

THE ORIGINS OF SETTLEMENT, AGRICULTURE AND THE CITY-STATE  
IN MESOPOTAMIA

by

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DECLARATION

I declare that the following thesis is the result of my own research work and was composed entirely by myself.

ABSTRACT

In plotting the trajectory from Palaeolithic (Old Stone Age) through Neolithic (New Stone Age) to the advent of the city-state in Mesopotamia, this work considers the conditions for the supplanting of a foraging way of life by that of settled agriculture. Archaeological work in the Near East, along with ecological and topographic data are evaluated in the light of the models and materials of social anthropology. By utilising administrative and literary texts of the early historic period light is thrown on such diverse and fundamental activities as cultivation practices, land allocation and political relationships. Its continuity, plus modification, from prehistoric patterns is described for this seminal 'Early Dynastic' Period and followed right through until the effective collapse of the traditional pattern in the middle of the second millenium BC.

There is shown to be no single centre or 'hearth' where either agriculture or 'civilisation' was developed and from where it spread. Stressed rather is the diversity of the whole region, extending from the Caucasus to the Persian Gulf, and whose central axis is the Zagrosian Arc of mountains, different areal responses to the onset of Holocene neothermal conditions with the ending of the last Ice Age being outlined as a point of departure. Different developmental impulses as between, for example, the Levant and the Zagros, responding to consequent faunal and floral changes, are examined with their implications for human exploitation patterns. The particular importance of the spread of wild cereals along with the open oak-pistachio woodland along the Zagros flanks is stressed, as is the tendency to sedentarisation involved in the heavy exploitation of wild cereals.

Population pressure is rejected as the prime-mover in those events. Indeed monocausal prime-movers of various types are

considered and rejected in turn, and what remains is the complexity of differential adaptations to a changing but essentially ameliorating environment that offered positive inducements to changed exploitation patterns. Once initiated the course of change was self-amplifying and self-reinforcing in its diverse complexity. The bifurcation, advance and merging of disparate regional developments are clearly seen in the processes by which the domestication of the cereals and of sheep and goats cattle and pig was achieved. Such diverse cultural traditions make their final synthesis in the Ubaidian of the 6th to 4th millenia BC, forming a cultural province extending from the Gulf to the Mediterranean, the substratum upon which the Sumerian 'heartland of cities' was raised up.

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## CHAPTER I

### INTRODUCTION

Since Thomsen (1836) and Lubbock (1865), systematic classification for the reconstruction of prehistoric societies by excavation has been through the 'Ages System', based upon the characteristic materials of tool inventories. Old and New Stone Ages (the Palaeolithic and Neolithic), those of Copper (Chalcolithic) Bronze and Iron (with Mesolithic subsequently interposed between Old and New Stone Ages), while still retaining a modicum of diagnostic value, have progressively diminished in explanatory and analytical power (Kirkbride 1957:226; Piggott 1965:24-26; Daniel 1968:90-93; Finley 1970:3-4; Bray & Trump 1972:232).

With the expansion of archaeology and anthropology both geographically and in depth over recent decades, processes formerly aggregated can now be distinguished thanks to the finer grain of the resolution thus made available, greatly assisted by radiocarbon dating for absolute chronologies (Renfrew 1973a:280-294). It is no longer possible, for example, to see the Neolithic as a 'revolution' or 'explosion', the immediate consequence of technological breakthrough such as the invention of pottery or complex implements like the plough. Neither in the light of the work first promoted by Braidwood and his colleagues (e.g. Braidwood & Howe 1960, 1962), can change in prehistoric societies be simply seen as the consequence of environmental compulsion (such as dessication), nor even as resulting from the 'discovery' or diffusion of farming and animal domestication (cf. Sherratt 1981: 261-305). Consequently terms such as Mesolithic and Neolithic are now more in the nature of algebraic symbols for a set of complex and not necessarily synchronous processes than they are specifications of real content.

In Man Makes Himself (1936) Vere Gordon Childe replaced a Three Age System of Neolithic, Bronze and Iron Ages that he had previously employed with his own concept of 'Two Revolutions' -

Neolithic and Urban (McNairn 1980:91-99). For Childe, the term Neolithic represented the advent of pottery, textiles, woodworking and village life on the basis of regular food production (in contrast to food procurement) by agriculture and pastoralism (Childe op. cit. 1965 ed., p.88). In turn he saw the Urban Revolution not simply as a further nucleation of population, but as a wholly new form of civic existence ('civilisation') based upon intensified agriculture and with a further development of the crafts stimulated by an emergent stratification into rulers and ruled. With its monumental buildings, didactic art, organised religion, trade, writing and the appearance of natural science, Childe identified the Urban Revolution with the advent of the state (McNairn, op. cit., p.99).

Childe's synthesis effected a conceptual revolution in archaeology on the basis of then extant materials (McNairn, op. cit., p.1) and his longstanding concern for a holistic approach in archaeology was given further impetus through the work of Grahame Clark. Clark (1952) stressed the 'economic approach' to prehistory as a set of organising principles for the processual analysis of the whole 'mode of life' of the people being investigated, ranging from their articulation with the environment to their cosmological reflections upon it. Shortly after, in concluding a review of technique in archaeology, Wheeler (1956:245) specified the "problem of numbers" as the "one problem more than (any) other which demands investigation during the next thirty years". This demographic emphasis, he maintained, was required to fundamentally illuminate the whole 'social unit' as a changing system.

Concerns with economy, environment and demography were thus very much in the air when, late in the 1960's, the New Archaeology was articulated by Lewis Binford in the United States and by David Clarke in the United Kingdom. It was indeed in the same year, 1968, that Clarke's programmatic Analytical Archaeology appeared, while Lewis and Sally Binford edited and contributed to a collection appropriately entitled New Perspectives in Archaeology. This latter was perhaps the decisive launching pad for what has come to be called either Palaeoanthropology or

'Ethnoarchaeology', an approach that seeks to get beyond the use of anthropology as a mere source of analogy in an archaeology that meanwhile goes about its traditional business of excavation and classification (Stiles 1977:87-103). Instead, ethnoarchaeology's aim is to apply anthropology as an organic part of the practice of archaeology by having ethnography inform the very models that will structure the activity of the reconstruction of societies by means of excavation. This is intended to supplant an activity too often merely descriptive and classificatory, and also implicitly artefactualist, because tools, pots and buildings are what is actually recovered (cf. Foley 1981:157-180).<sup>1</sup>

The consequence of new efforts to compare societies rather than artefacts, has been progressively to disembed chronology from technology and succession from development. Instead classificatory frameworks are being explored which relate directly to social typology, predicated in the first instance upon the mode of livelihood or the method of interaction with the environment (cf. Binford ed., 1977: For Theory Building in Archaeology).

During most of this century, anthropology has tended to eschew developmental classification (such as the evolutionism of its pioneers like Tylor and Morgan) and indeed in the United States cultural anthropology became positively anti-evolutionary after Boas (White 1960:v; Sahlins and Service 1960:1). As late as 1949 (p.187) Murdock could write that he had "weighed a number of such [evolutionary] suggestions against the data from his [sic] sample societies, but he has found none which accords with the ethnographic facts". He says that those suggestions made by Lesser and White in various articles, and then by Steward, Service and Sahlins, were outrageous enough to propose that "hunting and

1. And that not even thoroughly, reflected, for example, in the cursory treatment usually accorded food processing equipment like grindstones (Kraybill 1977:485-7). But more fundamentally perhaps, the separation of archaeology from anthropology as separate disciplines is itself unnecessary fragmentation, what is needed being not so much a new bridging or sub-discipline as their reintegration under new premisses.

gathering are earlier than herding and agriculture, that a stone age has everywhere preceded the use of metals, and that community organisation antedates the development of any kind of complex political state" (Murdock op. cit.). An indispensable and indeed commonplace conceptual grid since formulated by John Millar of Glasgow in 1771, it would indeed seem to be much manifested in the archaeological record though perhaps less obviously in synchronic ethnological data. Yet in rigorous statistical tests employing just such data, Raoul Naroll (1956:687-715), Gouldner and Petersen (1962:1-94) and M.J. Harner (1970:67-86), the last mentioned employing the total universe of the 1170 societies with codified data in Murdock's own Ethnographic Atlas, convincingly demonstrated that there was indeed such a fundamental set of evolutionary relationships. Carneiro (1967:234-243), employing 205 organisation traits in a total of 100 societies, showed the relationship between population size and the complexity of social organisation to be logarithmic, the number of organisational traits being proportional to the root (or power) of the population size.

With fieldwork by participant observation advancing in breadth and depth during the 1930s and 1940s, Social Anthropology (and with it Cultural Anthropology) at least implicitly delineated "patterns which are common to all societies of the same general type and patterns which are universal" (Evans-Pritchard 1951:124). And this despite an attitude of indifference to evolutionary typologies and theory going back to Malinowski (Kuper 1973:21). Consequently, in their famous Introduction to African Political Systems (1940:6) Meyer Fortes and Evans-Pritchard could discern three distinct types of political system:

Firstly, there are those very small societies ... in which even the largest political unit embraces a group of people all of whom are united to one another by ties of kinship so that political relations are coterminous with kinship relations and the political structure and kinship organisation are completely fused. Secondly, there are societies in which a lineage structure is the framework of the political system, there being a precise

coordination between the two, so that they are consistent with each other, though each remains distinct and autonomous in its own sphere. Thirdly there are societies in which an administrative organisation is the framework of the political structure.

At the same time Fortes and Evans-Pritchard made two crucial observations which will assume importance as this work proceeds: they regard it as "noteworthy that the political unit in the societies with a state organisation is numerically larger than in those without a state organisation" (ibid., p.7) with the former also more diverse culturally and economically (ibid., p.9); while a clear distinction is made "between the set of relationships linking the individual to other persons and to particular social units through the transient bilateral family, which we call the kinship system, and the segmentary system of permanent, unilateral<sup>2</sup> descent groups, which we call the lineage system" (ibid., p.6). It being only the latter which establishes corporate units with political functions.

For Colin Renfrew (1977b:99), like an increasing number of archaeologists, "The hierarchy of band, tribe, chiefdom and state has recommended itself to many workers concerned to make generalisations of some kind about culture change, or to fit specific societies under study into some more general perspective. The notion of chiefdom in particular has helped to fill the gap in the workings of earlier anthropologists between the tribe and the state". This is perfectly clear in his own work, especially the widely read Before Civilisation (1973a), and in, for instance, Patterns of the Past: Studies in Honour of D.L. Clarke (1981).

"The state is never the kinship system writ large, but is organised on totally different principles", state Fortes and Evans-Pritchard (op. cit., p.6). A chiefdom, however, is precisely kinship politics taken as far as it will go, and it is as well to

2. Descent traced through only one parent; i.e. either the male or the female line, i.e. unilineal (CKM).

make clear the distinction between the two. The position of the chief is due to his location in the kinship network and ultimately he is subordinate to it and its values, for he has no major source of power that he can mobilise **outwith** kinship relations. When he can so operate, what we see is the formation of a true state in which the king (as he has become) is freely able to dispose of major social resources untrammelled by kinship relations and guided only by 'reasons of state'. In the process the lineage ceases to be the fundamental corporative unit of society to be supplanted by membership of/exclusion from some specifically territorial group such as the village or *oikos*.<sup>3</sup> No longer are the lineage units of society corporative in the sense of self-regulating and effectively autonomous; with the advent of the state a centrally controlled administration takes shape to 'run' society.

The formation of a class of rulers assisted by a class of administrators is simultaneously the process of the transformation of cultivators into peasants, more or less dependent:

Beyond a certain level of political role differentiation, and assuming its implications for the role structure of the society as a whole it is inevitable that authority should progressively be withdrawn from the family, that is, the political aspect of kinship roles is transferred to newly differentiated political roles. (Southall 1965: 124).

In this way the peasant comes to inhabit a 'part society' through the 'specialisation' of ideological, military and economic roles which are removed to a distance both geographical and social. Consequently the peasant is always remote from the levers of power, which means that he is the object of politics, and, unless in

3. M.I. Finley (1977:53) provides the following elucidation: "The *oikos* was not merely the family, it was all the people of the household together with its land and its goods; hence 'economics' (from the Latinized form *oecus*), the art of managing an *oikos*, meant running an estate, not managing to keep peace in the family"; an ideally autarkic production and consumption unit which incorporates differing categories of dependence.

rebellion, never an actor. Shanin (1971:15) calls this 'the underdog position' bringing with it the domination of the peasantry as a whole by non-peasants, by outsiders belonging to other strata. Tribesmen by contrast, who have 'all purpose' or multifunctional social relations shared by all (particularly kinship relations) functioning simultaneously as relations of production, inhabit whole and thus unstratified societies. Bailey's (1961:15) contrast of Tribe and Caste in India is instructive: "Membership of the clan is, under the system, a condition of holding and exploiting land in the clan territory. A right to land is not achieved by subordination to anyone else, but by equality as a kinsman".

Southall (loc. cit.) goes on to make the useful distinction between pyramidal and hierarchical states. Pyramidal states are segmentary (though segmental is the more inclusive term), in that they consist of the complementary opposition of similar entities (segments) (ibid., p.127); while in hierarchical states authority devolves from the centre down and in that sense are unitary (ibid., p.126). Since the term pyramidal applies to "articulated structures in which the exercise of central authority depends upon consensual delegation to it by the component units in each case", (idem.) it is clear that the pyramidal states are in fact chiefdoms and only hierarchical states are true states. Indeed Southall does maintain that "in a segmentary states the roles at the peak of the pyramid are repeated or at least adumbrated in its subordinate components. The development of unique political roles at the peak of the pyramid (by contrast) turns it into a hierarchy and the segmentary into a unitary state" (ibid., p.128).

In segmentary states, then, the subordinate components of political leadership, such as lineage or village heads, owe their position not to appointment by a superior authority, standing, as it were, over society; but on the contrary owe their position to its embeddedness within a social structural unit like a lineage.



It is clear that those constitutive units, to be truly structural must be corporative in the especial sense of economically fundamental unit, for without control of its own means of production it could have no political autonomy.

The necessity for such autonomy (*autarkeia*) was central to Aristotle's argumentation in his Politics (Books III and VI), where he defines the irreducible unit of the *polis* (city-state) as consisting in *oikiai*, which are corporative economic entities of production and consumption composed of the *oikoidespotes* (master), his spouse, dependent children, their spouses, cadet members of a lineage, slaves and semi-slaves and their mates (Weissleder 1978: 192).

"Aristotle writes of the *oikia* as the minimal building block of the *polis*. Every *polis* is composed of vertical - i.e. segmentary divisions, of which *oikiai* are the smallest discrete units with operational significance. Yet the *polis* is anything but merely an enlarged *oikia* " (ibid., p.197). The *polis* indeed is an autonomous self-sufficient entity governed by its own citizens who are heads of households. For the *polis* to be self-sufficient there must be as its basis components (households), themselves self-sufficient, self-governing (by the *oikoidespotes*) and complementary in their diversity (ibid., p.200). Internally they manifest a division of labour and between them they cover all the tasks/roles necessary to the *autarkeia* of the *polis*.

Aristotle consequently did not see the city-state of his time as a 'great household', an *oikos* writ large, but as a distinct political unit emergent from the diversity of households and undertakings and in which stratification marked, or rather was the basis of, the division of labour (Finley 1983b:4-5).

With the city-state of Greece we have arrived at a form of political economy very similar to that which obtained longer and earlier in Mesopotamia and which was, indeed, the first form of the

state to exist anywhere. As such it is worth providing a brief definition of what Finley (1983b:20) has called the "basic module" of the Graeco-Roman world, even after they had lost their sovereignty to a territorial state:

A Greek **polis** (city-state) was a unit of people who (a) occupied a territory containing as its central rallying-point a town which held the seat of government and was itself usually clustered around a walled citadel (**acropolis**) which had originally contained the whole settlement; and (b) had autonomy in that their government was provided by and from their own ranks, not from outside. In some states that government might be in the form of hereditary kingship, but not in the early pattern of a theocratic monarch, supreme in his functions, whose decisions could annul the advice of his Council of Elders" (Jeffery 1976:39).

As (c) it should be made clear that by city state is not merely meant the city as a politically autonomous urban unit, but an (approximately) autarkic economic entity which meant the interlocking of the urban centre with its agricultural hinterland (**chōra**) without which none (but central trading ports) could have survived. If we substitute a walled temple-zone for the **acropolis**,<sup>\*</sup> such a description applies almost exactly to the Sumerian city-state. And since the city-state is at once both the earliest and longest-lived form of the state (lasting, minimally, from the 4th to the 2nd millenium) and, with Pre-Roman Greece the most productive (of, for instance, writing in the Sumerian case and demotic script in the Greek), it is indeed surprising that so

4. But see Thycidides (II:15). Before the formation of the Attic city-state he writes, the city of Athens "consisted of the present citadel [ the acropolis ] and the district beneath it to the south. This is shown by the fact that the temples of the other deities, as well as Athene, are in the citadel and even those that are outside it are mostly situated in this quarter of the city, as that of the Olympian Zeus, of the Pythian Apollo, of Earth and of Dionysus in the marshes. There was also ancient temples in this quarter."

little attention has been paid to the crystallisation of this pivotal institution (Finley 1983b:20-23). Thus the city-state was not just a form of settlement or government, but a specific form of society (Laslett 1956:163-164). Characterising as it does the totality of social organisation from political economy to ideology, the city-state type can, as will be shown in later chapters, be directly contrasted with other state modes not thus constituted, as well as with acephalous societies.

