of any significance; they do, however, accumulate clients in the form of loyal friends and followers who can be called upon to perform various tasks and who, in turn, can receive credit from both male and female patrons. With age, female fish vendors, for example, expanded their support systems from kin and peers to younger women in the community who would take turns marketing fish and 'sharing' the profits with the older (head) vendor (Halperin, 1972a). Male patrons also gain clients as they age, but in different ways. Since their activities are concerned more with the public political sphere than with the domestic, subsistence domain, they tend to collect clients for votes as well as to collect patrons at higher levels of state organisation. This is true in Mexico as well (Halperin, 1975). In some instances people move up the local, if not the national stratification system with age.

Cargo Systems, Age, and Forms of Ceremonial Exchange in Peasant Villages

Cargos or civil-religious hierarchies, common throughout Mesoamerican Indian societies, are organised in a ladder-like arrangement such that a man first occupies those lower in the hierarchy and proceeds to move up to increasingly more expensive and more prestigious positions. The timing of a person's career is critical. As a man ages, his position in the hierarchy changes. Late entrance into the system can prevent mobility within it.

One of the most complete descriptions of a cargo system, and one which includes age as a variable, is Frank Cancian's account of Zinacantan, and I will draw upon it extensively here. Zinacantan is a township with 7650 Tzotzil-speaking Maya Indians in the highlands of the state of Chiapas in Mexico. Zinacantecos are primarily corn farmers who buy and sell corn as well as beans, chili peppers, flowers and other cash crops in exchange for cotton for weaving clothes, metal tools, and other staples in the Ladino city of San Cristobal. The occupation of a religious office requires individuals to spend often large amounts of money to sponsor religious celebrations for Catholic saints. An incumbent receives no pay because his work is regarded as service to the community. The work of the civil government incumbents principally concerns public works such as building roads and schools, the administration of justice, settling disputes, and managing relationships between the community and the larger outside world of the nation-state of Mexico.

Cancian states clearly that Zinacantan is not a typical civil religious hierarchy in which an individual alternates between civil and religious office and in which the office holders serve for a year and then give the office to another man. The cargo system is almost entirely religious, with civil offices filled by different recruitment mechanisms. There are 34 religious cargos at the lowest level, 12 offices at the second level, 6 at the third, and 2 on the fourth and final level of the religious hierarchy. Thus the system becomes increasingly selective at higher levels. The highest offices represent the apex of the social structure; only those who are rich can afford the most expensive cargos. In Zinacantan none of the civil offices count for progress up the ladder of religious cargos (Cancian, 1965:22). A high civil office can be held by someone who is relatively young and unimportant. Cancian says that it is not uncommon to have a Presidente in his late twenties and of the 6 Presidentes who served between 1952 and 1963, 4 were younger than 30 when they entered office (1965:25). The system of recruitment for religious offices is entirely different and age is extremely important; men under 30 would never hold high religious offices.

Cancian has constructed models of cargo systems which aid in predicting the age and conditions under which cargos are taken. In one model it is postulated that at least 90 per cent of men take cargos. Since life expectancy in Zinacantan is relatively short, and since a person must take the cargos in hierarchial order, delay of the first cargo until age 45, for example, will more than likely prevent a person from ever reaching the highest level (1965:168). A second model postulates a constant age of the first cargo and analyses the results. Since the population of Zinacantan is increasing, under the second model's conditions the population of men who never take a first cargo will increase (1965:169). The important point about Cancian's analysis is that it is one of the few to use age as a condition in a formal economic model. Cancian uses the model to compare postulated conditions with actual conditions and his analysis is quite effective. Such formal models which include age as a component could add greatly to the precision as well as to the time depth of economic analysis. The models would provide ways of systematising the data by comparing expected conditions with observable facts (Silltioe, 1978).

CONCLUSION

Age has attracted little attention in the comparative study of economic processes. Aside from general assumptions about and references to

age as one of two (along with sex) basic principles dividing labour in primitive societies, little systematic work has been done on age as a principle of economic organisation (Simmons, 1945). I have used an evolutionary framework to develop a consistent set of factors which can be used to define the political and demographic contexts for understanding age as a principle in the cross-cultural analysis of economic processes. I have emphasised production processes, because somewhat ironically, the ethnographic record seems to contain more data on the relationship between age and production processes. The irony is that economic anthropology, as a whole, has until recently emphasised distribution processes to the exclusion of production. A focus upon age draws data from the ethnographic record which has heretofore been ignored, and it has been possible to raise a number of theoretical issues concerning both production and distribution processes and the overall organisation of the economy.

At the most general level, the relationship between age and economic processes is basically similar among all kin-based societies, both egalitarian and ranked. Property-based, stratified societies begin to manifest different patterns and relationships depending upon the context within which the units of production and consumption are found. Within these general evolutionary types some further distinctions can be made. In so far as egalitarian societies encompass different technologies and, therefore, different modes of adapting to environments, age affects economic processes differently for egalitarian hunter-gatherers than for egalitarian horticulturalists. Among hunter-gatherers, both the very young and the very old are exempted from productive activities; these societies permit a considerable amount of leisure time for people of all ages. Thus Sahlins's notion of 'the original affluent society' (1972). It should be clear, however, that 'affluence' as it is manifested by leisure is a result of several interrelated variables: abundant environments, egalitarian social organisation, flexible division of labour by sex, and simple technology. None of these, singly or even in pairs, would bring about affluence or leisure. In harsh environments, such as those inhabited by the Polar Eskimo, the luxury of idleness is much less affordable and the elderly must not only be able to move with the group, a *sine qua non* in all hunting-gathering societies, they must also not be a burden to those younger. Thus, the !Kung or Tiwi can afford to support elders who are blind or crippled, but the Eskimo cannot. In the Tiwi case the marriage system and the division of labour by sex affects the division of labour by age by allowing both elderly and young males to be idle. At the hunter-

gatherer level, some sex role reversal also occurs with age, as in the case of elderly !Kung males who take on the female tasks of gathering.