The value of concentrating on the Sumerian experience is that its processes are primary,<sup>5</sup> untrammelled by more highly organised contemporaries or forerunners, while Greek city-states are at best secondary (to, at least, Mycenaean forms discussed below). However, since the division of labour with technological advance and demographic increase are conventionally held to be themselves causative of social evolution at the most fundamental levels, it is first necessary to 'clear the way' by disposing of such explanations. This constitutes Chapter II.

Chapter III examines the ecology of the Zagrosian Arc stretching from Turkey to the Gulf, showing that its unique configuration determined the time and place for the development of settled agriculture through to the first urban societies.

Chapter IV instances the formation of villages with the

5. Fried (1967:111) in discussing the 'evolution of political society' has shown the utility of distinguishing 'pristine' or primary from secondary social processes, especially in the field of state formation: "A pristine situation is one in which development occurs exclusively on the basis of indigenous factors. In such a situation there is no external model of more complex design to help shape the new society. Neither is there the presence of a more complexly organised society to stimulate the process of development. Any stimuli that motivate change in the pristine situation are internal to the developing society". Secondary processes are thus those which occur in response to, or under the influence of, pre-existent social institutions elsewhere, which can be either spatially or temporally removed, as for instance in the case of Carolingian state formation inspired by the Roman model.

transition from the broad spectrum economy to one highly dependent on relatively few plant and animal domesticates.

Chapter V considers the current theories and models for state formation and enters a preliminary review of contemporary evidence bearing upon their possible validity.

Chapter VI attempts a theoretical overview, employing models and materials from ethnology, of the course of socio-structural changes involved in the evolution of dense and highly structured societies from those less so.

Chapter VII sets out concepts and a developmental procedure for modelling any society by employing a theory of modes of production.

Chapter VIII then deals with actual evidence from archaeology and texts in an attempt to reconstruct the processes engendering the 'heartland of cities' in Sumer.

Chapter IX concentrates upon the socio-political institutions of urbanism.

Chapter X sees an indispensable part of this urbanization process embodied in ideology and politics and attempts operational specifications of those; then returns to empirical material to illustrate the specific mode of production obtaining in Mesopotamia; and

Chapter XI is the Summary and Conclusion.

This, then, will be an exercise in Ethnoarchaeology, whereby ethnographic models and materials will be used to illuminate the data of archaeology and epigraphy, the better to understand the context in which, and the processes by which, prehistory gave way to history. As the study proceeds it should embody a reworking of the standard dichotomies of Folk/High cultures, Cold/Hot societies,

Mechanical versus Organic solidarity and the **Gemeinschaft/Gesellschaft** condition; aspects which, as simple dichotomies serving for purposes of social classification, are easily subsumed under Morgan's (1877:61) broad evolutionary conception:

... first and most ancient was a social organisation, founded upon gentes, phratries and tribes. The second and latest in time was a political organisation, founded upon territory and upon property. Under the first gentile society was created, in which the government dealt with persons through their relations to a gens and tribe. These relations were purely personal. Under the second a political society was instituted in which government dealt with persons through their relations to territory, e.g. - the township, the county, and the state. These relations were purely territorial. The two plans were fundamentally different. One belongs to ancient society, and the other to modern. (Original emphases).

If things are not quite so simple and uniform as this summary statement suggests, it is at least a good point of departure, not least when Sumerian society is to be the main focus, for it is historically the first 'modern-type' society.

#### A Note on Methodology

Though much and diverse data will be drawn from the fields of archaeology, anthropology, Sumerology, history and sociology, the following thesis is essentially a work of theory.

Theory I take to be a corpus of systematically linked concepts sufficient both to define the field of study and to proceed with its analysis. Concepts are delimited and scrutinised 'thought objects', and as such are usually designated in formal or technical terms, which inform, but cannot be reduced to percepts, that is, to sense data itself. Thus the concept of 'centre of gravity' is defined by, and has meaning in, the corpus of theoretical mechanics,

a part of the field of physics.

When a set of concepts can be rendered operational in the elucidation of processes or the testing of hypotheses by specifying determinate relationships between the concepts employed, then they can be said to constitute a model or analogic system.

The term 'theory' as applied here is thus not the sloppy usage that so often employs 'theory' as a synonym for hypothesis or simply a guess. Neither can it be admitted, then, that all possible theories are equally good in explaining the same data. Contending theories can appear to be a matter of personal preference only in the absence of further discriminating data which contending theories should call forth. Though a cognitive construct, the power of a theory resides not in its elegance nor in the satisfaction its holders derive from it. On the contrary, its power is measured by its ability, firstly to account for extant data with logical consistency, then to predict and be congruent with newly acquired data, but ultimately, to allow real objects to be purposively acted upon, or processes to be intervened in with the desired effect attained; also to anticipate the unfolding of processes into which intervention may not be made directly, such as astronomical or macro-social ones. It is in this latter sense that this work should function as a piece of theory, in the explanation of processes of social constitution and change. In so doing it aims to provide a broader explanatory scheme into which further data can be fitted, while hopefully drawing forth not merely suggestions for further research, but delineating also some fundamental relationships inherent in all social processes.

Such an enterprise cannot be achieved simply by attempting the unification of disparate theories extant in the disciplines already mentioned, for they were formed by different methods in different traditions and with different perspectives and paradigms.

Rather the formation of some new encompassing concepts will

be attempted, which hopefully reorder and reinterpret both existing concepts and existing data in the respective though cognate fields. This first technique can be called New Concept Formation.

The second technique employed will be that long-known to anthropology as the method of controlled comparison. The method involves comparing societies of similar type for sources of, and modulation in, processes that otherwise cannot be rendered discrete. Thus in seeking to differentiate the influences of climate from demography and technology in social structure, one might compare different hunting and gathering societies, and by studying variation between low, mid and high latitude foragers, for example, or between those who were primarily hunters or fishers and those who were primarily dependant upon gathered vegetal resources, one would, by changing only one major feature at a time, hope to distinguish the changes each factor rings in the structure as a whole.

In the clearest example employed below, Micronesian atolls of different sizes are compared. With similar situations, Malayo-Polynesian culture and history, by varying the productive area of the atolls compared, one can see what significant feature(s) of social organisation vary in association with productive area, beyond the obvious one of the size of population that can be supported. The whole point of controlling (that is, holding constant) situation, culture and historical background, is, then, to see what non-obvious functions modulate social structure, relationships otherwise difficult or impossible to isolate.

The third method employed is that of ethnographic analogy, whereby concepts and data from ethnology are used to either order the data of excavation, or, less ambitiously, employing ethnographic parallels to fill the lacunae in the archaeological record by employing what seem to be similar types of society or postulated social constants. Such an exercise was Harlan's (1967:177-201) demonstration of the wild-cereal potential in the proto-Neolithic

Near East by employing mortars, pestles, preparation and cooking techniques drawn from ethnology; also D.L. Clarke's (1976:454-460) important argument from technologies through techniques to social organisation and ecology in the European Mesolithic, employing ethnographic rationales and parallels. Indeed these are but two well-known examples of the explicit and conscious use of ethnography in archaeology and prehistory. The dangers lie in implicit and uncritical employment of ethnographic analogy, for it may provide all too easy answers to difficult problems of recovery and interpretation in archaeology, so closing off the new and perhaps quite unanticipated knowledge, which it is the task of any discipline to provide.

The dangers do not, however, lie where they are commonly held to lurk, with the commonly held assumption that the theoretical constitution of the fields of archaeology and anthropology and their quite distinct investigative techniques renders them mutually exclusive. Archaeology (like history and prehistory) it is maintained, is diachronic, while social anthropology is essentially synchronic.

The reply turns upon the point that the aim of both disciplines is the same, namely the study of how societies are constituted and how they change. Data-base and time-base are of course different. Nonetheless, while it is true that modern ethnographies are obtained by the process of participant observation, of short duration, whose general aim is to observe society functioning in as holistic and synchronous a fashion as possible, this, perhaps paradoxically, is what archaeology also aims to do, that is, to reconstruct a living society. And, like anthropology, it does this from synchronic strata of problematic spatial extent and temporal duration, using "a static pattern of association and covariations among things distributed in space" (Binford 1980:4), in an attempt to reconstruct how society could have been at any particular point in time. To do this archaeology, like anthropology, strives, as Binford (idem) further observes, to derive "an understanding of the



processes which operated to bring such patterning into existence".

The fact that only material artifacts and relationships remain for excavation makes it all the more necessary that anthropology be judiciously used, not to declaim how things 'must have been', but, by setting out the dynamics of extant societies, indicating how parts can interact to form a whole.

## CHAPTER II

### THE PREMISES OF SOCIAL SUCCESSION

#### 1: The Relationship of Demography and Technology to Social Structure

It is a central theme of this work that population growth, technological and social change are, where present, systematically related and that far from there being a single 'prime-mover', one element which drives the whole system, those factors move together in pulses. Further, that a burst of change results in a new social configuration that is stable not only in regard to social organisation, but one which is also relatively static in its demography and technology too. Conversely, where rapid and profound changes are seen to occur in those factors, then we should expect that a new social configuration is coming into being.

A plateau of population density is thus attained which is not destabilised by changes in technology, for the latter is constrained by the overarching mode of social organisation and, like the plough, will only 'expand population' when other social pressures dictate its use. Rather, a social configuration is qualitatively transformed either by failure to adapt internal social arrangements to ecological changes, or by the inherent social contradictions when combined with challenges external to the system. For social reproduction is neither automatic nor certain but problematic.

From the hxaro exchanges of !Kung foragers, through the woman exchanges of the Kachin and the matrilateral cycling of foodstuffs in the Trobriands to the grain allocations made by one Bazi, a Sumerian temple administrator (all discussed below), the continued functioning of society's relations of production and their

re-creation over time, are manifestly conditional upon the political field remaining intact, where politics is defined as the zone of interaction of economic, ideological and coercive resources. (This use of the term politics to conceptualise a social field is developed at several points later in the work).

Such relationships are, of course, conditional. The interplay is, for instance, under jeopardy of sectors of the population at some stage declining to play the game, such as the Merina exchange of wealth for blessings (below); or are no longer in a position to play the game as hitherto because of changed circumstances (causing, for example, the caricature that the potlach became), or because the ecological basis has been eroded, as exemplified in declining yields on the Mesopotamian alluvium, or in Highland Burma with the degeneration of forest to grassland.

What those examples indicate is that, first, there is not an 'ecology' external to society. Second, that there is not, beyond hunter-gatherer society, a relationship to the ecology shared by all the members of a society. Rather, different social categories have different relationships to the environment, more or less buffered, and/or they relate to different facets of the environment, that is, exploit essentially different environments. The Kachin/Shan, hill/valley, swidden/paddy dichotomy is one clear example discussed below, as is the pastoralist/agriculturalist symbiosis of the Near East. These are essentially differentiated groups exploiting complementary niches. Quite a different situation obtains, however, when a land or herd-owner, experiencing declining yields due to overexploitation of the terrain, simply intensifies the labour inputs of his subordinates to keep output up. Manifestly, such an owner's relationship to the environment is mediated by the labour of others and the political situation by which they are constrained. Thus ecology is not external but is internal to society, to its production and reproduction, and neither society nor ecology are homogeneous entities.

It is, then, to elaborate Polanyi ([1944]1957) not just 'the economy' which is embedded in the very social structure, but technology and demography also; for of what can 'the economy' consist if not in the application of particular technologies by particular social categories on the basis of population size and density? (Gouldner and Peterson 1962:54-66; cf. also Chapter VII on Modes of Production for a model of this interaction).

Population thresholds, like any other, are set by limits. We can represent this (figuratively below, p.20) as the application of two 'laws' or principles, usually called after Liebig and Zipf.

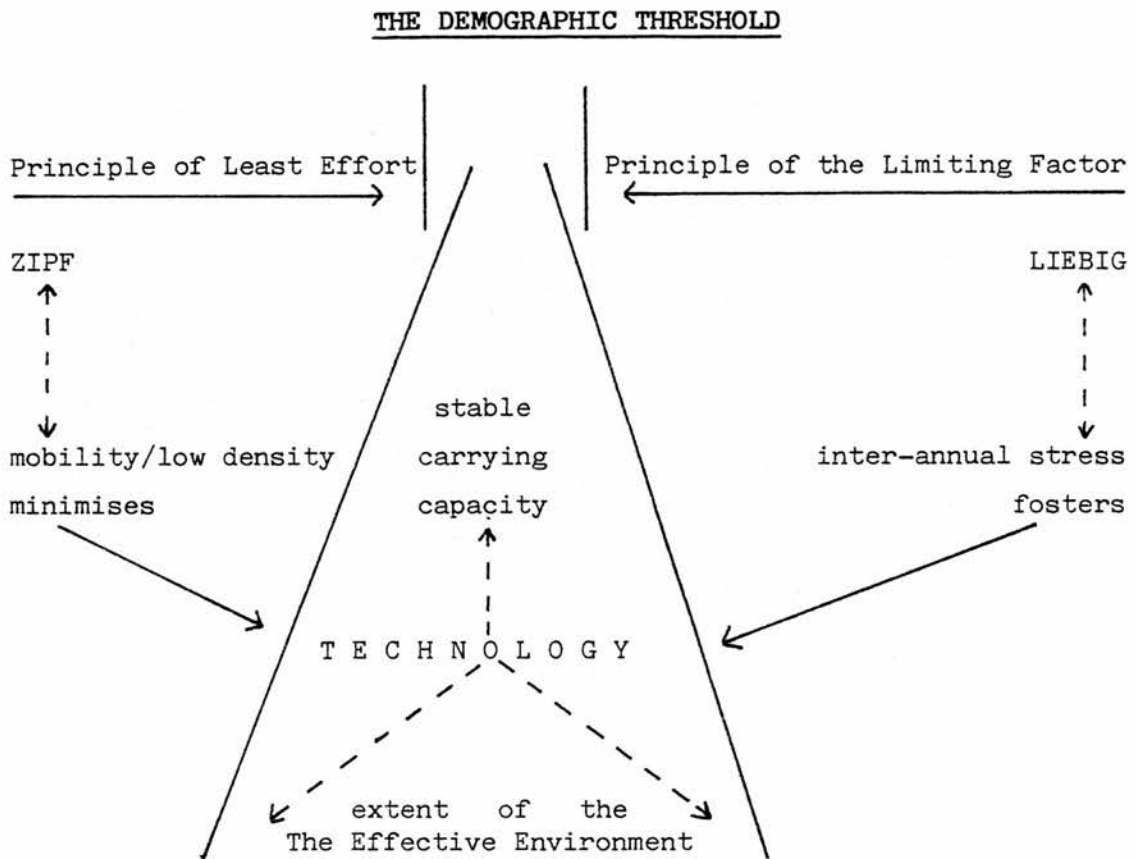
Zipf's (1949) Law is in fact the well-known thermodynamic Principle of Least Effort. As it applies to human activity it simply postulates that people will preferentially seek to engage in those productive activities which result in the largest margin of return (output) per unit of input of labour. Thus if possible the distance travelled to work in the fields will be minimised, foraging sites will be chosen offering a variety of resources locally and resources like big-game or shoals of fish will be exploited in preference, say, to small or dispersed animals whose overall density might nonetheless be the same (Hayden 1981:543-4). Indeed, as will be argued below, a whole mode of life, foraging or swiddening for example, will be preferred to settled agriculture on just such considerations.

Liebig's Law ('of the Minimum') operates to restrain plant or animal growth and reproduction below the level set by the factor of least adequacy (the inhibiting factor) whether that be water, shelter, game or whatever human populations require (cf. Braidwood & Reed 1957:25), or the minerals, precipitation, insolation required by plants and animals (cf. Odum 1975:109-110). This means that populations that are relatively homeostatic (i.e. do not undergo marked oscillations) are constrained at the level set by the availability of some essential factor at the time of its leanest supply or greatest requirement; obvious examples being water in summer, shelter and calories in winter, protein at any

time. It is the removal of whatever the particular bottleneck is that permits population to rise to a new level beneath which it is held either by another limiting factor now in play or by the previous one at its current level.

However, the costs of lifting limits are paid either in increased social complexity, labour or technological elaboration (Narroll 1956:687-713; Harner 1970:67-86). Thus we can envisage the two tendencies, least cost and least factor, counterposing each other and in the process forming a threshold:

FIGURE II:1



The 'effective environment' is of course those aspects of the environment which can be exploited with a given technology, sometimes called the 'techno-environment' (cf. Harris 1971:203ff; Peterson 1979:111ff). Technology is, however, not the single entity usually assumed. What are generally conflated under this unitary head are at least three entities with distinct evolutionary implications:

1. technology in the narrow sense, by which implements and machines are usually meant;
2. facilities, usually fixed, such as storage bins or canals;
3. domesticates, animal and vegetable, i.e. 'processors' under human control.

For the three taken together there is not even an adequate term in English (though the German '**technics**' would cover it), reflecting the inadequate designation of the concept. Hassan's term (1981:261) is 'technoculture', but a more conventional, though contested, compound would be 'productive forces'. They are of course only operational in the matrix of social relations of production, which are invested with the techniques for their use.<sup>1</sup>

Least effort can of course be expressed reciprocally as maximal efficiency, which in the foraging and swiddening case maximises time available for non-subsistence pursuits. Least effort only applies, however, where people are actually in control of their own conditions of production. When, in a stratified society, the majority are constrained to work under conditions set by the minority on their own behalf, then this elite, as it has become, will minimise its own efforts by maximising those of others.

The Limiting Factor can also be, and often is, set not just by seasonality itself, that is, by the amount of a critical resource available in the leanest season of an annual cycle, but in the

1. Those concepts will be developed in later chapters. Summarily stated they determine what is produced and by what means, by and for whom.

poorest year of a multi-year cycle, obviously critical in agriculture where sufficient seed must be available every year. It is then this lower inter-annual level which marks the limiting factor and, in social terms, is translated into a strategy of 'least risk' to be attained either passively by containing population or consumption beneath limits set by 'worst-case' conditions (Hassan's [1981:167] optimum carrying capacity); or by embarking on an active strategy of maintaining disposable reserves to meet the worst case (even if those take the form of items to be used in exchange), or by developing production techniques sufficiently diverse or extensive as to provide some sufficiency even under the most adverse conditions (Colson 1979:20-23).

Very low population densities and the mobility that accompanies the foraging way of life set low demands on the environment, keep options open with regard to fluctuations in diverse resources and offer the greatest security, so making low demands on technological development. It is under severe environmental stress induced by secular resource changes, and in the response to set non-stressful (i.e. optimal) limits to subsistence, that Hayden (1981:520) sees the dynamic of technological change from the Palaeolithic into the Neolithic. The post-Pleistocene tendency to buffer resources by extending the number of those habitually exploited, necessitated, in Hayden's view (op. cit., p.520) "the use of technologically specialised equipment (hence) overall technological complexity increased with staple food diversity". Innovation, therefore, is "viewed as a probabilistic event dependent on episodes of disequilibrium..."; the point being that when things are going well there is little motive for change (Piggott 1965:26). While this argument will be instantiated below, the 'stress makes change' hypothesis needs to be combined with a postulate regarding **conditions of opportunity**, in the absence of which no amount of stress, say upon the Inuit, can make them develop cereal farming - the permissive conditions are just absent. On the other hand particularly favourable conditions, say for intensive fishing on

Northwest (Pacific) coast and Peru, are themselves **inducements** to develop the appropriate technology for the fishery's exploitation.

But this is not the traditional approach to social succession. Founding fathers as disparate as Durkheim ([1933] 1964:336) and Marx and Engels ([1846] 1976:44-45) have attributed the impulse behind the rise of urban society and the state rather straightforwardly to the increased division of labour consequent upon a population growth taken almost as axiomatic, an approach enjoying a current fashion also. Thus for Durkheim, in his well-known discussion of the Division of Labour in Society (op. cit.): "Civilisation is itself the necessary consequence of the changes which are produced in the volume and density of societies". While for Marx (op. cit.) with the increase of population "there develops the division of labour, which was originally nothing but the division of labour in the sexual act [sic], then the division of labour which develops spontaneously or 'naturally' by virtue of natural disposition (e.g., physical strength), needs, accidents, etc."

In this vein, but with a heavy technological stress, one of the foremost archaeological theorists of this century, V. Gordon Childe (1958:78), could state: "the first step towards escape from the rigid limits of neolithic barbarism was the establishment of the metallurgical industry". This not only "broke down the self-sufficiency of the neolithic village", but specialism "overturned the barbarian social order, based on kinship, and evoked a new population of full time specialists. The latter is my excuse for calling it the Urban Revolution".

Only in the last decade has the view been systematically expressed, for example in Hassan (1973), Cowgill (1975), or Bender (1978) that the growth of human population (and with it the technology employed) is not a law of nature but an outcome of prevailing social relations. Taking rising population as given when in fact it is not only contingent but called into question by the

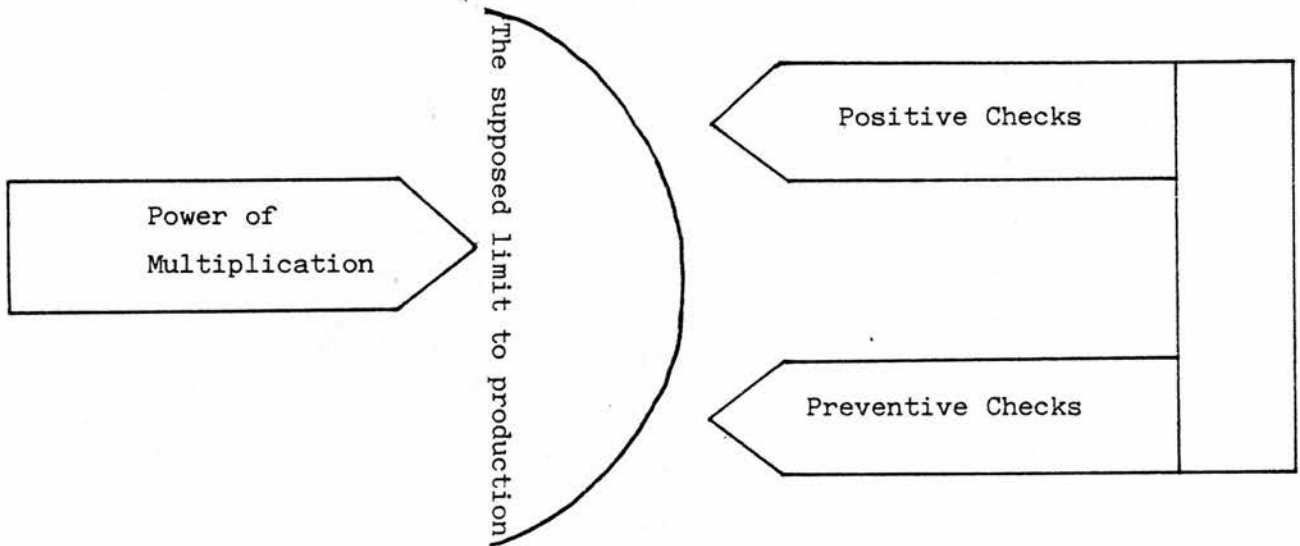


evidence, only begs the questions that have to be explained in the historical and contemporary worlds.

Indeed Marx and Engels ([1867 ] 1918:692-3) recognise this problem (though they do not resolve it) when, in opposition to Malthus they hold that each period, or more exactly each type of social organisation, has its own 'law of population', which is certainly not to be explained by the alleged natural and ineluctable tendency (in Malthus) for a geometrical rate of population increase to meet a limit in a mere arithmetical increase in food production. And they conclude (ibid.): "An abstract Law of Population exists for plants and animals only, and only in so far as man has not interfered with them".

But Malthus did not just rely on the mismatch between two exact ratios (which anyhow only occurs between second and third expressions); his was not really a mathematical or statistical argument but one from nature. Rather his thesis depended upon "that law of our nature which makes food necessary to the life of man, [means that ] the effects of these two unequal powers must be kept equal. This implies a strong and constantly operating check on population from the difficulty of subsistence. This difficulty must fall somewhere; and must be severely felt by a large portion of mankind " (The First Essay, Flew ed. 1970, p.71; my emphasis). Malthus' constantly operating checks are of two types, preventative and positive, evaluated by him as vice and misery: "The sum of all the positive and preventative checks, taken together, forms undoubtedly the immediate cause which represses population" (ibid., p.28); checks necessary if the population is not to exceed what would now be called carrying-capacity. Flew (op. cit., p.27), illustrates this as follows and calls it the 'neutral system' in contrast to Malthus' 'perjorative system':

FIGURE II:2: MALTHUS' NEUTRAL CONTROL SYSTEM



For in Malthus' view:

there is no reason whatever to suppose that anything besides the difficulty of procuring in adequate plenty the necessaries of life should either indispose this greater number of persons to marry early, or disable them from rearing in health the largest families. But this difficulty would of necessity occur, and its effect would be either to discourage early marriages, which would check the rate of increase by preventing the same proportion of births, or to render the children unhealthy from bad and insufficient nourishment, which would check the rate of increase by occasioning a greater proportion of deaths; or, what is most likely to happen, the rate of increase would be checked, partly by diminution of births, and partly by the increase of mortality. (Malthus, op. cit., p.243).

The former are, of course, the preventative checks, the latter the positive, "and the absolute necessity of their operation in the case supposed is as certain as and obvious as that man cannot live without food" (idem).

Positive checks, then, are causes of premature death in an existing population; while preventative checks are those obviating

births, of which Malthus admits only delayed marriage and abstention outside of it. Malthus assumes as constant the 'instincts':

1. to the earliest possible marriage for everyone;
2. breeding within marriage right up to the limit set by procuring subsistence.

Not considered by Malthus as either efficacious or desirable:

- (a) birth control in marriage or out of it;
- (b) abortion or infanticide to couples or single persons;

except in so far as either or both measures fall under the dismissive rubric of 'vices'. As for effective birth control as public or private policy 'from prudential considerations' he could only admit "abstinence from marriage, either for a time or permanently, from prudential considerations, with a strictly moral conduct towards the sex in the interval. And this is the only mode of keeping population on a level with the means of subsistence which is perfectly consistent with virtue and happiness " (op. cit., p.250).

All other checks, he goes right on to say, whether of the preventative or positive kind, "resolve themselves into some form of vice or misery", which of course says nothing about their efficacy. Malthus' moralism could just not admit as population regulators other "checks of the preventive kind", birth control and abortion, except as vices to be avoided as "a general corruption of morals with regard to the sex which has a similar effect; unnatural passions and improper arts to prevent the consequences of irregular connections " (idem). Regular connections within marriage would presumably not admit of such unnatural interference with the laws of God and nature. Which is particularly interesting, for although Malthus was, in the first instance, writing of his contemporary world, the same laws, he maintained also held "In the rudest state of mankind, in which hunting is the principle occupation, and the only mode of acquiring food..." (ibid., p.81). There, amongst "nations of hunters ... their population is thin

from the scarcity of food, ... it would immediately increase if food was in greater plenty, and that, putting vice out of the question among savages, misery is the check that suppresses the superior power of population and keeps its effects equal to the means of subsistence " (ibid., p.82).

Contained in the (First) Essay of 1798, the Malthusian argument "of the superior power of population to the means of subsistence" (ibid., p.83) was (and is) still important enough to cause Sahlins (1974:49) to ask "What are we to make of the popular inclination to invoke demographic pressure on resources in explanation of diverse economic and political developments ranging from the intensification of production to the elaboration of patrilineal structure or the formation of the state". By 'popular tendency' is here obviously meant not just the journalistic but the academic also. Sahlins observes (idem) that very seldom do what he calls 'archaic' economies attain the theoretically possible carrying capacity of their terrain. In regard to the range of resources available and the technology extant for its exploitation, higher population levels can generally be sustained. Is it then not rather the case, he asks, whether the social organisation of production, in particular the allocation of land, that determines demographic levels and constraints, rather than either the natural environment or 'human nature'.

Sahlins (ibid., pp.41-51) cites many examples of societies 'failing' to populate their terrain to its maximal values. One example of the means employed and not given by Sahlins is contained in Lorna Marshall's account (1967:18) of !Kung Bushman bands: "The !Kung limit their population by infanticide. They generally space their children at least two and often four or five years apart. Infant mortality takes another toll and keeps !Kung families small."

And Lee (1982:41-2) further observes how ideology serves this purpose:

For example, the fact that women go to the bush to give birth and insist on excluding men from the child-birth site is justified by them in terms of pollution and taboos; but the underlying explanation may be that it simplifies matters if a decision in favour of infanticide is made. Since the women will commit a considerable amount of her energy to raising each child, she examines the newborn carefully for evidence of defects; if she finds any, the child is not allowed to live and is buried with the afterbirth. By excluding men from the childbed women can report back to the camp that the child was born dead without fear of contradiction.

Lee (cited Ripley 1980:353) states that the !Kung San practise infanticide at the rate of 6 per 100 births. Similar examples could be dug out of many ethnographies. Consider, for instance, Malinowski (1929:49) on the Trobriands. He reports that girls commence intercourse at or even before puberty, but children are virtually never born out of wedlock, that is, until there is a socially assured place for such offspring (1929:166). Quite clear is the Trobrianders' assertion: "'Copulation alone cannot produce a child. Night after night, for years, girls copulate. No child comes!'. In this we see again the same argument from empirical evidence; the majority of girls, in spite of their assiduous cultivation of intercourse, do not bring forth." In substance: "Fecundity in unmarried girls is discreditable; sterility in married women is unfortunate" (Malinowski 1979:108).

Since marriage is socially regulated, it means that population is socially regulated, as Evans-Pritchard (1940:17) found of the Nuer when he stresses that it is cattle, functioning as bridewealth, that beget children. Thus the reproduction rate of humans is tied to the reproduction rate of cattle. As one marries only with cattle, 'Where the cattle are, the women are not' Mary Douglas titles this process (1973:78). Regarding East African pastoralists, amongst whom age-grading also obtains, Bonte (1977:178) observes: "The two main factors regulating marriage age are the need to assemble a substantial number of animals in order to marry (the livestock being obtained from both agnatic kin and stock associates) and the rule ordering marriages according to seniority". Indeed Bonte (p.179)

goes so far as to say that "Kinship only exists as part of a wider system of social relations manifested in the circulation of livestock".

At the other end, Woodburn (1979:260) speaks of "the neglect and abandonment of the injured, the sick and dying", and states that "Hadza who suffer injuries [in hunting and gathering] have less chance of survival than if they had been members of a sedentary community with kin who were obliged to provide for them". But the Hadza recognize few 'load-bearing relationships' and hence social relations, being minimal, like their politics (ibid.), have an implicit tendency to hold population down.

Even this brief review shows that there are many means, institutional and individual, ideological and physical, for the regulation of numbers in a population and that it is not an 'input' external to the social system. Population levels are, rather, a 'condition of state' of all the elements of a system, whose values it has means of regulating, if not exactly, at least within limits that can be set quite narrowly. Consequently we can for the moment conclude with Hitchcock (1982:254) who states: "These findings suggest that a combination of cultural, nutritional and hormonal factors are related to changes in demographic patterning". Next the specific logic of population dynamics will be developed. Here it is only necessary to indicate that it did not 'just drift' or push relentlessly upwards with the social structure adapting itself to accommodate ever rising levels.

## 2: Is Population Pressure an Historical Constant?

In a now quite influential hypothesis M.N. Cohen (1975, 1977) has taken the ineluctability of population-pressure so far as to say that the Neolithic transition is the outcome, not of a concatenation of factors in the Holocene (as described below), but of accelerating population pressures through and from the Palaeolithic period. Cohen admits that such a hypothesis is near impossible to demonstrate directly, so he relies instead on two indirect measures of rising population density: the necessity as

he sees it (1977:78) of the move to the broad-spectrum and aquatic economy of the Epi-Palaeolithic; plus expansion of necessity into wholly new environments by the colonisation of new regions (1977:89). This Cohen correlates with the impelled shift from more desirable/easily obtained subsistence resources to those that are, at least initially, less palatable or more demanding of labour (1977:78).

This accounts, according to Cohen, for the observed shift at the end of the Palaeolithic from the pattern of big-game/large-herd hunting toward small game hunting with fishing (and seemingly increased gathering) characteristic of the Meso- and Neolithic. While some, such as Clark (1973:94), see an undoubted decline in the European Mesolithic making those "in all measurable respects inferior to that of their Advanced Palaeolithic forebears", Clark attributes this precisely to the "altogether exceptional conditions which came to an end with the Ice Age itself" (ibid.;cf. MacNeish 1972, 1977 for Meso-American and Peruvian similarities).

What came to an end were the steppe, tundra or prairie conditions induced by glaciation that so favoured the large herbivores. (Clark 1980:89). As temperatures and precipitation rose so too did both sea levels and the diversity index of flora and fauna with the advance of boreal forest (ibid., pp.44-5). But the exploitation of the new resources required an adjustment and learning period (ibid., pp.45-58; Braidwood & Willey 1962b:342). Nonetheless, as Cohen scans the globe, such regional processes seem to lose their relevance for his argument. Though Cohen reviews (1977 passim) a considerable amount of literature to support his thesis, his actual demonstration turns out to be circular:

I argued in chapter 3 [The Case for the Old World] that certain changes in human exploitative patterns are likely to be more reliable indicators of population growth than changes in the relative density of sites, since the latter are more subject to sampling error. (1977:129).