In contrast to hunter-gatherers, members of both egalitarian and ranked horticultural societies begin working at a much earlier age and maintain their productivity for most of their lives. This is particularly true of women. In sedentary societies, girls can care for young children without having to carry them on long gathering expeditions. Since weaning foods are plentiful, children nurse for fewer years and therefore also can be separated from their mothers at a much younger age.

In horticultural societies, aging seems to reverse the traditional sexual division of labour in a much more accentuated fashion than at the hunter-gatherer level. Both men and women can take on the productive and the distributive roles of the opposite sex. Cross-culturally, middle age lifts restrictions upon women and confers upon them the right to exert authority over certain kinsmen. Older women become food distributors and supervisors of food preparation (Brown, 1982:154).

If productive processes are affected by age in a manner which includes sex role reversal, are distribution processes so affected? In horticultural societies in which men are the primary distributors and women are the primary producers of both ritual and subsistence goods, do older women become distributors? I would hypothesise that sex role reversal with age is much more flexible and possible in production processes than in distribution processes, especially at the chiefdom level. Since kinship principles are so prominent in these societies, variables such as the form of lineality might be worth testing with respect to the flexibility of the age and sex division of labour. Iroquois women tend to be powerful in all economic processes at all ages (Brown, 1975). Within specific domains the same can be said of the Trobrianders (Weiner, 1976).

For kin-based societies the lack of specialisation in the division of labour overall seems to enable people of all ages to match their skills and abilities with the various necessary tasks involved in the annual round. All men and all women are food producers, and to varying degrees, food distributors. The separation of producers from distributors occurs earlier in human cultural evolution than does the separation of producers and non-producers. This is because age and sex statuses act to create these distinctions before class distinctions ever develop. The skills a young boy performs before puberty may be the very same ones he needs in old age. Work groups in kin-based

societies are often heterogeneous in age. Older and younger men and women commonly work together. Mat weaving, for example, in Samoa involves women of all ages; fishing brings together old and young men (Holmes, 1972:75). Fishing among Eskimo brings together the old and young of both sexes. Such arrangements in pre-industrial societies make it possible to learn new skills and to change qualitatively the nature of one's work as one proceeds through the life course. In highly specialised post-industrial societies such qualitative changes cannot be accomplished easily. Once a person is unable to work at a specialised task, work must cease altogether. This is one of the many reasons why the elderly become isolated from production processes in industrial societies.[3] It is important to recognise, however, for pre-industrial societies, that the elderly are not more respected because of their revered position in the extended family. Rather, the basic interdependent and flexible nature of the division of labour, what Durkheim called organic solidarity, makes it possible for both young and old to function in the economies of pre-industrial societies.

State level societies present different issues surrounding age and economic organisation. Probably the two most critical, and often related, factors impinging upon age and economic organisation are the class position of the individual and the unit of production within which individuals work. Modernisation processes have greatly affected the economic activities of people of all ages, some positively, many negatively (Cowgill and Holmes, 1972). Indigenous peasant agriculturalists in closed-corporate peasant communities (Wolf, 1966b) operate in ways which are similar to horticulturalists in stateless kin-based societies. Links to larger political and economic entities through relations of patronage and brokerage create different economic functions for old and young. Once young men from tribal and peasant societies leave their indigenous groups and acquire wealth by using channels outside the traditional system, patterns of kin-based seniority become undermined or, in some cases, destroyed. We know that the shift from subsistence production to wage labour creates many stresses for children, young adults, and for elderly members of extended families. For the elderly, subsistence patterns become diluted by the absence of young adult labourers. For children and young adults, the non-availability of extended family members in areas where wage labour is available creates serious shortages of child-carers and general social and economic support.

Some very basic questions are raised by an examination of age and

economic organisation, including the nature of reciprocity as a principle organising production and exchange. Economic anthropologists generally agree that reciprocity is a dominant principle in non-market economies. However, if reciprocal exchange relationships, including trading partnerships, are defined as relationships between two equals, we can certainly inquire into the impact of age upon reciprocal economic relationships. Can two individuals of totally different ages engage in reciprocal exchange, and if so, how equal is the exchange? What happens to the nature of reciprocity as the parties age? How does the age of the reciprocal relationship itself affect the kinds of transactions involved? Most of the exchange theorists are silent on this issue (Mauss, 1967; Sahlins, 1972; Dupre and Rey, 1973; Polanyi, 1957b). Obviously, individuals often act as representatives of groups and in these cases perhaps the age of the individuals makes little difference.

The issue of inter-generational economic relationships must be examined cross-culturally. While an ideology of reciprocity probably always exists in some form to facilitate relationships between generations, the facts of reciprocity may be quite different. In state-level societies, the dynamics of inter-generational exchange (Salamon and Lockhart, 1980) will be different from exchange processes in pre-state societies, in which the elderly control knowledge but not privately held resources. While inter-generational exchanges of goods and services are important in all societies, once societies develop private property and resources are no longer controlled by kin groups, the importance of inter-generational exchange becomes transformed.