However since most archaeological evidence we have about 'human exploitative patterns' as much else does in fact come from such sites, then this is scarcely an analytic distinction that can be made operational.

"On the one hand population pressure, at least as I have defined it, seems to be increasing in post-Pleistocene Europe. On the other hand, there is some evidence that the absolute population of the sub-continent may have declined " (1977:129). This is a possibility, Cohen says, if "there had been a catastrophic decline in available resources resulting from changing climate" (idem). Well the climatic evidence is to the contrary (Clark 1980 passim).

Now, while admitting that hunting-gathering societies socially limit their populations to well below carrying-capacity (1977:51, 64), Cohen maintains that (a) the membership flux known to exist between hunting-gathering bands allows of (b) a membership flux over a wide area (1977:64), that, in turn (c) permits a slowly rising and generalised population level in a region since bands do not have fixed numbers and perceive there to be adequate subsistence resources available to them as individual bands. This, in Cohen's model, makes a certain 'population-control leakage' possible, tolerable and even inevitable, because "despite certain pressures the community can bring to bear, birth control and infanticide decisions are often a private matter for parents alone to decide, rather than a matter of strict group policy. Parents make their choices based on their perceptions of a whole range of relevant variables" (ibid.:54).

However rising density leads to declining population flux as outsiders become increasingly resented as bearing more heavily upon available resources (ibid., p.82). The maximal exploitation of the available resources, including those hitherto neglected or regarded as of 'low prestige', then demands sedentism with all its liabilities, as Cohen (idem) sees it.



I suggest the sedentism in most cases occurs, not because of newly discovered resources which permit year round residence in a single location, but rather because of the decline of resources associated with other parts of the traditional annual cycle, or because of territorial impingement by other groups. (Op. cit., p.83).

Indeed Cohen argues that the groups which did not self-limit population enjoyed a 'competitive advantage' over those that did, and consequently displaced or eliminated them.

In his comprehensive survey of the Neolithic of the Near East, James Mellaart (1975) could discern, from the duration, number and small size<sup>2</sup> of sites over the period of the Kebaran and Zarzian Epi-Palaeolithic cultures of the Levant, that "they hardly suggest overpopulation, and all one can infer is that there were probably more people in the Epipalaeolithic than in the Upper Palaeolithic". (ibid., p.27). And in Palestine, an area more intensively investigated than Mesopotamia, there is just not any evidence for population increase, but on the contrary, "total numbers of archaeological sites known ... fall dramatically from the late Kebaran to Natufian PPNA" (Oates 1980:311).

Instead Mellaart suggests that what population advance there was is quite insufficient to suggest any pressure, but is instead a consequence of advancing cultural sophistication that has "an increasing awareness of the environment" (op. cit., p.27). It so happens, too, that Mellaart sees "the increase of population as the result not the cause, of new technology and economy" (ibid., p.22). While the groundwork in terms of tools and techniques was being laid during the Epi-Palaeolithic of the Levant (ibid., p.19):

The sudden changes at the beginning of the Natufian<sup>3</sup> cannot therefore be ascribed to climatic deterioration and resulting demographic pressure. On the contrary they

2. c.200 sq. metres.

3. c.10,000 BC.

seem to be due to man's awareness of new opportunities of food conservation and exploitation, already explored during the preceding Kebaran.\* (My emphasis).

The challenge of changed conditions in Holocene times was mentioned earlier and, if we are to avoid social voluntarism, we must try to stipulate just what it was that made people 'aware of new opportunities' to invent new (composite) tools and techniques and, most of all, 'facilities' like storage bins. Cohen falls into this trap of social voluntarism when he makes statements maintaining that "Some [populations] in fact chose to limit population at the hunter-gatherer level. Some just as clearly did not" (1975:88, emphasis added). Just one of the things wrong with this explanation is that central to his case is the premiss of parental reproduction choice often violating either group pressures, or group interests, or both. So how does 'social choice' predominate? We may speak of society as an organism, but that is only a metaphor. Both Cohen and Mellaart will have to do without their transcendental subject - Society. Society is not a conscious subject, but a resultant object of systemic processes (Gouldner & Petersen 1962:8-13).

Two considerations are available finally to dispose of Cohen's thesis. If population levels were everywhere rising during the Upper Paleolithic (at least) why was the Near East the first to Neolithise itself and produce farming and urban clusters? The answer of course resides in the peculiar concatenations of processes, natural and human, in that specific place and time, the terminal Pleistocene (H.E. Wright 1977:296-7). While population fluctuated elsewhere, in the Near East it tripped a resonant amplification system of the type that we have recently seen in this Egyptian example: "The success of the Delta barrage on the Nile was such that, as the cultivated area and the population increased, it became necessary, in 1884, to strengthen the barrage to provide more water to cope with increasing demands and, when this proved

4. I.e. c.16,000-10,000 BC.

inadequate, to build dams and reservoirs" (Walton 1969:125). A similar process occurred upstream at the cataracts where the Aswan dam had to be raised three times this century to cope with its own (previous) success in supplying ever larger populations (ibid.). The analogy is even closer than it seems, for Joan Oates (1977:481) suggests that it was precisely irrigated farming that had this 'runaway effect' in Mesopotamia, because with highly fertile soils the application of water guaranteed large sustainable surpluses at this latitude.

On the crucial question: 'Why the Near East?' Cohen is forced (1977:281) to concede that he "cannot yet explain satisfactorily why, given the overall buildup of population pressure, agriculture began slightly [!] earlier in some regions than in others nor why it was developed independently in some regions and diffused to others". Effectively an admission of defeat. However the final refutation of Cohen's thesis really resides in the case of the Australian continent, which can indeed be regarded as a historico-geographical controlled test (Peterson 1979:122). Upper Palaeolithic people entered Australia not less than 16,000 years ago (Mulvaney [1966] 1976:76-77) and rapidly filled up the continent to densities varying according to differential rainfall and land fecundity. Distribution of population was both uneven and selective; well-watered coastal and riverine districts carrying the most dense populations. Kenneth Maddock ([1972] 1973:22-3) supplies the following estimates for the pre-colonial period:

Gidjingali (Arnhem Land)	2 persons to the square mile
Wanindiljaugwa (Arnhem Land)	1 person to 3 square miles
Walbiri (Central Australia)	1 person to 35 square miles
Aranda (Central Australia)	1 person to 12.5 square miles
Murray River Aborigines	3-4 persons to the mile of river
Sydney Aborigines	5-10 persons to the square mile.

Between New South Wales and the interior, for instance, we have density differences of several orders of magnitude. Maddock

comments that:

These figures are not very indicative of land use in different areas, because Aborigines were selective about their surroundings. Expanses of country that yielded little were passed over in favour of more fruitful stretches. The Aranda seldom visited much of their territory, so parts that were relatively bountiful and hence more likely to be frequented would usually have been more densely occupied than the estimate suggests. This is brought out by T.G.H. Stehlow's account of the southern Aranda (1947). (Idem).

Population flux there was aplenty as bands moved around the clan 'estates' (ibid., p.35) and as membership fluctuated between bands (idem). But of upward population drift there was none, for the bands not only limited their numbers to well below the carry capacity of the gross environment, but indeed kept numbers within the limits of the optimal environment! That is, they were not even 'forced' into what was for them sub-optimal terrain. Upper Palaeolithic Aboriginal society even 'Neolithised' itself in situ to the extent of developing both microliths and composite (hafted) tools from around 5,000 BP. (Mulvaney op. cit., p.83). It developed however no pottery, permanent structures or other aspects of material culture associated with the 'full' or archetypal Neolithic of Eurasia. Most of all they developed no agriculture, and they remained in hunter-gatherer homeostasis until the advent of Europeans.

But worst of all for Cohen's thesis is a comparison of Australian with !Kung (Bushman) foraging territories. Peterson's (1979:111-129) analysis indicates that while the component bands of each population are indeed in constant flux for personal, political and environmental reasons, band membership is remarkably stable in overall numbers and at least in core membership. Those latter represent what can be called the 'corporate' existence of the group, not in juridical terms but in terms of continuity of a certain number of people habitually and systematically exploiting a territory with which they have long association. This territory,

called in the Australian literature the group's 'range' or 'estate' (for there is an element of patrimonialism) and the Bushman's *n!ore*, is usually centred on waterholes for the latter and on ancestral sites for the Australians. Both territories contain a range of resources necessary to subsistence and Peterson's crucial point is that far from flux leading to ignorance of what resources are available, the strong statistical association of at least core group members to territory that they 'own' "provides localised feedback making orderly population control possible by creating finite resource areas for definite populations" (op. cit., p.122). Thus the 'individual bands' are as much a fiction as Cohen's private individuals who compose them. All exist only in relation to 'resource nexuses' (ibid., p.117) which set known limits on who can be supported. Strongly correlated with place of birth long term residents have primary rights, incomers secondary rights and newcomers only conditional rights on sufferance. Thereafter, residence is surprisingly stable since *n!ore* ownership correlates strongly with birthplace" (ibid., p.116). This of course cannot apply when new groups are moving into new territories. It does however apply once the territory has filled up.

Such data refute Cohen's thesis at least for the seminal areas of the Near East, and support the concept of 'pseudo-density' outlined by Bennett Bronson (1977:40-2). By pseudo-density two things are meant. The first is that what counts as population pressure depends on the local environment of local populations, say in a single valley. A continental population in prehistory is an abstraction, useful perhaps for some analytic purposes, but certainly not reflecting conditions 'on the ground' in the actual use of the terrain. At the end of a valley with an alluvial fan, certain resources, say wildfowl, may be abundant, while to the population at the other end of the valley this is a scarce resource for which valuables may have to be given in trade. Conversely though food may be more than ample in the delta, population may be held down there due to a shortage of non-brackish water. It all depends on the highly localised balance, not only of population to

'total' resources but of the proportionality of resources.

The other, but related, aspect of 'pseudo-density' is that "In human as distinguished from animal populations, pressure, scarcity, and stress are to a considerable extent states of mind" (Bronson, op. cit., p.42; my emphasis) not absolute conditions of the environment. Thus preference for a particular local resource, say fowl, may make it locally scarce by overhunting or simple disturbance. Is this an example of population pressure when there are other perfectly adequate, if lesser preferred and still local sources of protein? Obviously we could only speak of pressure where one major resource after another had been seriously depleted. "Hence, we cannot always glibly say that some sorts of scarcity are due to overall population pressures: they may be due to simple overconsumption" (ibid., p.40).

We must conclude with Hassan (1975:46) that

Strong emphasis on the role of population growth as an independent causal force in long-term cultural changes thus may present a serious distortion of the intricate reciprocity between population and production, on the one hand, and between population and other cultural factors on the other.

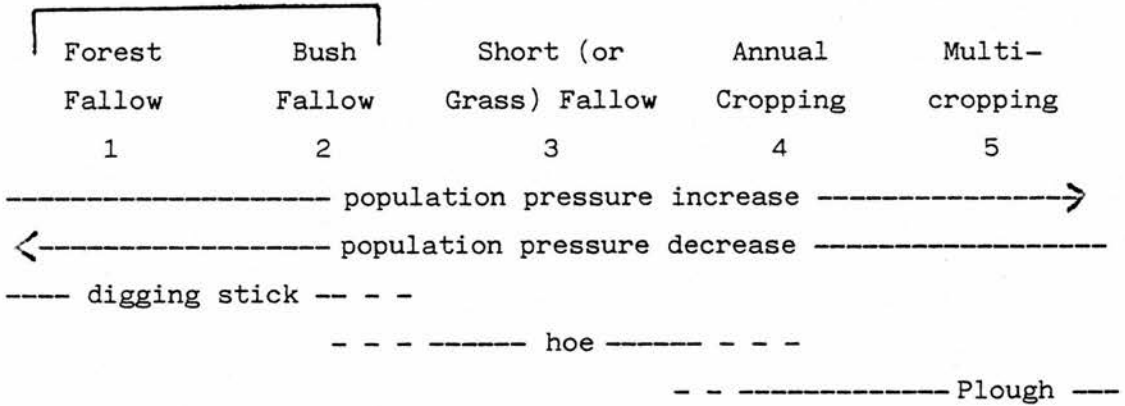
### 3: Is Agriculture the Outcome of Technological Discoveries?

If, then, human populations possess methods of maintaining stability with their environment (homeostasis), what is it that causes demographic increase? Since all human populations are socially constrained, unlike animal populations, logically we must look to changing social organisation (Bender 1978:218). But the conventional view tends to see a direct relation between technology and landuse with population pressure ineluctably driving those changes forward. P.E.L. Smith (1972:412) provides the following

illustration on the basis of the Boserup model discussed below.

**FIGURE II:3: TECHNOLOGICAL PROGRESSION ON THE BOSERUP MODEL**

LONG FALLOW



While acknowledging the relevance of social organisation and increased work input per unit of land as the move is made from forest fallow to multi-cropping, Smith (op. cit., p.423, n.4) nonetheless "take(s) the position that population pressure on cultivable land is the critical variable, 'the engine which sets in motion adaptive changes in a set of related technological and social variables among subsistence cultivators'". The point however is that population pressure cannot just be taken for granted as a 'natural' force that only derivatively affects social organisation and technology. Population pressure is not a force outside of society that feeds into it effecting changes. Here Jack Goody's (1976:20) formulation marks a step forward when he points out that: "the other aspect of advanced agriculture bearing upon the conditions for the emergence of diverging devolution is the expansion of population it allows, another factor making for scarcity of land" and thus affecting inheritance patterns "where such agriculture is dependent on the plough, the increase in production is partly a result of the greater area a man can cultivate: once again, land becomes more valuable, especially the kind that can sustain permanent cultivation by means of the simpler type of plow."

This puts the problem the right way round - plough agriculture

allows population to grow further. But why was the employment of the plough necessary in the first place? The usual explanation is, as we have seen, the demiurge of an automatic population growth. Its conventional alternative, or rather complement, is technological 'invention', 'breakthrough' or 'revolution' which, it is suggested, rather pushes population levels upward. For Leslie White (1949:365) the most forthright technological determinist, "the technology is the independent variable, the social system the dependent variable. Social systems are therefore determined by systems of technology; as the latter change so do the former". Such a monocausal view results in mere juxtaposition instead of the elucidation of process and produces a sort of evolutionary 'just-so' story. Again, according to White (ibid., p.378): "As the agricultural arts developed and matured, as plants were improved through selective breeding, as new techniques of cultivation, irrigation, drainage, rotation of crops, fertilisation, etc., were introduced and improved, the amount of food produced increased. Small tribes grew into large tribes and these into nations and empires; villages grew into towns and towns into cities."

While still taking population growth as given, Ester Boserup (1965) does show that this technological determinism explains nothing; explanation must be in terms of what social needs existing and improved technologies serve. Her model has been influential because it is unifying in that it can show sequential changes with a common logic. Attempts have been made to apply Boserup's scheme directly to the origins and development of farming in Mesopotamia (along with a population-pressure prime-mover criticised in the foregoing section), most notably in the collection edited by Spooner (1972). It is therefore not sufficient simply to mention her sequence in passing, as is usually done, but to detail it. This done it will later become clear that this scheme, developed originally in regard to conditions in S.E. Asia under tropical and monsoon conditions in originally closed canopy forests does not apply in the sub-Mediterranean climate of the Near East (defined in Chapter III). Nonetheless there remains the value of the scheme



as a conceptual grid for what otherwise tends to be merely 'instances' or 'examples' of disparate land-use without even a common terminology employed to make comparison fruitful.

Boserup (1965) starts by defining different types of cultivation practice based on length of fallow, supplying a unifying land-use framework usually absent in discussion.

1. Forest Fallow represents the best return to labour of any agricultural practice requiring only around an hour's work per day. Known as swidden or 'slash-and-burn' cultivation, and being in extent more truly horticulture than agriculture, it requires twenty times more land in fallow than in use. But this amount of primary forest supplies a complementary range for hunting and gathering.
2. Bush Fallow obtains when the 'twenty-year rule' is broken with the fallow period lasting only 6-10 years, a period insufficient for full forest regeneration. Plots may indeed be in use not for a couple of years as with (1), but may be exploited for from 6 to 8 years. Under those conditions only scrub can regenerate.
3. Short Fallow prevails when the fallow period lasts a few years only. Then nothing but grasses have time to colonise the fallow and is of use only to grazing animals. Indeed some have suggested (Stewart 1956:115-129) that as grasslands are seldom true climax anywhere, the 'natural grazing lands' of Africa and Asia are the result of burning off and cutting miombo-type (dry) woodlands, such as are still to be found in parts of Tanzania and Mozambique.
4. Annual Cropping results in a fallow only during the 'dead months' between crops or seasons in a rotational cycle that includes fallow as ley, as in the Three Field System of medieval Europe.

5. Multi-cropping is the most intensive system of land use, since one plot is made to bear two or more successive crops every year. It is in effect a peculiarity of tropical irrigated agriculture as evidenced in Geertz' (1963 ) 'Agricultural Involution' with respect to Java.

Now a succession from (clearing) horticulture to (field) agriculture has much explanatory validity, since, for instance, true field agriculture demands some type of plough. It is also the case, and an important consideration, that the application of the plough necessitates a form of social organisation, and indeed amount of capital investment, quite different from that where, say, the dibble-stick or hoe obtains. The point is that the usual Mesolithic-Neolithic-Bronze Age-Iron Age succession from axe to the metal-tipped plough cannot be seen as produced by 'great-leaps forward' in productive technique driving society ever onward and upward.

Now Boserup thinks that it is 'natural' population pressure that drives the process of changing land and tool use along, demanding ever higher labour and capital inputs. Wherever possible, for sound material-social reasons, swiddening/foraging will be pursued since:

1. The time used for superficial clearing under the system of forest fallow is but a fraction - perhaps 10 or 20 percent - of the time required for complete clearing. Pierre Gourou (1971:35) indicates a range of from 25 to about sixty days work per hectare per year for the cultivation of tubers.

2. Forest horticulturalists are well aware that they obtain the best result for given effort by clearing and cultivating secondary forest, where dry matter can easily be around 160 tons per acre with rainfall a mere 65 inches per year (ibid., p.94). Here fire and hoe are the main tools and the plough unnecessary.

3. Operating a primitive plough is hard work, both for the man

and the animal and consequently consumes a lot of energy. In addition to the ploughing itself, the ploughman must take care of animals and keep the plough functioning. Further, unless he keeps a large herd of domestic animals and uses much labour (though not necessarily his own) to collect their manure, prepare composts and spread it carefully on the fields, he is likely to obtain a much lower yield per hectare under short fallow systems or annual cropping than by cultivating the same land under the system of forest fallow. "The poverty of tropical grassland results first of all in the slow growth of the animals. A Malgash ox takes six or seven years to reach its full development. And the beasts need a vast amount of space. It is estimated that an acre of tropical pasture can feed only 48lb of live weight, whilst the same area in Europe can feed 480lb... In fact, in Madagascar a zebu uses on average some fifteen acres of pasture " (Gourou, op. cit., p.64).

4. If the animals are fed exclusively on non-cultivated fodder, the area cultivated in a given year under the systems of short fallow can rarely be more than  $\frac{1}{3}$  of the local territory and usually the maximum is much lower. Hence "To put it briefly, the agricultural systems of the tropics function as if animals did not exist" (idem).

Until the advent of mechanised agriculture swiddening is the only form of cultivation that minimises labour input by maximising capital input. In burning-off, a huge amount of 'natural capital' in the form of biomass is transformed into nitrogen ash (with other elements) plus soil preparation. Anything from 250 to 450 tonnes of biomass per acre goes up in smoke and 600-900lbs of nitrogen per acre too, for the application of one to two hundred pounds of nitrogenous ash (ibid., pp.32-3). Under such conditions fertility lasts only a couple of seasons before the clearing is exhausted. Perseverance after that not only produces meagre crops but makes forest regeneration difficult. Gourou pulls the strands together by suggesting that:

The ladang [ i.e. swidden ] system is not an inevitable consequence of the tropical climate and soil; it merely represents a certain stage in agricultural technology. Other methods are possible, as we shall see. It must be recognised, however, that for a population that is small enough to permit a sufficiently lengthy fallow, ladang assures a return per man-hour higher than can be obtained from continuous cultivation by hand, unaided by animals or machines. True, the yield per acre from the latter method is higher, but only at the cost of a greater amount of labour. Fire is a great economizer of energy.

So here we are back to the crucial condition of 'a population small enough', and find a big puzzle why any population should take to cultivation when "The Bushman figures imply that one man's labour in hunting and gathering will support four or five people. Taken at face value, Bushman food collecting is more efficient than French farming in the period up to World War II, when more than 20% of the population were engaged in feeding the rest " (Sahlins 1974: 21). In general, then, the more intensive the agricultural system, the more work is required for a unit of food (Harlan 1975:49). Indeed modern intensification demands the application of amounts of work input such that the **energy balance is actually vegetative**. More energy (usually fossil) has to be put in (oil, fertiliser, pesticide, etc.) than ever comes out either as food or raw materials (ibid.). The question then is, 'Why farm at all?' Or as the !Kung informed Richard Lee (1968:33) 'Why should we plant, when there are so many mongongo nuts in the world?' Along with 84 other species of edible food plants, including 29 species of fruits, berries and melons, plus 30 species of roots and bulbs (ibid.) And all of this well within a day's walk of the home base.

Where greater production is wanted, leaving aside for the moment the matter of for what reasons, the 'natural' response is to do more of the same, that is to cultivate more extensively but employing the same methods. Depending on the type of social organisation either villages 'bud-off' to do this (Forge 1972:374-5), or they 'take-in' to cultivation what had hitherto been waste, commons or forest (Postan [1972] 1975:57).

Only under real social pressure would extensification (adding land) give way to intensification (adding labour) and even then this might well not result in a 'technical revolution' for as "subsistence is determined more by social than purely technical factors ... With the same basic tool array there can be vast differences in the efficiency and productivity of horticultural techniques, nor does the apparent excellence of tools correlate with the excellence of productive technology " (Forge, op. cit.).

When the Yir Yoront of the Cape York Peninsula underwent a leap from paleolithic to iron age technology with the introduction of the steel axe supplanting the traditional polished stone axes, the heightened productivity was used to provide more sleeping time, "an art they had (previously) mastered thoroughly" (Sharp 1964:90). When steel axes were introduced to the Siane of the Eastern Highlands of New Guinea, again the indigenous social structure accomodated the improved means of production, and "As an immediate result of the technological change, the Siane had become more leisured, they had larger and more elaborate ceremonials, and the number and size of ceremonial payments had increased about threefold". (Salisbury 1968:488). It is not that this represents a no-change situation. On the contrary what is being demonstrated is that existing social institutions adapt to accomodate. Indeed Sharp (op. cit., p.93) graphically shows that where, amongst the Yir Yoront and in marked contrast to both Siane and Tolai, ideological barriers against adaptation are intrinsic, then only disintegration follows.

A single major technological change can then produce great social shocks, but conversely it is also the case that the application of major new technology requires a prior shock to the body politic if major innovations are to be applied. Hocart (1954: 130) provides a down to earth example: "Even if a man had discovered the fertilising effect of manure just by noticing things, he would still have to get his fellows to adopt it. Let anyone who thinks this a simple matter try introducing manure among

among a people who have never used it; he will meet with incredulity or even disgust. When I tried manuring yams in Fiji, the Fijians thought it disgusting. If people are to adopt such a discovery they must be prepared for it by the general trend at the time." It is significant that the Fijians were already successful cultivators and saw no need of Hocart's 'improved technique'.

Likewise iron was known as a workable material during the two millennia of the Bronze Age in the Near East.<sup>5</sup> Potentially stronger and cheaper, the technical difficulties to be overcome in working a metal whose melting point could not be reached by early (bronze and pottery) furnaces were only addressed (by forging) when widespread dislocation in the 'Sea Peoples' period late in the second millennium BC interrupted supplies of tin and copper across the Mediterranean (Maddin, Muhly & Wheeler [1977] 1979:293). In the few centuries after c.1200 BC, specifically 'steeled' or carburised iron gave rise to implements such as picks, adzes and chisels with cutting edges tempered to a hardness equivalent to that of modern hardened steel (ibid., p.298). Yet only around 500 iron artifacts, mostly ornamental, are found in the Near East dating from the two millennia of the Bronze Age. Only massive disruption that resulted in the collapse of Mycenaean Greece and the onset of the Dark Age there, made the previously impossible now possible because necessary.

In the Iron Age proper, major innovations in the means of production really only occurred at the beginning and end of the Graeco-Roman world, for it was then that the relations of production were qualitatively changing: "there were not many genuine innovations after the fourth or third century B.C. and there were effective blocks" (Finley 1973:147). Those were social blocks, obstacles in what can be called the 'political economy'. From Aristotle in the fourth century BC to Vitruvius the architect and engineer in the first century AD, there was general agreement

5. c. 4th to the end of the 2nd millennia BC.

between writers on all subjects that since the machines essential to civilisation already existed - the ladder, pulley, windlass, wagon, bellows and catapult - systematic enquiry directed to progress in productive technology was regarded as neither possible nor desirable (Finley, op. cit., p.146). The only 'research institute' of antiquity was the Museum of Alexandria founded and supported by the Ptolemies. Despite its library, building to nearly a million volumes, royal patronage and eminent scholars, the Museum in its centuries-long existence added virtually nothing to productive technique. There was a tradition of 'pure' not applied research in a society where knowledge was essentially contemplative (Finley 1983b:185; Yonah and Shatzman 1976:303). Though the Romans invented the watermill, the 'mother of machines', it was never deployed on a wide scale as it was in medieval Europe (White 1970: 7); and despite the aridity of the eastern Mediterranean in particular, the windmill was never developed from the watermill (idem). Accordingly, as Finley (1973:147) points out in his analysis of the ancient economy:

We must remind ourselves time and again that the European experience since the late Middle Ages in technology, in the economy, and in the value systems that accompanied them, was unique in human history until the recent export trend commenced. Technical progress, economic growth, productivity, even efficiency have not been significant goals since the beginning of time. So long as an acceptable life-style could be maintained, however that was defined, other values held the stage.

Similar values prevailed in Medieval Britain too, where, as Postan (op. cit., p.47) remarks, "the real problem of medieval technology was not why new technological knowledge was not forthcoming, but why the methods, or even the implements, known to medieval men were not employed, or not employed earlier or more widely than they in fact were". Postan (ibid., p.49) goes on to speak of the 'unmistakable' inertia of medieval agricultural technology and, significantly, states that progress was "'bunched', into certain periods at the beginning and ends of the era".

Even within the 'modern European experience' which is one of sustained change, we have seen that all the major technologies and development fostered by the World Wars existed in experimental or at least theoretical form before the 'need' for the likes of the aviation gas-turbine, penicillin, computers or the atom bomb became pressing in the social upheavals that armed conflicts represent.

Traditionally the Neolithic has been associated not only with 'new (finer) stone' tools but specifically with the advent of ceramics. Yet at the famous site of Dolni Vestonice in Czechoslovakia, whose Upper Palaeolithic huts have been dated to 23,000 BC, and whose associated flint industry is Eastern Gravettian, comes the famous fired-clay Venus figurine, the oldest example of pottery in the world, and where an actual kiln has been identified (Wymer 1982:262). Not an isolated find, the figurine was recovered along with 2,200 pellets of baked clay, some of which were fragments of broken or unfinished animal statuettes (ibid., p.239). Wymer himself concludes (p.262), not only that pottery figurines are unknown from any other Upper Palaeolithic site, but that "this invention of ceramic techniques was a flash which failed to ignite any need or response in the community and probably died with its inventor".

Significantly, there is no further evidence for pottery until the post-glacial period (idem); until, it will be argued, more sedentary conditions made pots desirable and even necessary.

That technology and productivity are conditioned by social relations can be seen in a particularly germane example, coming as it does from contemporary ethnography conducted amongst the agricultural villagers of Iraqi Kurdistan. Commenting on "the lack of efficiency in agricultural techniques and the low level of investment in capital equipment", Barth (1953:23) observes that:

Threshing is generally done with six oxen, without any mechanical appliance or equipment. There does however exist a quite efficient thresher (mentioned by Leach,



1940) which could greatly reduce the necessary expenditure of man-hours. The value of this thresher was given as £12, its life approximately 20 years. It is generally considered that 2 mules working 3 days with the thresher do an equivalent of 6 oxen working 10 days without it. If we, to simplify comparison, equate the work value of a mule with that of an ox, that gives a reduction to 1/3 in man hours and 1/12 in expended energy. Though the gain thus seems quite spectacular, the thresher is in fact rarely seen. The laborer himself has no capital to invest in equipment. The tenant farmer pays the laborer the customary share for doing the threshing, whether it is one way or another, and is certainly not interested in assuming any further expenses. Continuing up the hierarchy, there is no greater incentive to such "investment" for the intermediary or the landowner.

#### 4: Summary

In our culture it is all too easy to take change for granted and assume sustained social change to be a law of nature.

The preceding indicates to the contrary the close inter-relation between technology, demography and social structure, such that we can truly speak of those variables forming a system. The system formed is that of social organisation with, in each case, characteristic patterns of settlement, land-use, technics and ideology. As an achieved and conditional adaptation of people to landscape, social organisation has to be elastic enough to accomodate (or indeed suppress) changes in major elements (variables), maintained until either the human or the natural landscape generates a shock of sufficient suddenness or violence to break down and recast the whole complex. In the absence of this almost indefinite continuity should theoretically obtain.

For what are the alternatives? With contradictions building internally, society can either (1) collapse in a heap, (2) mutate its institutions to cope (such as the accomodation of the plebs in Rome), or (3) be broken down and transformed by another society (simple takeover keeps indigenious structures intact). For reasons

discussed in the chapter on ideology (Chapter X) the first, pack-of-cards instance is scarcely known to history, in the absence, that is, of the third possibility, which in turn really only occurs when the first society has been weakened seriously by its own contradictions. And logically the second case, that of internal evolution accomodating social pressure, defers the possibility of the other two instances.

Conversely, indefinite continuity in the absence of those factors, we do indeed find in the case of aboriginal Tasmania (Forde 1934:99-100) and the Australia (Mulvaney op. cit., pp.76-7) where in regard to its millennial homeostasis Peterson (1976:274) remarks that with "no economic motive for taking up horticulture, the question of failure to do so becomes decidedly ethnocentric". Conversely the application of new agricultural technologies in the Third World today are often baulked on the question of land reform, which in turn is a function of political relations at the state level.

The first transition that concerns us here turns upon:

- (1) the ending of the old conditions of steppe and herd animals by the ninth millenium BC.
- (2) the onset of Neothermal conditions with elevated temperatures and precipitation, permitting the oak woodland suite to extend along the Zagrosian Arc, bringing with it the 'broad-spectrum' Mesolithic economy that laid the basis for development into Neolithic settlement based on cultivation and pasturage.

It is to the detailed consideration of those processes we now turn, with Hocart's (1954:129) stipulations in mind:

We are not interested in accidents, but in development, and development there must have been. Agriculture grew, and lucky accidents, however numerous, cannot account for this growth. Accidents are lucky only if they happen to someone who is mentally prepared to take advantage of them.

### CHAPTER III

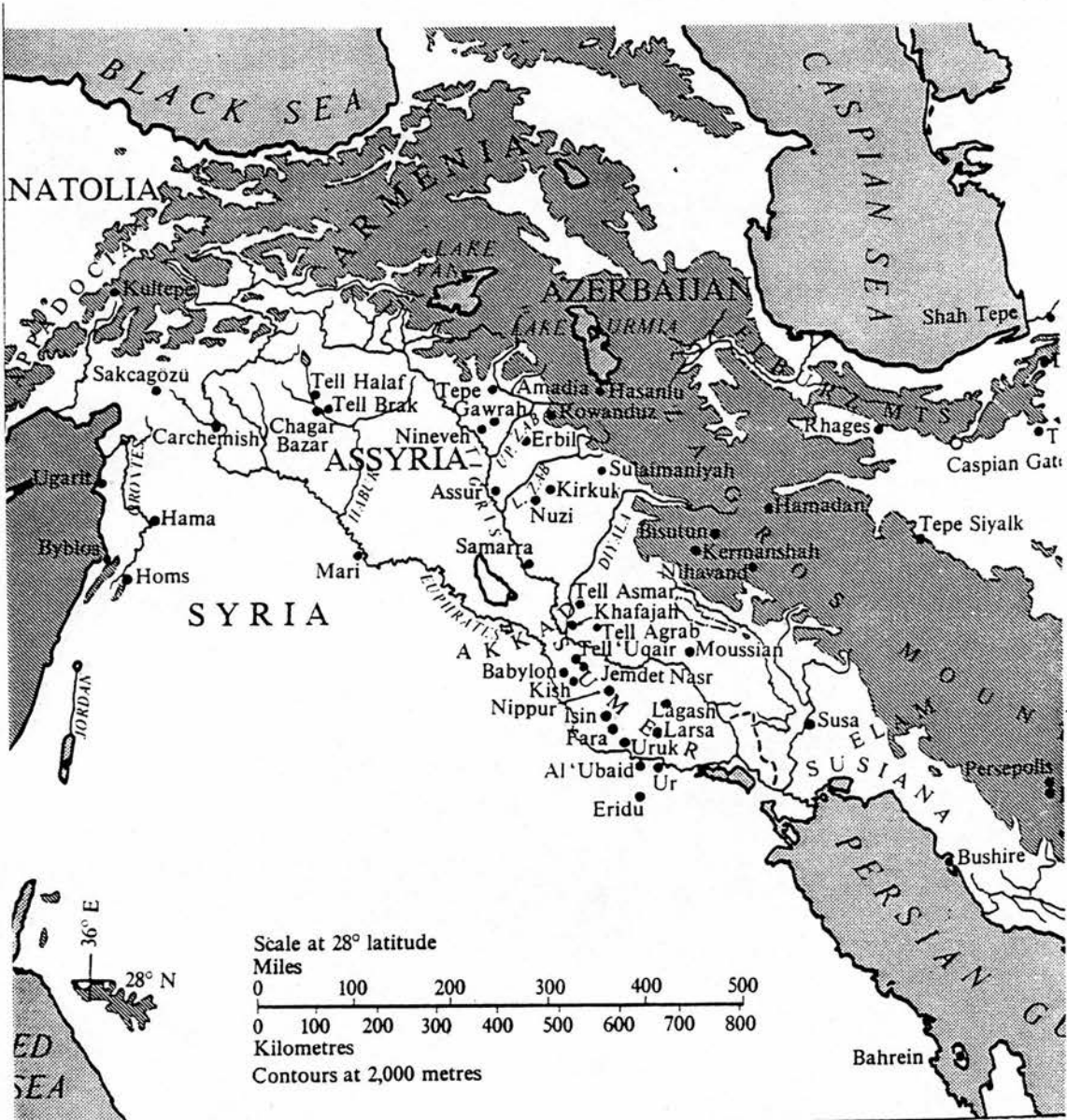
#### THE ECOLOGY OF THE ZAGROSIAN ARC

This chapter will examine the geographical conditions in the Anatolia-Zagros region of the Near East at the end of the last ice age. It will be seen that as the last ice age in Eurasia ended, there came into existence in the one region a particular association of plants and animals which were (a) abundant, (b) very useful and (c) genetically and behaviourally predisposed to domestication. For the first time too in an interglacial, there was present a species of *Homo* who was preadapted by behavioural plasticity into manipulating his subsistence resources on an ever amplifying scale. The process underway on the flanks of the Zagros-Taurus mountains around ten millenia B.P., was the intersection of the peculiar geological, the biological and cultural in a unique combination that gave rise directly to permanent settlement and agriculture, indirectly to urbanism and the city-state.