There seems to be little question that in societies for which kin are the basic means of economic support, insurance in old age, and buffers against starvation and destitution, exchanges of goods and services between people of varying ages and life-cycle stages are absolutely essential for the viability of the group. Such societies encompass a range of evolutionary types. The importance of inter-generational exchange as the key survival strategy is also heightened when the group is near the bottom of a class stratification system. A striking example is Carol Stack's (1974) description of reciprocal exchange networks among poor urban blacks. Old women in particular are critical to the maintenance of the network because they care for children and allow younger female adults to work. Women provide the core of the network. Men operate in peer groups (Liebow, 1967) in which certain kinds of reciprocal exchanges take place, but because

males and females have different ways of articulating with the larger society, the patterns of exchange for males and females are very different.

Patterns of adaptation tend to repeat themselves in different cultural contexts. That patterns of production and reciprocal exchange in urban ghettos operate according to principles of generalised reciprocity should not be surprising; neither should the key child-care roles played by older siblings and older women. Kin-based economies still function within industrial societies and there is increasing evidence that a hidden economy based on non-market principles is on the increase. The giving of food to elderly people by senior citizens' centres is only one example (Myerhoff, 1978). Teenagers will need to create new survival strategies in our own culture as unemployment rises. Elderly people on fixed incomes also will need new strategies; mutual aid systems, perhaps, or reciprocal exchange systems of social and economic support which provide needed goods and services. The role governmentally-organised redistributive systems play in industrial societies in providing needed goods and services to age groups which are economically marginal remains to be fully explored.

To summarise, we can see numerous modes of livelihood in stratified state-level economies and, consequently, different patterns of age and economic organisation. If family production and consumption units are subsistence-based, without wage labour, children and the elderly are viable, indeed essential, contributors to the livelihood of the unit. The similarities between pre-capitalist formations in state systems and kin-based economies prior to the development of the state are substantial with respect to patterns of age and economic organisation. It is important to note the difference between the introduction of wages and the introduction of a capitalist mode of production into processes of livelihood and into a state system as a whole. Once individuals become wage labourers and work in capitalist units of production, most of the social, economic and political supports available in a non-capitalist economy disappear and the economic roles of people at all ages change dramatically.

8 Towards a Comparative Science of the Economy – Defining Units of Analysis

'Goods are neutral, their uses are social; they can be used as fences or bridges.' — Mary Douglas, *The World of Goods* (1979:12)

Studying economies across cultures is an increasingly challenging and urgent task. In a world in which jet-age technology and its products quite literally land upon stone-age cultures, factories are plunked down in the midst of farms and tropical paradises (Kottak, 1983), and the informal economy can become the primary source of livelihood (Halperin, n.d.), we must create new analytical tools for dealing with changing combinations of economic processes, with multiple survival strategies and with pluralism in both production and distribution processes. Economic anthropology has treated the agrarian sectors of the industrial United States (Chibnik, 1987; Halperin, 1987) as well as 'the gardens of prehistory' (Killion n.d.).

In this concluding chapter I emphasise the importance of methodological issues for the comparative analysis of economies across cultures. I will draw together the parts of the institutional paradigm and clarify the ways in which it constitutes the rudiments of a theoretical framework for a comparative science of the economy, which is the central, overarching problem of the book. Each of the preceding chapters dealt with a different aspect of the economy, conceived as a set of complex and fluid processes that organise the provisioning of the material things necessary for humans to carry on their social lives. The term 'process' is central to the definition and to the theoretical framework, for it indicates organised, ongoing movements of people and things through time, whether the movements result in continuities or discontinuities, conflicts, contradictions or radical changes. The time frames may vary seasonally (Chapter 5), in terms of a human life course (Chapter 7), or between revolutions (Chapter 6).

The problem of a comparative science of the economy must be understood to operate at different levels of abstraction. For example, at the most abstract level are problems concerning the paradigms for conceptualising the economy and the models and analytic units that

are relevant within those paradigms. The institutional paradigm (Chapter 3), a synthesis of anthropological substantivism and institutional Marxism, is the paradigm with the greatest potential for a comparative science. The institutional paradigm is one of three competing paradigms in economic anthropology; the formal and ecological paradigms are the other two (see Chapter 2). The paradigmatic problems are qualitatively different from non-paradigmatic, specific problems such as the division of labour among hunter-gatherers (Chapter 5) or the organisation of land and labour among Mexican peasants (Chapter 6). The paradigmatic problems are much more general and require abstract concepts such as units of analysis. In contrast the specific problems appear, at least on the surface, to be much easier to handle. It is important to recognise, however, that the analyses of specific problems and the formulation of models for analysing particular data sets, will depend greatly upon the solutions to the paradigmatic problems. At the same time, the specific analyses are examples of the kinds of controlled comparisons that are possible within the institutional paradigm. Other kinds of like analyses of the organisation of productive resources or of the division of labour should be possible either within the confines of a single structural type, or between several types. The need to consider problems while accounting for social class variation is another spin-off of the comparative framework. Thus, Chapter 7 illustrates the importance of social class as a variable in the analysis of age, life course and economic organisation.

The most critical issue for the scientific study of economic processes is that of defining units of analysis. Unless the units are defined carefully and used systematically, we cannot draw comparisons across cultures and across time, which are so necessary for understanding regularities, variations and, thus, changes in economic processes. Without clearly defined units of analysis, even relatively low level descriptions of the most simple technological processes can proceed only serendipitously, and explanations, in the scientific sense of the term, will be impossible. Both descriptions and explanations require the definition of units in terms of which to gather and to analyse data.

THE UNITS PROBLEM

The actual task of defining units of analysis is extremely difficult; the endeavour is complicated by the fact that analysts have been reluctant

to consider the units problem (Halperin, 1985b). Whether the reluctance derives from naïve empiricism or from a more self-conscious and purposeful theoretical orientation, there has been a general resistance to addressing the problem. In large part, the resistance stems from strong elements of positivism in social science and results in several forms of denial of both the importance, and, in some cases, the existence, of 'the units problem'.[1]

One form of denial can be found in the following argument: units of analysis are natural and we simply describe what is 'out there' for us to see. The assumption is that units of analysis are identical to units of observation. The corollary is that, if we can see it, it must be real and important to describe. Certainly there are many traditions in anthropology that contribute to such a view; cultural relativism is an example. The history of economic anthropology has witnessed many descriptions of colourful, bustling marketplaces (Belshaw, 1965; Malinowski and de la Fuente, 1957; Kaplan, 1965; Cook and Diskin, 1976; Polanyi *et al.*, 1957) – all public, and therefore, easily accessible field sites that are also bounded, observable entities. There were, of course, implicit theoretical propositions about units of analysis in these studies, but it was not until the work of Skinner (1964) and his student, C. Smith (1974, 1975, 1976b, 1977, 1985), that models for marketplace systems began to be used in anthropology, in this case, central place models borrowed from human geography (see also Fry, 1980; Hodder, 1980; Santley, 1986). Indeed, the ethnographic record contains many fine descriptions including data that are potentially relevant to a comparative science of the economy. The point is that if these data are to be used meaningfully for comparative purposes, or if new data are to be collected, units of analysis must be defined to ensure that the data sets will, in fact, be comparable.

Another form of denial of 'the units problem' is the argument: the folk will tell us what the important units are; we simply need to listen to them and work hard to understand their system. The assumption here is that folk and analytic units are the same. This assumption has often been compounded by the intrusion of the analysts' folk notions about units into the description of folk categories and into the formation of analytic categories. One of the most incisive discussions of the relationship between folk and analytic categories and the formation of units of analysis is Eugene Hammel's (1984) article on households, units of great relevance to economic anthropology. Hammel argues that, in order to assure the comparability of the household as an analytic unit, folk categories must be eliminated completely. The more

abstract the definition of household, the more useful it will be for purposes of comparison. Hammel warns that the folk categories within a particular society may not be universally applicable within it, and argues that 'the way to useful comparative analysis is to propose a category so formal, abstract, and devoid of specific cultural content as to rid it of bias' (1984:91). He suggests that households should be studied by selecting 'the largest supraindividual (and perhaps named) group with the greatest multifunctional corporacy and that we compare these formally selected units. Given these units, one may then properly inquire into their variation in function, recruitment and cycle, and their articulation with larger social fields' (1984:41). While Hammel's formalism may well cause many anthropologists to cringe, he does get to the heart of the critical issue for formulating units of analysis, namely, that of comparability. The concept of the household in the institutional paradigm will vary depending on structural type. A band-level household is different from a peasant household. In all cases the household must be an analytic, not a folk category.

Yet another way of denying the units problem is to argue that units of analysis should be social totalities or whole social formations. This argument has been particularly common in structural Marxist circles (Friedman, 1974; Bourdieu, 1978; Chevalier, 1982). The assumption is that all social totalities are comparable to all other social totalities, and that to isolate any single element or moment in the totality is to reify it or to engage in some form of old-style structural functionalism. While I purposely state this argument in somewhat extreme, and, perhaps, oversimplified terms, I do so in order to emphasise the issues concerning units of analysis.

The concept of the social totality as the unit of analysis comes from Marx. The difficulty is that there are at least two different analytic meanings of the concept of social totality, one of which derives from structural Marxism, the other from institutional Marxism. For the structural Marxists, the social totality is, as Sherry Ortner (1984) put it, a 'seamless whole'; economy and society are identified as one (Bourdieu, 1978). In contrast, for the institutional Marxists, economy and society are analytically separate entities. To elaborate, the first interpretation is consistent with the definition of the economy that I have formulated for the institutional paradigm: processes of material livelihood as analytically identifiable and separable from the social formations that provide the context for the organisation of economic processes (see Chapter 3). The structural Marxist concept of social totality deals with economic processes as intrinsic and inseparable

parts of social formations; the focus of analysis is upon social processes as wholes. Economic processes are simply one of many, variously weighted social processes, and the boundaries between economic and non-economic processes are virtually non-existent. Bourdieu's notion of symbolic capital is another example of Ortner's 'seamless whole' problem, because it mixes the ideological and the material elements of cultural systems in a confusing fashion (see also Giddens, 1979, 1981, 1982).[2]

At the other extreme is the problem of overemphasising and overformalising units and models at the expense of qualitative considerations of analytic problems and careful formulations of concepts. Imposing units and models upon data in inappropriate ways is easy to do, for such imposition assumes that the method is more important than the content, and that any units will suffice as long as they make the model work in elegant and parsimonious ways (Service, 1969). As I have pointed out in Chapter 4, modelling for the sake of the model often involves attaching unwarranted assumptions to the units and interferes with the analytic work that the units were designed to do.

ANALYTIC UNITS AS MODELS

What is to be done? The task is to formulate units that are sufficiently abstract and general to meet the criteria of comparability and perform the necessary analytic work of describing and examining regularities, variations and changes in economic processes in cultural systems. To achieve comparability and, at the same time, maintain enough sensitivity to cultural systems to avoid ethnocentrism and oversimplification is not a small feat.

There are several steps required. The first involves isolating economic processes analytically from non-economic processes and from total social formations. Such analytical separation does not assume the primacy of material over ideological or symbolic elements in cultural systems, nor does it exclude ideological components from economic processes.[3] The second step involves selecting a problem for study and identifying processes in the relevant evolutionary contexts. The third involves selecting units that will be comparable and will deal with the problems within the general parameters of the institutional paradigm.