#### 1: Physical Geography

The Zagros-Kurdi-Taurus mountain arc forms a crescent of Alpine Folds, trending southeast/northwest between the plateaux of Iran and Anatolia, each with a distinct climatic and vegetation pattern (Braidwood & Howe 1962:134). In the north the Taurus range, running due east, forms effectively the rim of the Mediterranean in Asia Minor, then as the high (c.1800 metre) Kurdish Alpines turns south around 500 km inland to run southeast as the northern littoral of the Persian Gulf, itself a rift running southeast/northwest. The area as a whole is shown on the accompanying map (Map I, p.51).

MAP I: MESOPOTAMIA AND IRAN<sup>1</sup>



This crescent-shaped series of Cenozoic sandstones, conglomerates, gypsiferous marls and limestones, all "pleated like an accordion" (Hole et al. 1971:254-5), totals some 2,500 km in length. It is this great crescent stretching from the Mediterranean to the Persian Gulf that is here called the Zagrosian arc. Its

1. From Mallowan (1965a:130).



characteristic altitude is around a thousand metres (Braidwood & Howe, op. cit., p.132) and while the western-facing flanks in the central reaches may receive in excess of 1000mm (40") of rain annually, the east-facing slopes are in rain shadow. So too is the central plain of Syria, which though extending to the west of the range, is nonetheless in the rain-shadow of the Lebanon and anti-Lebanon ranges that form a line along the Levantine coast at right angles to the main arc.

Both the Tigris (**Idiglat** in Sumerian) and the Euphrates (**Buranum**)\* originate in Armenia, the former to the south of Lake Van, the latter near Mount Ararat. The westernmost river is the Euphrates which, at c.2,720 km (1,750 miles), follows a more circuitous route south than the Tigris (2,032 km/1,263 miles). Inland from modern Aleppo and ancient Ebla, the modern Euphrates even approaches within a hundred miles of the Mediterranean (Roux 1964:20-1). The Euphrates drains 163,120 km<sup>2</sup> as against the Tigris' 68,975 km<sup>2</sup>, while the Karun, the other major river responsible for the alluvial areas of Iraq and Khuzistan, drains only 41,744 km<sup>2</sup> and has a total length of 820 km (Larsen 1975:47). The other important river in this area is the Diyala, like the Karun to its south a tributary of the Tigris, which the Diyala joins at Baghdad. Still proceeding south to north the Great and Little Zabs, the latter near Mosul, also join the Tigris. Those four southerly tributaries, fed from the Zagros, make the Tigris a much more torrential and variable river than the Euphrates which has no active tributaries in Iraq, governed instead by rainfall over central Turkey (Larsen, op. cit., p.48). While the Lower (Little) Zab, between historic Assur and Nuzi, has historically registered a North/South demarcation between the upper Syrian settlement **sites** and Sumer with Akkad to the south, the Diyala from prehistoric times was a main highway to and from the mountains and over them to the Caspian Gates in the Elburz Range (Mallowan, op. cit., pp.18-20).

Whereas only a small area of central Anatolia is not

\* now the Dijlah and Furat rivers.

potentially cultivable by rainfall alone, rarely falling below 400mm (Van Zeist 1969, fig.3), in central Iran the converse holds and cultivation is largely confined to oases (Oates & Oates 1976b: 14-15). The overall climatic regime of our region (excluding interior Iran) is an intensification of the Mediterranean 'summer-dry', which means that all crops (excluding of course tree crops, rice, cotton and sesame) are necessarily autumn sown, from October to December (Oates 1980:304). Indeed intensification is such over much of its range that the regime has been characterised for southern Anatolia as "an extreme continental Mediterranean climate" (Erinc 1980:73). A conspicuous gradient of both temperature and precipitation occurs along a section running from Erzurum, in Turkey, to Basra in southern Iraq. They vary inversely, as can be seen in Table III:1.

**TABLE III:1: TEMPERATURE AND PRECIPITATION<sup>2</sup>**

	Averages of Maximum Daily Temperature		Average Monthly Precipitation	
	Annual	Warmest	Wettest	Driest
		Month (August)	Month	Month
Erzurum	53°F	80°F	3.1	0.9 inches
Mosul	82°F	110°F	3.1	0.1 inches
Baghdad	87°F	110°F	1.1	0.1 inches
Basra	87°F	105°F	1.4	0.1 inches

Whereas the Mediterranean is summer-dry, on the plains of Mesopotamia there is in fact summer drought, rendering the climate Mediterranean-continental. On the lower plains what has to be contended with is high mean annual air temperature, large diurnal and annual ranges of temperature, low atmospheric humidity, and scanty, extremely variable rainfall that is concentrated in the winter and spring, most from November to March (Adams 1981:11). Actual air temperatures in south central Iraq vary from a January

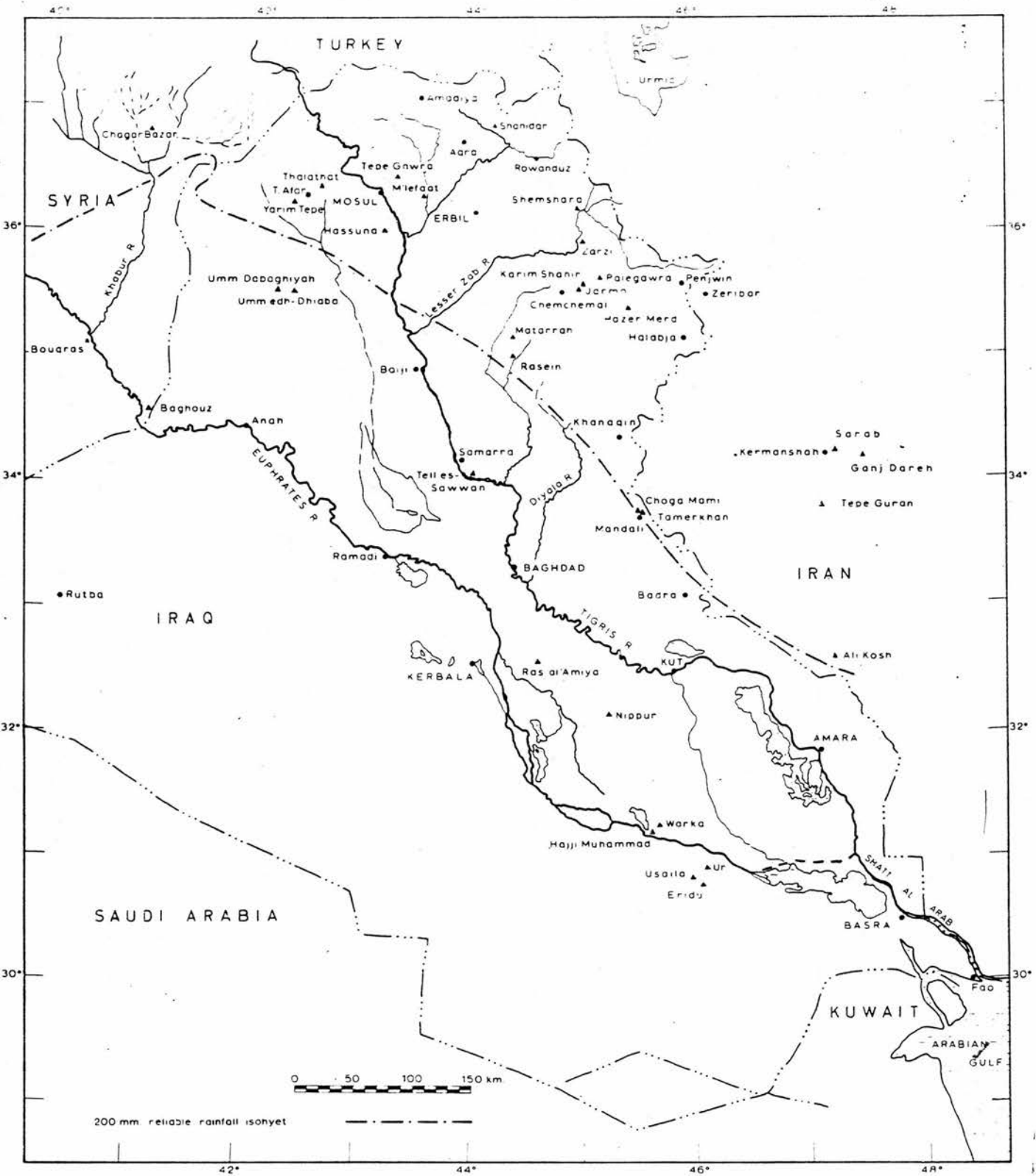
2. Air Ministry Meteorological Office, Tables of Temperature, Relative Humidity and Precipitation for the World. Part V, Asia. London, 1958, pp.49-51 and p.90. Quoted in Larsen, op. cit., p.48.

maximum of 26.6°C, with a low of -8.3°C, to no less than 50°C in July, which has a low of 18.3°C (Adams, op. cit., Table 1). Mean variation in precipitation in lowland Iraq can amount to 50% although some rain will occur in any year (Larsen, op. cit., p.48). In winter rain-bearing winds from the Mediterranean cross the Syrian Saddle - a gap north of Tripoli between the Lebanon and Amanus outlier of the main Taurus range - supplying precipitation to the westward Zagros slopes (Braidwood & Howe op. cit., p.132).

As previously noted the central Syrian plain through which the upper Euphrates flows, there joined by its tributaries Belikh and Khabur, is in rain-shadow and south of the Hit-Samarra line which marks the beginning of the alluvium proper, rainfall is less than 200mm during the main growing season from October to April (Adams op. cit., p.12). As 200mm is a minimum requirement of dry (i.e., non-irrigated) farming, for 200mm to be assured every year, it is the 300mm isohyet that is significant (Oates & Oates 1976a:111). This is clearly indicated on Map II (p.55). On it are marked significant sites down to 5000BC and from it we observe that all the sites south of the 200mm reliable isohyet lie, of necessity, on present or former watercourses. Oates & Oates (idem), who divide Mesopotamia into three climatic zones - the western and southern deserts, the northern steppes and plains, and the mountains - state that "only in the northern plain and in the mountains is rain-fed agriculture possible". Further, "It may be stated as a generalisation that no significant rain falls in any agricultural area of Iraq from June to September. This includes cultivable mountain valleys at quite high elevations" (idem).

Euphrates and Tigris are only about 40km apart as the latter passes through Baghdad, and they actually join in the extensive marshes north of Basra, whence the rivers, now merged as the Shatt al-Arab, continue for another 100km to the Gulf. In that final stretch to the sea the river gradient is only 2 metres (Oates and Oates 1976b:13).

MAP II  
THE RELIABLE 200mm ISOHYET IN MESOPOTAMIA

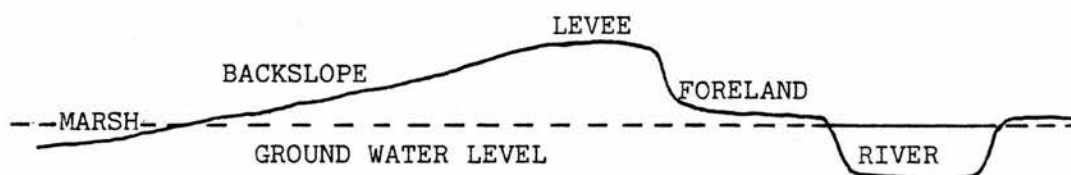


Prehistoric sites indicated by a triangle. Taken from Oates & Oates (1976a:112).



Although Mesopotamia in Greek means the land between the two rivers (Tigris and Euphrates), a more topographically accurate description would be the plains and piedmonts between the Zagrosian folds and the Arabian massif, with the rivers running down the depositional plains filling the sunkland between (Margueron 1967: 201). The Euphrates, the principal river of settlement and irrigation, is deeply incised in its Syrian upper reaches, but on the alluvium proper, which commences around the Hit-Samarra line, forms natural levees. Levee formation is illustrated in Fig. III:1 in cross-section, after Buringh (1957: Fig.3) and Oates & Oates (1976a: Fig.3).

**Figure III:1: A typical river levee in cross section**



With a gradient of only 35 metres from Baghdad to the Gulf, a distance of some 500km, the Euphrates meanders in braided and shifting channels all over the plain, often with disastrous consequences. This is a classic anastomosing regime on an aggradational surface deposited by the river itself, tending thereby to raise its own level in and on the sunkland caused by the compressional forces from crust-spreading along the Red Sea rift system (Larsen, op. cit., p.45). In marked contrast the Tigris, a much more torrential river, downcuts through most of its length making it useless for irrigation without either lifting gear or largescale works (Adams op. cit., p.7). Only late, around Sasanian times, was the Tigris extensively employed. Consequently "there was no band of dense cultivation and urban settlement along the Tigris comparable to what existed along several Euphrates branches" (Adams, op. cit., p.158).

On the twin rivers true navigation is possible on the alluvium and, of course, the Gulf and the Shatt, which rises with the tides. Upstream navigation beyond Hit\* where the rivers "cut their way across a plateau of hard limestone and shale and are bordered by cliffs" (Roux, op. cit., p.21), is effectively blocked. Boats and rafts could thus come downstream, but transport up beyond Hit (where there were and are natural sources of bitumen for boat-building) had to be alongside, rather than on the rivers.

It will be noted, then, that what we are calling the 'Zagrosian Arc' is synonymous neither with the mountain ranges themselves, nor merely with the alluvial plains of what was called, following Breasted (1916:100-1), 'The Fertile Crescent'. The term Zagrosian Arc refers to the mountain ranges with their intra-montane valleys, their extra-montane piedmonts (foothills) and the 'steppe' transition to the alluvium itself.

## 2: Neothermal Conditions

The current Quaternary geological period has been marked by the Pleistocene Ice Ages in northern Eurasia. There have been four distinct periods of glaciation during this Great Ice Age, with, of course, three Interglacials. The main glaciations and interglacials are outlined for the last 3 million years in Figure III:2 (p.58) and the neothermal conditions that mark the current period are indicated from 10,000 before the present time. Note the very recent advent of Homo sapiens sapiens only around 40,000 years ago, and that the evidence from pollen samples cored from lake sediments around the Zagrosian area indicate no major climatic or environmental changes from around 40,000 to about 12,000 years ago, when conditions started to improve (Wright 1968:336).

\* Unless of course they were towed up.

FIGURE III:2  
THE PLEISTOCENE SUCCESSION  
INDICATING NAMES OF GLACIATIONS AND EARLIEST  
(VILLAFRANCHIAN) FOSSIL ANIMALS <sup>3</sup>

GENERAL TERMS	NORTHERN EUROPEAN TERMS	ALPINE TERMS	APPROX. TIME B.P.
POST-GLACIAL OR HOLOCENE			
P L E I S T O C E N E	UPPER	WEICHSEL	WÜRM
		Last Interglacial	
			- 10,000
			- 75,000
			- 125,000
	MIDDLE	WARTHE ?	RISS ?
		SAALE	(MINDEL ?)
			- 200,000
			- 265,000
			- 430,000
	LOWER	ELSTER	(MINDEL ?)
		?	(GÜNZ ?)
			- 800,000
			- 1,000,000
	BASAL	EARLIER	(GÜNZ ?)
		Villafranchian	
			- 3,000,000

Although those ice-sheets directly affected only northern latitudes in a line roughly from the Scheldt to the Dnieper (so far as S.W. Asia is concerned), with southerly icesheets also over the Alps and Caucasus, its effect upon other latitudes was pronounced due to alterations in world circulation patterns, sea-levels, temperature and, of course, precipitation as free water was

3. Adapted from Braidwood (1975:12).

reduced. Only during the fourth millenium BC, for instance, well after the onset of Holocene conditions, approximating to present-day ones, does sea-level in the Persian Gulf stabilise around modern values (Larsen, op. cit., p.57).