It is not necessary to find a unit that can be used in all cultures. Choosing individuals as units may solve the problem of comparability but the choice prevents us from analysing variability in economic

formations. Economies are not different because the individuals behaving in them are psychobiologically different. Economies vary because individuals operate in different kinds of cultural systems under different kinds of institutional arrangements with different rights and obligations, demands and values. The point is that using institutions as analytic units provides ways of building structural and cultural features into our models so that differences in the complexity of societies can be taken into account and variability in economic processes can begin to be explained. An evolutionary framework is essential. As I indicate in Chapter 7, 'Age and the Institutional Paradigm', a typology of cultures based upon political organisation is a useful heuristic device (and I emphasise that it *is* a heuristic device). The device categorises the range of cultures for the purpose of understanding how and why economic roles change as people move through the life course. One important point here is that there are different units of analysis for different types of societies as well as for different analytic problems. In short, units may be comparable without being universally applicable.

Finally, comparison is essential for describing the specific features of economic processes as well as for explaining how and why economic processes change and vary. In other words, it is not possible to explain a particular feature of a single economy with reference only to that economy. To do so is to engage in a functionalist tautology of the following form: characteristic x exists in economy a because it performs the function of q. The only way to avoid functionalist tautologies and explain x is by examining x in a variety of contexts that are defined so that both x and the contexts within which it appears are controlled evolutionarily. Comparisons can be set up by establishing a set of like cases within which x can be found, as in Chapter 5 on the organisation of labour among hunter-gatherers; alternatively, the same unit can be studied at different points in time, as in Chapter 6 on continuities in the organisation of land and labour in Mexico.

If a comparative framework is necessary for describing and explaining economic processes, and if comparison requires analytical units, then the question becomes, what kinds of units will ensure comparability? There are two main points here. The first is that all units of analysis must be conceptualised as models, i.e. they are not 'real' and they are not immediately observable in the positivist sense. Even units that have a striking physical form, such as marketplaces or, in some cases, households, are not automatically analytical units. We assign both visible and invisible attributes to observable units as well as

to purely heuristic constructs such as networks. In other words, in order to describe even the most obvious units, we must make assumptions about them. These assumptions may only concern decisions about what it is we note down or, alternatively, what we choose to ignore.

The second point is that models derive directly from paradigms. The purpose of the institutional paradigm is to set specific kinds of problems and to define specific kinds of units in terms of models that are consistent within the paradigm. Constructing a concept of institution (organisational principle) as an analytic category that will be useful for comparative purposes *and* accommodate a range of diversity within an evolutionary type without making too many unwarranted assumptions is not a small task. The point is that the paradigm links the units of analysis (institutions conceptualised as models) with the problem, conceived in its broadest form as the comparative analysis of economic processes in cultural systems.

Within the broader framework of the institutional paradigm as I have defined it in Chapter 3, we can identify different kinds of units to do different kinds of analytical work. In other words: within the institutional paradigm there are different models for different levels of analysis, different evolutionary types, and different economic processes within evolutionary types. As Chapter 5 indicates, the problem of the organisation of labour among hunter-gatherers requires both a model of the band and a model of production processes. The band is modelled as a flexible, highly mobile, demographic unit whose size and movement patterns depend upon the seasonal availability of resources, that is, upon ecological considerations. The model of production includes food processing for storage and consumption as well as food procurement. Thus, we have models of processes as well as models of units. The two are related in terms of a common problem or question. For other problems, different units and different models will be needed. As I have pointed out in Chapter 4, the same units may be used in different kinds of formal models. Another example of unit formation occurs in the analysis of continuities in the organisation of land and labour in Mexico (Chapter 6). That task requires a model of the local territorial unit, in this case, the village, as an integral part of a stratified state system, as well as a model of land and labour as productive resources that can be organised by a variety of institutional arrangements, market and non-market. Our conceptualisation of resource organisation for hunter-gatherers, for example labour, must be different from our concept of labour organisation in rural agrarian

state systems. Labour organisation among hunter-gatherers involves fewer organisational principles, primarily age and sex, than does labour organisation in state systems.

TOWARDS A COMPARATIVE SCIENCE

If the emphasis in anthropology has been overly empirical, the opposite is true in economics, which has been overly formal and abstract. Even though anthropologists, economic historians, and various other social scientists have developed a considerable corpus of literature dealing with a great range of economies, institutional analysis remains at the margins of economics. Indeed, virtually every ethnography and history contains some data on institutions and economic processes. No matter how many ethnographies we have, however, and regardless of how oriented to economic processes they appear to be, we will not establish even a preliminary comparative science of the economy and therefore will not understand pattern, variation and change in economic processes, until we develop a consistent theoretical framework. Roger Keesing's doubts about discovering the structure of culture by collecting more ethnographic data should be underscored for economic processes:

> I very much doubt that we will discover the structure of cultures by doing ethnographies. We should remember that linguists, who tried for 50 years to understand linguistic structure by analyzing languages, came up largely empty-handed. They needed what we now desperately need: an overall theoretical framework into which substantive evidence can be fitted. Given such a framework – even provisional scaffolding – we can begin to use anthropological data to answer our biggest theoretical question: how much cultures vary, at what levels, how and why. (1972:320)

In sum, we will not understand the structure of economies by collecting more and yet more data. In this book I have proposed a provisional scaffolding based upon institutions as units of analysis and upon comparative analytic (not folk) categories conceived in evolutionary, historical, and ecological contexts. If the scaffolding is still only visible from the sky, so be it. We must work from the top down.

Notes and References

1. Introduction

1. Seasonal variation and the division of labour among hunter-gatherers receives detailed attention in Chapter 5 (see also Condon, 1983). The particular point in this passage comes from the ethnographic film entitled *People of the Seal*, by Asen Balikci (see also Balikci, 1970). The famous Northwest Coast potlatch does not receive detailed treatment in this book, but some traditional analyses as well as new findings should be mentioned. Some traditional sources include: Boas, 1897, 1966; Drucker, 1955, 1965; DeLaguna, 1972; Oberg, 1973; Sapir and Swadesh, 1939; Codere, 1950; Mitchell and Donald, 1988. The fact that post-contact Northwest Coast economies encompass a complex mix of organisational features is documented by Donald (1984) and Mitchell 1984 (see also Isaac, 1988). The literature on the Trobriand Islands is substantial. The specific reference here is to Bronislaw Malinowski, *Argonauts of the Western Pacific* (1922) and *Coral Gardens and Their Magic* (1935); see also Uberoi (1962). For material on the Dani see Karl Heider (1979). Barbara Myerhoff's book, *Number Our Days* (1978), is the reference for the elderly Californian. On the Mudurucu see Murphy and Murphy (1974). The description of the Mexican grandmother's multiple roles is in Friedlander (1976).
2. Patch exploitation refers to optimal foraging models of hunter-gatherer economies. I deal more extensively with elements of optimal foraging models in Chapter 4. Discussions of classical political economy (Adam Smith and others) and of marginal utility economics (Alfred Marshall and others), I leave to the historians of economic thought. I elaborate the meaning of the concept of institution in the discussion of the institutional paradigm in Chapter 3. Cultural systems are treated here in ethnographic, historical and evolutionary contexts, and I am operating on the assumption that the central mission of anthropology is to describe and explain pattern and variation in human cultural systems. If cultural systems were all alike, then the discipline of human biology would suffice to explain the behaviour of *homo sapiens* (see Kaplan and Manners, 1972).
3. The discipline of anthropology has contained C.P. Snow's two cultures: the humanistic and the scientific. The approach I take in this book derives from the scientific tradition. This tradition originated with Marx, Weber and Durkheim and continued with Leslie White, V.G. Childe and Julian Steward. This tradition is anti-relativistic and comparative in emphasis. Cultural relativism began in anthropology as an antidote to ethnocentrism and to the racist notions of nineteenth-century evolutionism and Social Darwinism. By arguing that individual cultures must be understood as unique and distinct entities, the moral and political purpose was accomplished at the expense, in part, of the scientific one. As Kaplan and Manners point out, however, comparison is explicit or implicit in all anthropological work: 'Even the single

ethnographic monograph involves comparison, since the ethnographer can hardly help comparing the culture he is studying with those of a similar type that he has either read about or experienced. To describe *any* society one must use categories, terms and concepts which transcend the individual case' (1972:7).

4. The comparative method has been an important part of anthropological theory since its origins (Durkheim, 1964b; Leach, 1968; Schapera, 1953; Evans-Pritchard, 1963; Y. Cohen, 1968b). For a discussion of structural types and the comparative method, see Kaplan and Manners (1972:8–11). For discussions of large-scale comparisons, see Barry and Schlegel (1980), and Levinson and Malone, (1980). With specific reference to economics, see Murdock and Morrow, (1980).
5. By the term 'evolutionary' here, I do not mean to take on any of the meanings or the controversies that were part of the development of the social sciences in the late nineteenth and early twentieth centuries (see Kaplan and Manners, 1972:38–43). Rather, I mean to use evolutionism in the more contemporary sense (Steward, 1955; Service, 1962; Sahlins, 1968; Fried, 1967).
6. This interpretation of Polanyi is based on the analysis of his masked Marxism. Chapter 3 elaborates the point at length. I should mention that this interpretation is new and has not been well understood by economic anthropologists, many of whom have rejected Polanyi's work because of its dual-economy model (Prattis, 1987).

2. Paradigms for Studying Economies across Cultures

1. In the last five years, the subfield of Economic Anthropology has become focused and institutionalised. The recently founded Society for Economic Anthropology (SEA) with annual proceedings (Ortiz, 1983), and *Research in Economic Anthropology* (REA), first edited by George Dalton and now by Barry L. Isaac, have provided both topically and geographically organised volumes. Isaac has made a special point about incorporating archaeological research into economic anthropology (1984: 3–4, 1986, 1988).
2. There is a large literature here, much of which is organised in the LeClair and Schneider reader (1968). See also Tax, 1953; Firth, 1967; Burling, 1962; LeClair, 1962; Firth and Yamey, 1964; Epstein, 1968; Salisbury, 1962; Pospisil, 1963a, 1963b; Nash, 1966; Hill, 1963; Schneider, 1974.
3. I should note here that some of the earliest Marxist writings are very close to Polanyi's substantivist position (Godelier, 1966, 1978a and b; Meillassoux, 1972) and cite Polanyi's work quite liberally.
4. I discuss some elements of Anglo-Marxist economic anthropology in this piece, including the problem of articulating modes of production (Halperin, 1982).
5. Thomas Kuhn (1962) could have had a field-day with the subfield of economic anthropology. The paradigms are very much in the process of forming.

6. It should be noted, however, that while the theoretical foundations of people operating within the formalist school were somewhat shaky, many ethnographers did manage to collect significant amounts of data, particularly quantitative data. For example, Sol Tax's book, *Penny Capitalism*, contains a fair amount of data on land tenure and labour organisation, as well as the kinds of goods that circulated within Panajachel, including those between Panajachel and the larger regional economy.
7. It should be noted that Polanyi's categories of reciprocity, redistribution and market exchange have been used taxonomically (Codere, 1968), but this created problems such as identifying economies which had the right kinds of reciprocity. The various kinds of reciprocity and the fact that reciprocity as Polanyi defined it formally can be found in almost any economy or at least in many prevented this taxonomy from being of cross-cultural use.