Recent palynological evidence (by pollen analysis) in the Near East shows that the Late Pleistocene climate was both cooler and drier than subsequently (Wright 1977:290-1). We should therefore not make the common-sense assumption that during glacials, or interglacials for that matter, pluvial (heavy rainfall) conditions were necessarily experienced by more southerly latitudes. That is, unless we have specific evidence for a certain area, such as is now becoming available for the Arabian Peninsula which seems to have experienced better conditions (Stevens 1978:263). Circulation/precipitation patterns, after all, are the outcome of a whole range of complex variables, some of which are independent.

### 3: The Advent of Homo sapiens sapiens

When the Holocene conditions set in about ten millenia ago, there was in existence for the first time a creature of large cranial capacity\* both cause and effect of a developed culture (Holloway 1974:78), employing language as the central means of communication and possessing a material culture that long included fire, plus a whole range of stone tools and organic implements. Indeed without fire and the use of tools to make both skin clothing and shelters, neither Homo sapiens nor Homo neanderthalis before him could have spread in the way they did throughout Eurasia (Wymer 1982:246).

At the beginning of the middle Pleistocene there was Homo erectus; during the early part of the Last Glaciation there was,

4. Ranging from 1200 to 1800cc, with a mean around 1350cc (Holloway [1974] 1975:73).

for the first time, Homo sapiens. Much has been made by Cohen (supra) and others of the fact that there had previously been interglacials in the Pleistocene, so why didn't agriculture get started then? This they hold to be support for their views on advancing population pressure. However, a small fact they conveniently, but amazingly, forget is that Homo sapiens did not exist prior to the last interglacial. Over this period Man with traits most conveniently described as Erectus (and with a brain volume ranging from around 900cc to 1225cc) had evolved to Man with traits most resembling those of modern man, or sapiens (Wymer op. cit., p.133); in other words the smallest Homo sapiens brain volume equalled the largest in Homo erectus.

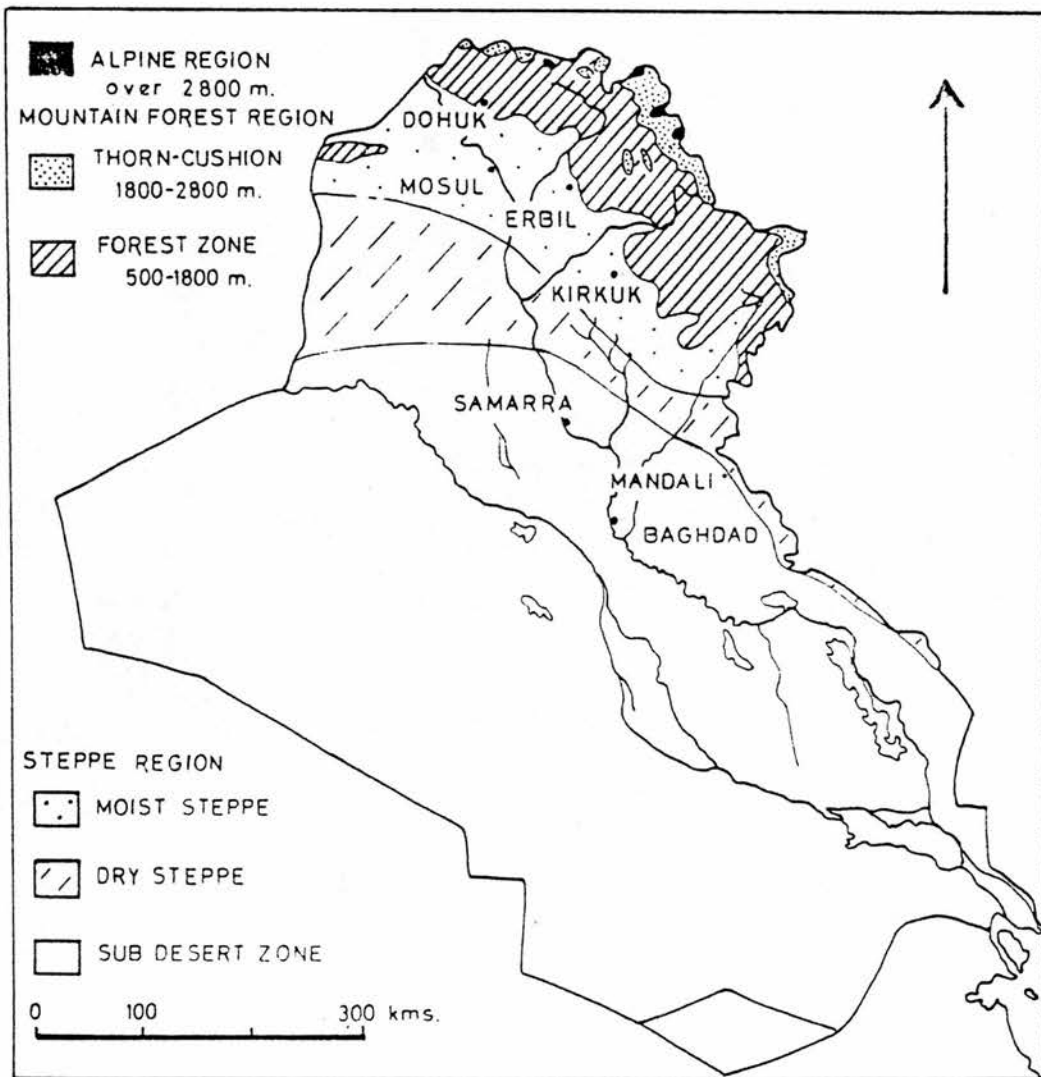
Homo sapiens sapiens fully modern man, is only about 40,000 years old (Bordes 1968:224; Le Gros Clark 1971:353). The transition from Middle to Upper Palaeolithic being "more or less concomitant with the transition from Neanderthal to modern man" (Bordes op. cit.). It is, then, not fortuitous that the Dolni Vestonici finds of experimental pottery occur when they do (c.23,000 BC), nor that cave art appeared for the first time in this period (Jochim 1983: 212).

#### 4: Post-Glacial Conditions in the Near East

The Zagrosian Arc, together with the northern Mediterranean as far as Spain, was denuded of woodland during the last glaciation (Würm). Instead, its ecology was characterised by Artemesia steppe, comprising grasses and chenopods, as analysed from the palynological record by H.E. Wright (1977:284). The relatively abrupt change to the Holocene raised both temperature and precipitation over the whole Mediterranean basin, bringing with it the present Mediterranean climate of winter rain, summer dry conditions. With orthographic rainfall on hills and mountains tree climax vegetation - oaks, cedar, pistachio - spread right along the

Zagros-Taurus ranges, even in some particularly favoured areas forming a closed canopy, that is, a true forest (Van Zeist 1969: 40-1). However, most tree cover was Quercetum, open oak woodland or savannah, which occurred not below 500 metres in our region. Upland climax vegetation in Iraq is indicated on Map III. Observe that riverine galeria forest, as other lowland features, is not distinguished here. It does not mean that those features were absent.

MAP III: ZONES OF NATURAL STATE OR CLIMAX VEGETATION IN IRAQ<sup>5</sup>



5. From Oates 1980:305.

In most parts, then, only steppe-forest or parkland was formed, placing no restriction on the growth of grasses. Indeed where rainfall was insufficient to support trees, grasses could still thrive. Map IV shows the natural distribution of wild barley (Hordeum spontaneum), while that of the wild grasses: einkorn (Triticum boeoticum), and emmer (Triticum dicoccoides) are shown in Maps V and VI (overleaf pp.63-4).

In turn grasses, herbs and shrubs support grazing animals and, of course, the hunters that prey on them. Their association has been succinctly described by Simmons (1974:119) who, while pointing out that true forest has by far the highest rate of primary productivity; when it comes to secondary productivity, that is biomass available to animals, savannah has the highest productivity because:

the shelter of the scattered trees result(s) in a very high primary productivity at ground level. Here can be seen a fundamental reason for the high densities of wild animals in African savannahs, particularly when specialist grazers of swamps and tree tops are added to the ground-level suite. Because they are adapted to use a greater proportion of the forage than domestic livestock, the biomass of wild herbivores on extensive grazings is nearly always greater than domestic stock. (Idem).

Specific productivity, albeit from measurements in North America (Minnesota) are shown in the following Table:

**TABLE III:2: Comparative Production of some North American Ecosystems<sup>6</sup>**

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Cedar Creek, Minnesota, primary productivity  
(kg/ha<sup>2</sup>/yr)

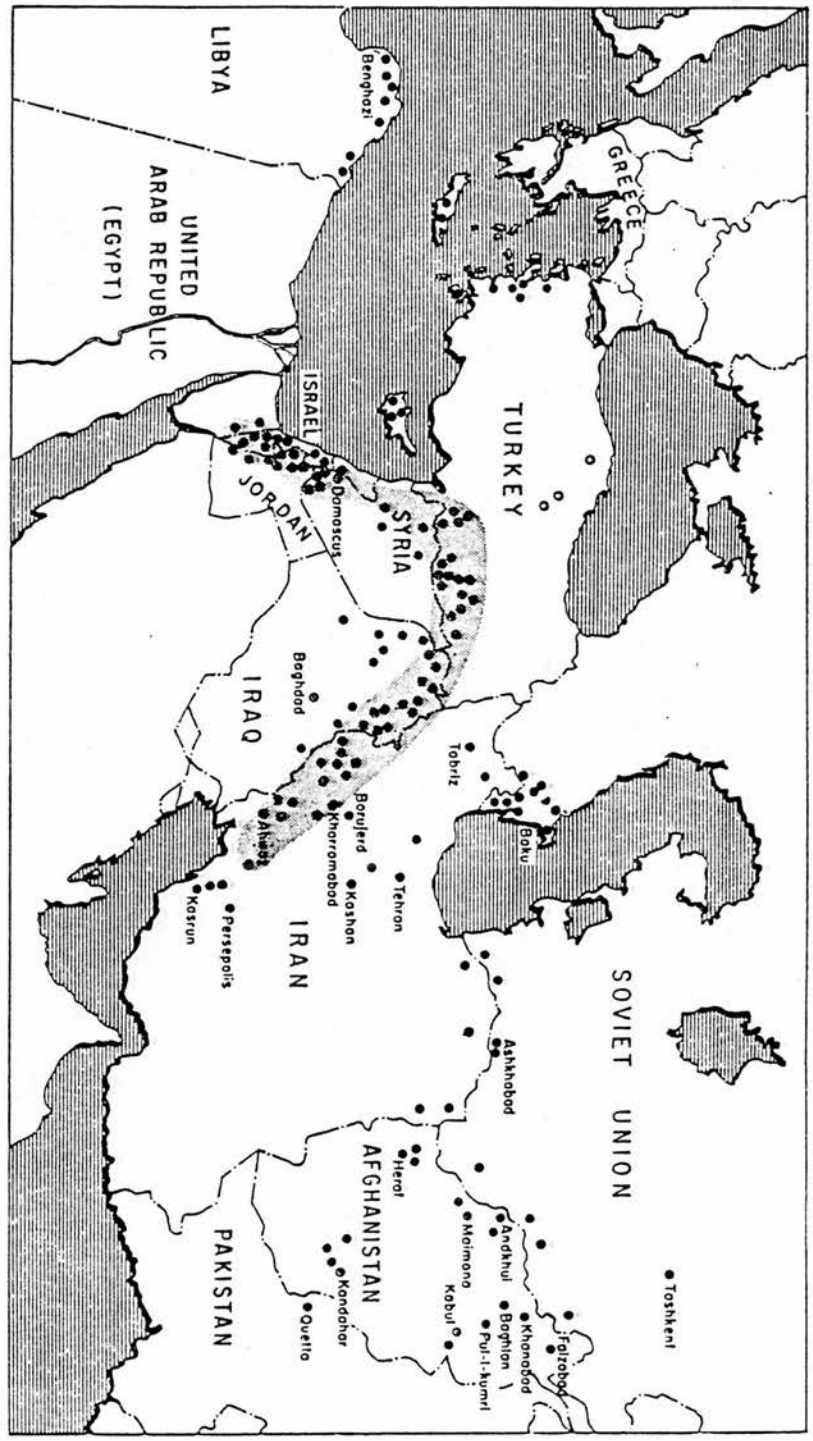
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	<u>Max</u>	<u>Min</u>
Prairie grasslands	9,700	6,100
Savannah	63,200	54,400
Oak forest	257,100	224,200

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6. From Simmons 1974:119.

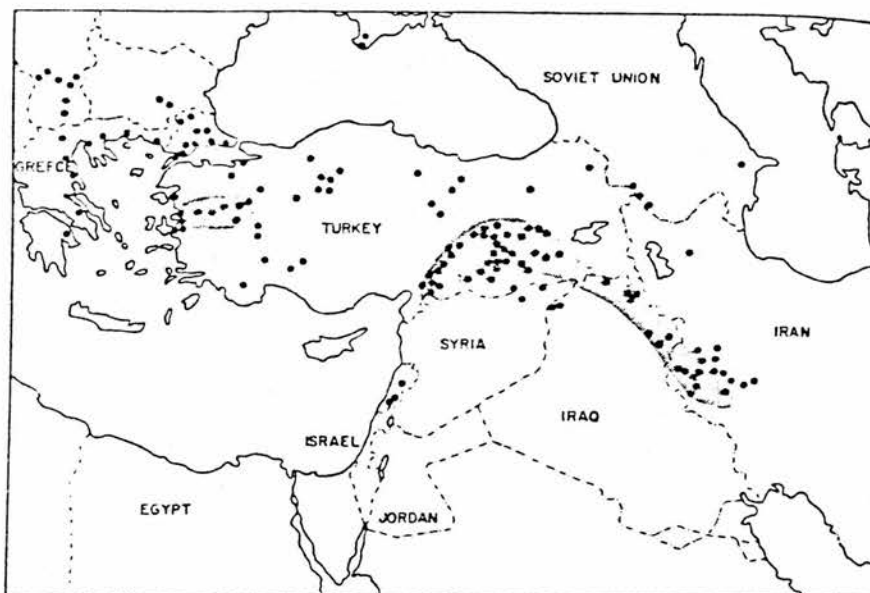
Map IV: Natural Distribution of Wild Barley



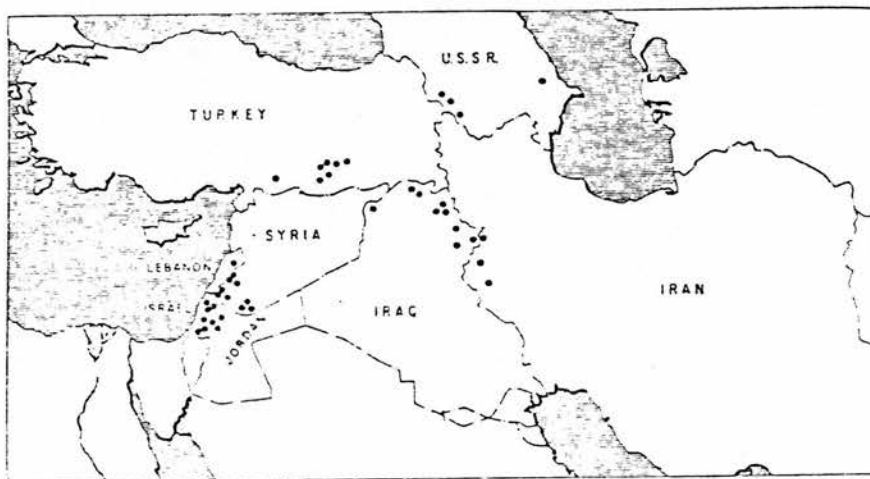
Distribution of known and reasonably certain sites of wild and weed barley. Massive stands in fairly primary habitats may occur within the shaded area. Elsewhere, spontaneous barley is mostly a weed confined to highly disturbed habitats (from Harlan and Zohary 1966)



**Map V: Natural Distribution of Wild Einkorn**



**Map VI: Natural Distribution of Wild Emmer**



Source: Harlan 1977:362.