3. The Institutional Paradigm in Economic Anthropology

1. An earlier version of the paper appeared in Halperin (1984). Georges Duby's book on Medieval Economy in France is one of the best case studies of a rural economy. *Rural Economy and Country Life in the Medieval West* ranks very high as an example of an historical ethnography that uses the institutional paradigm.
2. Anthony Giddens' definition of institution is not too different from this, although he attempts to incorporate awareness on the part of individuals in it (1979).
3. The dialectic in Polanyi is more problematic. Discussion of it requires an understanding of Lukács. Polanyi was engaged in a constant defining and redefining of concepts.
4. In my article on redistribution in Chan Kom (1977b) I demonstrated that Polanyi's concept of redistribution is useful in understanding the allocation of land and labour in a Maya village.
5. It is interesting to note that *Trade and Market* is read and cited almost exclusively by anthropologists and a few historians. *The Great Transformation* has a much wider readership. See Stanfield (1980).

4. The Formal Paradigm

1. An earlier version of this paper appeared in Halperin (1985a). Maurice Godelier's landmark book, *Rationalité et irrationalité en économie* (1966) draws very heavily on Weber's concepts (Halperin, 1983).
2. The best compilation of key articles on the formalist-substantivist debate is the volume edited by LeClair and Schneider (1968).
3. See, for example, Nash, 1966; Pospisil, 1963a, 1963b; Tax, 1953; Burling, 1962; Cook, 1966; Schneider, 1974; Epstein, 1968. Cyril Belshaw (1965) used terms such as capitalist and entrepreneur universally and thus generalised these economic roles across cultures.
4. Formal analytical models and paradigms in linguistics and social organisation have existed for some time (Hammel, 1965; Goodenough, 1956; Lounsbury, 1964; Burling, 1964; Hammer, 1966; Banton, 1965;

Chomsky, 1963). Social theory has also dealt in formal analysis. The importance of Lévi-Strauss (1963) and his concerns for formal models has been discussed extensively by Hugo Nutini (1965, 1968); see also the essays by Hughes (1970), Scholte (1966), Sontag (1970).

5. There may be other types and it would not be difficult to subdivide further into subtypes the two kinds of formal models described below.
6. There is also the assumption of what Durkheim (1964a) called mechanical solidarity in formal atomistic models, that is, that all units are identical to all other units and the whole is equal to the sum of its parts. Therefore, the system consists of the parts in the aggregate.
7. Durkheim's concept of organic solidarity is pertinent here. In this model the parts are differentiated and interdependent. For a recent and rather extensive discussion of the assumptions and scientific limitations and potentials of different kinds of analytic units, see Lewontin *et al.* (1984). In this book, the organic vs. mechanical dichotomy is recast in terms of contemporary debate.
8. It should be noted that even Adam Smith's brand of randomness assumed an order, naturally created by the invisible hand of the market system. This was an assumed institutional order, which seems to have been forgotten entirely by the formalist school of economic anthropology. In short, Adam Smith probably designed the first formal processual model, but with elements of formal atomistic models.
9. See Drennan (1984), Hodder (1974), Hodder and Lane (1980), Fry (1980), and Rands and Bishop (1980).
10. Historical factors are critical elements in formal processual models. Unfortunately, Cancian pays no attention to such factors, and his interpretation of the civil–religious hierarchy has been called into question (Rus and Wasserstrom, 1980).
11. Marshall Sahlins (1965) has elaborated the formal aspects of reciprocity in his concepts of negative, balanced and generalised reciprocity. A careful reading of Polanyi reveals that his presentation of the concepts of reciprocity, redistribution, and market exchange is really quite formal, complete with model-like diagrams: for example, reciprocity as symmetry, redistribution as collection into a centre and then allocation from it, market exchange as random movements. It is interesting to note that Helen Codere (1968) also elaborated Polanyi's three modes of economic integration by referring to 'model types' (1968:239) based on the three modes:

> There are three such model types. For example, a social economy is one in which the social organization integrates economic life; here reciprocity is the prevailing mode of exchange. In a political economy, the political organization integrates economic life; redistributive exchange prevails. In a market integrated economy, market exchange prevails. It follows that there will be mixed types of economy ranging through those in which two of the three possible structures of the society seem to be of about equal importance, but predominate over the third, to one in which all three have roughly equivalent importance.

5. Production and the Organisation of Labour among Hunter-Gatherers

1. I would like to thank my students at the University of Cincinnati for listening patiently to the working out of many of these ideas in my class, 'Women in Cross-Cultural Perspective'.
2. Gearing's concept of 'structural pose' is suggestive in so far as it is a useful heuristic device for conceptualising the ways in which members of society arrange themselves for the accomplishment of tasks at particular points in the calendar year. Gearing defines a structural pose as 'the way a simple human society sees itself to be appropriately organized at a moment', thus giving a cognitive and emic aspect to the concept (1962:29). It would be possible to change the concept to perform an etic, comparative function, in this case to describe units of production at different seasons.
3. An exception is J. Brown (1970), who explains the division of labour by sex in terms of the compatibility of female subsistence activities with their childcare responsibilities: 'in tribal and peasant societies that do not have schools and child-care centers, only certain economic pursuits can accomodate women's simultaneous child-care responsibilities. Repetitive, interruptible, non-dangerous tasks that do not require extensive excursions are more appropriate for women when the exigencies of child care are taken into account' (1970:1077). This is not only highly ethnocentric and an extension, in a sense, of many classic biological arguments; it fails, at least for hunter-gatherers, to take ecological and institutional features into account, among these, the fact that males as well as females of different ages contribute to child care, and that labour for child care as well as for subsistence activities is flexible, changing with the exigencies of seasonal cycles.
4. A partial exception is Martin's (1974) analysis of the case of Okanagan of the upper Columbia River region, a group of 'seasonal foragers'. Martin does not analyse the implications of seasonal variation for the division of labour by sex, however.
5. Lee reports that because of the porosity of the sandy soils, the high rates of evaporation, and the infrequency of exposures of water-bearing rock, standing water points are few and far between (1972a:133).
6. It would seem a safe conjecture that, given human camps surrounding wells and given undomesticated animals, the hunting-gathering adaptation would preclude animals and humans sharing the same water resources in the dry season. Humans would scare the animals away. Thus, since the permanent wells are spaced considerable distances from one another (Lee, 1972a:133), the animals would have to use those wells not used by humans, i.e. those far from population centres. This would make the hunting of game even more difficult and risky.
7. It should be noted also that Draper reports the following: 'Women are the chief gatherers, and they prepare to make gathering trips about every other day. The trips last anywhere from four to ten hours depending on the location of the food and the length of time the group

has been collecting from the same base camp. Men also gather, but not routinely. They collect mongongo nuts; and when the group is dry camped (as at Ticha in April 1969) or camped about 4.8 km from the waterhole (as at /To//gana in August, September, and October, 1969), men and women may spend an hour or two per day collecting water root to supplement the standing water which has to be carried from the well to the village' (1976:210).

8. 'The activity diary of the Dobe camp in July 1964 showed that of the eleven men of hunting age in residence, four did no hunting at all while the other seven worked an average of three or four days per week. In 78 man-days of hunting, 18 kills were made yielding about 450 pounds of edible meat. Their efforts produced a daily share of about half a pound of meat for each man, woman and child in the camp' (Lee, 1972b:348).
9. It is noteworthy that Woodburn tells us for the Hadza, who operate in a similar arid/desert environment, that vegetable food is always abundant, even at the peak of dry season in a year of drought (1968:50–51).
10. From the literature it appears that most of the Shoshoni groups (with the exception of those who adopted the horse and moved on to the plains) were relatively homogeneous with respect to general ecological niche and, thus, regarding the division of labour for material livelihood. I have, therefore, used Steward's material on different Shoshoni groups as an integrated body of data. For a different and more current view of the Shoshoni, see Thomas (1981, 1983, 1986).
11. 'When the crickets are dried the squaws grind them, feathers and all, on the same mill they grind the pine nuts or grass seed, making a fine flour that will keep a long time, if kept dry' (Egan, 1977:49). Rodents are skinned, gutted and then dried by the women, a process which takes a number of days (Egan, 1977:54).
12. Jenness (1923, cited in Brown, 1970:1076) reports women seal hunters among the Copper Eskimo.
13. Most of the literature dealing with the relative contributions of females and males to production processes is categorised in terms of women's roles or women's contributions to the economy. This is a growing and important literature and it is a remaining task to integrate these writings into the subfield of economic anthropology (see Barry and Schlegel, 1982; Boserup, 1970; Beaman, 1983; Hay and Stichter, 1984; Henn, 1984; Wienpahl, 1984; Kurz, 1987; Peletz, 1987; Stoler, 1977; Strange, 1981; Lamphere, 1987; Bledsoe, 1980; Stone, 1988). The book edited by Nash and Fernandez-Kelly (1983) is somewhat of an exception in that it deals with the division of labour (see also Loardes Beneriás book, 1982). Another exception can be found in the work of what I refer to as 'the Utah people' (Hill *et al.*, 1985; Hill *et al.*, 1984; Hawkes and O'Connell, 1981; Hurtado *et al.*, 1985; Speth and Spielmann, 1983).

7. Age and the Institutional Paradigm

1. I would like to thank Ken Kensinger, David Kertzer, Jennie Keith and Christine Fry for their comments and suggestions. For research

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2. For a discussion of the domestic–public dichotomy, see Rosaldo (1974); Sanday (1974); A. Strathern (1969, 1971); M. Strathern (1972).
3. There is now a substantial literature on the economics of aging by economists. While the analyses are very interesting, they do not consider a great many variables; instead, they focus upon conventional economic categories such as labour supply, savings, investment, income distribution, etc. This literature also is restricted almost exclusively to industrial societies on the macro-level, with brief mention of the underdeveloped world (Olson *et al.*, 1981; Clark and Spengler, 1980).

8. Towards a Comparative Science of the Economy

1. The so-called dual-economy models probably paid the most attention to units of analysis (Boeke, 1953; Aguirre, 1967). A recent statement here is Roy Rappaport's section on units of analysis in his epilogue to the 1984 edition of *Pigs for the Ancestors*. See also Rosman and Rubel, 1978b (I. Hughes, 1973, Sprecht, 1978, Stanner, 1933).
2. The work of Giddens and Bourdieu is important and complex. I cannot begin to do justice to it here. Bourdieu's 1972 work relies heavily on folk categories to provide what are some extremely detailed and sensitive 'thick descriptions' of economic and social processes in an Algerian peasant economy. Gidden's theory of structuration is a noble attempt to integrate and relate institutional and individual levels of analysis, but contains problems involving folk definitions and linguistic models. See Ortner (1984) and Perry Anderson (1983).
3. For a good discussion of some ideological issues as they relate to elements of economic organisation, see Kopytoff (1986) and Gudeman (1986).

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