Of course all domestic livestock began as wild herbivores, though the pig is really an omnivore. Goats feed mainly on leaves and thus can live in hilly and bushy regions, while sheep prefer short grasses and their preferred habitat is that of open pastures (Herre & Rohrs 1977:258-9). Nonetheless sheep and goats need to drink regularly while gazelle, by comparison, are relatively indifferent to surface water supplies (Legge 1977:64). By contrast the aurochs (Bos primigenius) from which, as its name suggests, European cattle were derived, probably lived in open parklike areas (Herre & Rohrs, op. cit., p.263), that is, savannas; while the Bos gauros, the gaur of India and Burma, like the endangered banteng (Bos [ bibos ] javanicus) of southeast Asia, is at home in the forest (ibid., pp.264-5). The natural distribution of Bos primigenius is given below (Map VII). It was the first bovine

Map VII: Natural Distribution of Bos Primigenius<sup>7</sup>



Bos primigenius

Interrupted hatching indicates areas insufficiently known.

▲ Evidence in western Siberia and Kasachstan

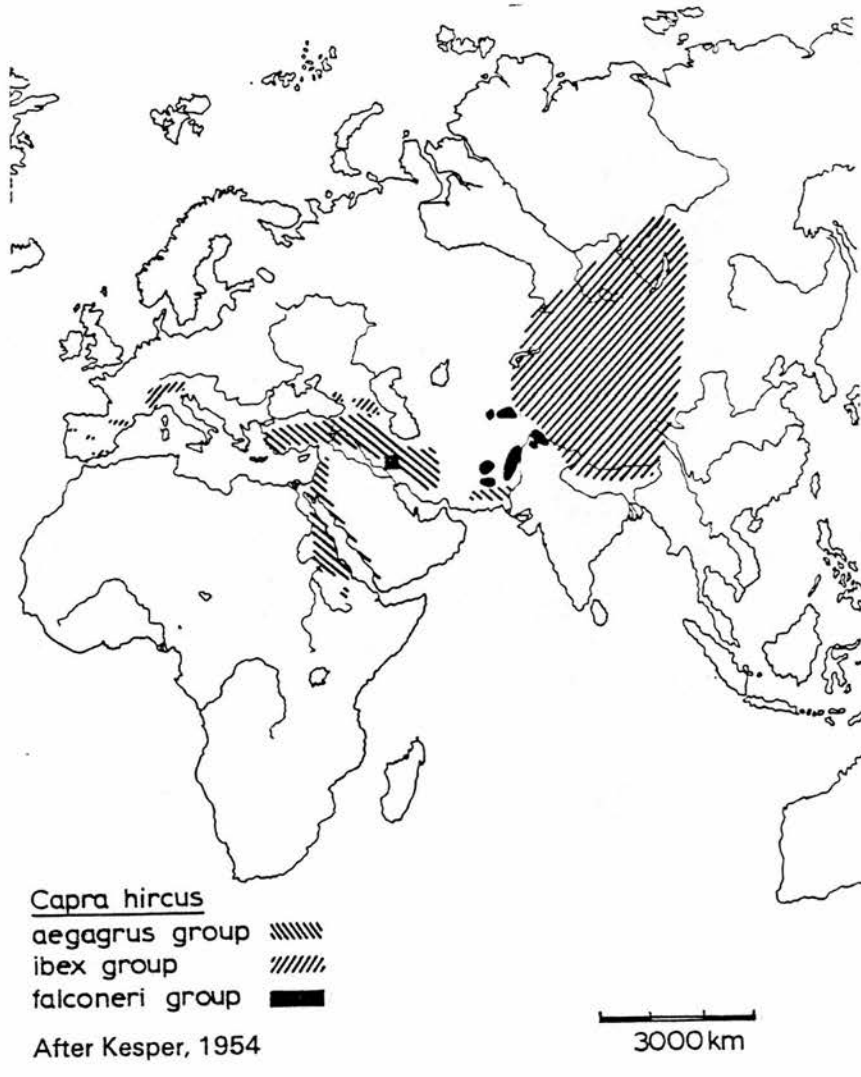
After several authors

3000km

7. From Herre & Rohrs 1977:263.

to be domesticated, but that was achieved (probably in Anatolia) c.2000 years later than sheep and goats. The natural distribution of goat (Capra hircus), in which the populations of Capra aegagrus supplied the first domesticated flocks, is shown in Map VIII. Overleaf (p.67, Map IX ) we have the distribution of sheep (Ovis ammon), from which the orientalis group produced the first domestications.

Map VIII: Distribution of Capra hircus<sup>8</sup>



8. From Herre & Rohrs 1977:258.

Map IX: Distribution of Ovis ammon<sup>9</sup>



The overlap of the ranges of those plants and animals make it most likely that, as Jack Harlan says of what he calls the 'Near Eastern nuclear arc' (1977:364): it appears to be the arena of the domestication of barley, emmer, einkorn, pea, lentil, flax, chick-pea, broad bean, bitter vetch and other vetches, as well as sheep, goat and pig. Cattle probably were first domesticated within this arc or close to it".

9. From Herre and Rohrs 1977:257.

For the Levant, Legge (1977:59) has indicated an increasingly selective management of hunted species (gazelle, fallow deer) from the Late Palaeolithic up to and including the Early Ceramic Neolithic, with a relatively low dependence upon plant food. He goes on to remark that "most of the known and densely occupied Natufian sites in Palestine are marked by lack of arable land, though in ecologically varied settings and with good grazing resources". After the Natufian period such sites as Nahal Oren, Rakafet, Shuqbah, Hayonim, Ain Mallaha, and Kebara manifest "an abrupt cessation of occupation" (ibid., p.61) and it cannot be accidental that arable soils at those sites seldom exceed 20% of the territory. In contrast, some of the major, long-lived tell sites of Palestine, such as Jericho "possess roughly equal amounts of arable land and rough grazing within radii of 2km and 5km of the site, with the added advantage that much of the soil can be subject to irrigation" (idem). Further, the large tell of Megiddo shows a concentration of 62% of area being arable soils (idem).

Broadly, Legge (op. cit., p.62) suggests that from the Middle Palaeolithic forward we find hunters in the Levant occupying cave dwellings, while from the Mesolithic onwards we find settlement building up at open sites, such as Jericho, Hureyra and Mureybit. This he sees associated with a shift from gazelle to sheep and goat exploitation resulting in the virtual abandonment of the gazella species, despite its previous importance over millenia as a food resource (op. cit., p.64). Beyond those observed shifts Legge, following Higgs & Jarman (1972:3-13), is arguing for the virtual domestication of gazelle, on the basis of "a pattern of exploitation difficult to separate from 'domestication' were the animals in question sheep or goats" (1977:62), because "some degree of manipulation, control, of deliberate selection is involved", as also for plants, and this right back to the late Pleistocene. However such manipulation as there was, and this is inferred from

kill age-ratios (Legge op. cit., pp.55, 57), seems much more like the 'intelligent predation' cited by Clark (1980:45) in regard to the European mesolithic, which "served to maintain the reindeer population at an optimum level having regard to grazing potential". Human predators in substance displaced other predators, and so taking this along with the lack of intimacy involved, Clark states that "it would be going too far to rank it as tantamount to domestication" (idem). Indeed, as immature animals are simply easier to catch, this may give the impression of "culling". Hence, close contact with, and knowledge of, the fauna and flora upon which they depended is characteristic of most Upper Paleolithic and Mesolithic populations, and indeed modern hunter-gatherers (Flannery [1968]1971:69 Harlan 1975:24-28). There can be little doubt that such awareness served as the prerequisite to the true domestication of plants and animals. Domestication refers to morphological changes in plants and animals under human manipulation resulting in behavioural changes from those obtaining in the wild state. Thus a fully domesticated plant or animal is completely dependent on man for survival (Harlan 1975: 64). These are changes in ecological adaptation brought on by cultivation or management but are not reducible to them. But this point about awareness as the prerequisite to domestication, quite in accord with Braidwood's ideas (e.g. 1960, 1972) about the historico-technical bases for farming, is in fact lent support by Legge himself when he suggests that sheep and goats supplanted gazelle (and that fairly suddenly!) because the ovicaprines "are more readily integrated into a sedentary, crop producing economy, with the 'failure' of the gazelle related to its unsuitability for husbandry on a sedentary basis" (1977:64).

Thus there does indeed seem to be a change of kind, and not just of degree, in subsistence strategies involved in 'settling down with true domestication'; whereas what Zeuner (1974:125) terms "the social parasitism of man on the reindeer" is only possible because "neither was compelled to adopt any profound change of habits". In contrast the very substance of domestication is not

just 'an efficient pattern of exploitation' but regulated reproduction under human control, with all the morphological and behavioural changes that ensue, and which were noted as being absent amongst the gazelle. Most significant, of course, are the social-structural changes involved in 'keeping' animals and raising crops. This is emphasised by the zoologists Herre and Rohrs (op. cit., p.254) in their statement that "the attempt to procure a dependable meat supply must have been the factor of major importance"; and whereas Legge (op. cit.) resorts to some rather shaky speculation about increasing dessication to explain changing man-animal relationships, Herre and Rohrs (op. cit., p.254) look to the human end of the equation under which some kind of "population changes, destroying the balance between man and animal are a more probable cause of domestication than are climatic changes". In any case we have noted climatic change in the Near East to have been in the opposite direction to increased aridity on any but the most localised level.

In the subsequent chapter I shall be looking in detail at the process of permanent settlement, population increase, local density problems and, thus, a 'changed balance between man and animal' which substituted production for procurement. So the next step is to examine the domestication of grasses.

## 5: The Cereal Revolution

Thus far we have seen that, due to the edaphic, temperature and precipitation conditions of the Zagros and its piedmont, the prevailing Holocene plant association has been of "thick herbaceous cover occupying the openings between the well spaced trees (Quercus ithaburensis in the west and Quercus brantii in the east)" (Zohary 1969:56). This belt receives between 400mm and 1,000mm of winter rain (ibid., p.55).

The cereals seminal to farming, the wheats Emmer (Triticum boeoticum) and Einkorn (Triticum dicoccoides) plus barley (Hordeum spontaneum), favour hard limestone and basaltic bedrocks with their associated heavy soils that occur over a considerable part of the sub-Mediterranean quercetum belt (Zohary, op. cit., p.55). There the wheats and barley, along with oats (Avena) and goatface grass (Aegilops) form the dominant annuals. So much so that "in the Quercus ithaburensis and Q. brantii formations and related park-forests or 'moist-steppes', that stretch from Palestine to South Turkey and Iraqi and Iranian Kurdistan, one finds extensive 'natural fields' of wild cereals" (ibid., p.56). On cultivated slopes, these natural fields extend continuously for many kilometres, while both in their growth and total mass, wild fields of wheat, barley and oats are not inferior to their cultivated counterparts (idem). In terms of actual grain productivity the robust wild forms also compare favourably with the cultivars. In years of good rain, wild stands of T. dicoccoides mixed with H. spontaneum in eastern Galilee yield some 50-80kg of grain per dunam (i.e. 1,000 square metres), compared with yields of 50-150kg per dunam of cultivated barley and durum (wheat) employing scratch-plough agriculture (idem), with the loss of land to grazing that requires.

Similarly extensive 'fields' of wild cereals extend along the Zagrosian arc from Palestine, through Syria and southern Turkey into northern Iraq and western Iran, but the species composition varies. While wild barley (H. spontaneum) is everywhere present, the Palestinian tetraploid wild emmer wheat (T. dicoccoides) is replaced in Turkey, Iraq and Iran by diploid wild einkorn wheat (T. boeoticum), admixed occasionally with tetraploid Triticum araraticum (idem). Barley is inhibited by cold and seldom occurs naturally above 1500 metres, while wild einkorn, by contrast, is very tolerant of cold and exposure. In Turkey it grows above 1500 metres, and as high as 2000 metres in the Zagros Mountains (Flannery 1973:277). Its primary range appears to be the Zagrosian arc and the immediately adjacent steppe, while in the Levant it



grows as a weed in disturbed habitats. (Flannery, op. cit., p.277). Palestine is, however, the primary range of robust, large-seeded emmer, where it occurs in very extensive and productive stands. Triticum dicoccoides is almost certainly the ancestor of cultivated emmer wheat (Triticum dicoccum), hence the name. Extensive natural 'fields' of varying composition thus extend in a wide arc from Palestine and southern Turkey, through Syria to northern Iraq and western Iran (Zohary, op. cit., p.56).

Van Zeist (1969:33-45) examining prehistoric environments in the Near East, came to the conclusion that, with warmer/wetter conditions, "the trees like the cereals would have spread from their refuge areas (only) after 14,000 B.P.". This would have produced a distribution of wild wheats and barley little different from that obtaining today. Both palaeobotanical and archaeological evidence lead to the conclusion that, while the gross amount of rainfall in autumn, winter and spring were the same as now, the summers between 10,000 and 6,000 B.P. were drier than subsequently (ibid., p.45). This emphasises the marked seasonality of the region, to which the deciduous oaks, pistachio and almond are so well adapted; and also, of course, the annual grasses. The utilisation of seasonal resources demands scheduling - the phased consumption of resources, while harvests of nuts and grains provide the material for a storage economy (Testart 1982:523-30). The region is also a mozaic of rich and poor, optimal to highly marginal, habitats, often in close juxtaposition due to vertical layering from piedmont to high slopes, rain-shadowing, the presence of springs, wadis and oases, and so forth (Flannery, op. cit., p.283).

The peculiar pre-adaptation of the grains derives from a large seed in an instantly shattering spikelet (wheat) or triplet (barley) that serve to drive the seed into the summer-hard ground within a few weeks of ripeness and before the worst of the dry season (Zohary op. cit., p.57). Indeed the diagnostic feature of wild wheats and barley is their fragile spikes, such that upon

maturity their ears disarticulate immediately (Zohary, op. cit., p.57). This is the 'brittle rachis' phenomenon. The spikelets/triplets act like arrowheads driving their seeds into the soil. Barley ears and their triplets are shown in the photograph on the following page. Wild cereals produce seeds of similar size to domesticated plants, so that a seed with a good reserve of nutrient is buried 'ready to go' with the first effective autumn rain for successful competition in "the lush, herbaceous communities of the oak park-forest belt" (ibid., p.58). Significantly, the major alteration under cultivation was not to size of seed, but to the brittle rachis' instant seed-dispersal mechanism. Also modified was the 'wild-type' regulation of germination, which in T. dicoccoides and T. boeoticum causes one of the two kernels on each spikelet to be inhibited until the following year as a precaution against drought. In barley, which has only one seed per dispersal unit, differential inhibition occurs between triplets of the same ear (idem). True domestication, that is induced morphological change, causes barley to become 6-rowed instead of 2, with the sterile lateral spikelets fertile (Harlan 1975:129-30).

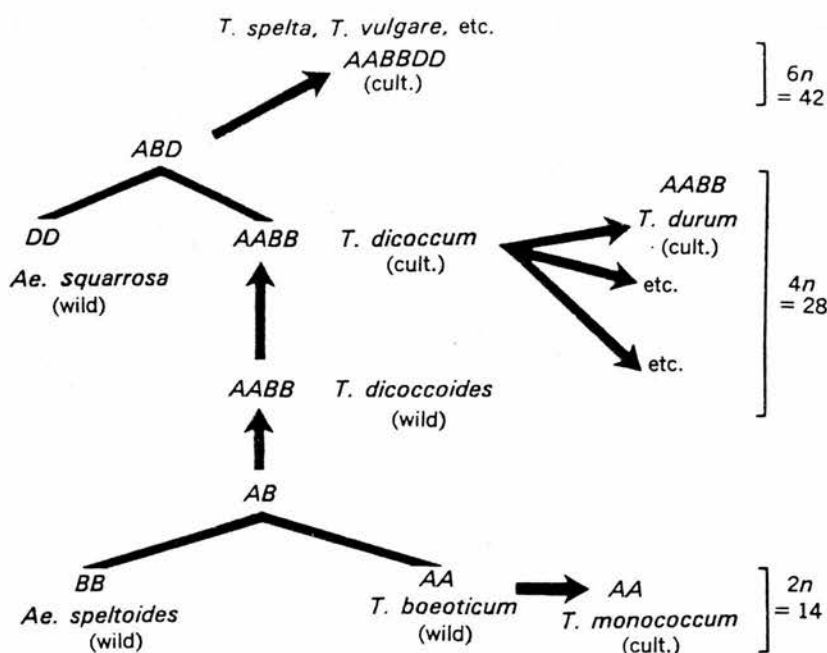
Natural selection thus produces the brittle rachis to scatter seed readily. Under patterns of human collection this still applies, as the less brittle kernels will tend to be gathered and consumed, while the more brittle will shatter on disturbance and reproduce. Only when the less fragile have been gathered and deliberately retained for subsequent planting, will varieties be reproduced that consistently have the preferred non-shattering qualities. "Genes for non-brittleness are thus strongly selected for by the system of harvesting and planting" (ibid., p.60, my emphasis); simply harvesting wild populations does not produce non-brittleness. Once planting was a regular occurrence those preferred traits would fairly readily have stabilised, since wheats and barley are predominantly self-pollinated. This, along with density of stand and large fruit size, being factors 'predisposing' cereals to cultivation; indeed virtually "presenting themselves for domestication" as J.G. Hawkes (1969:24) put it.

PLATE I



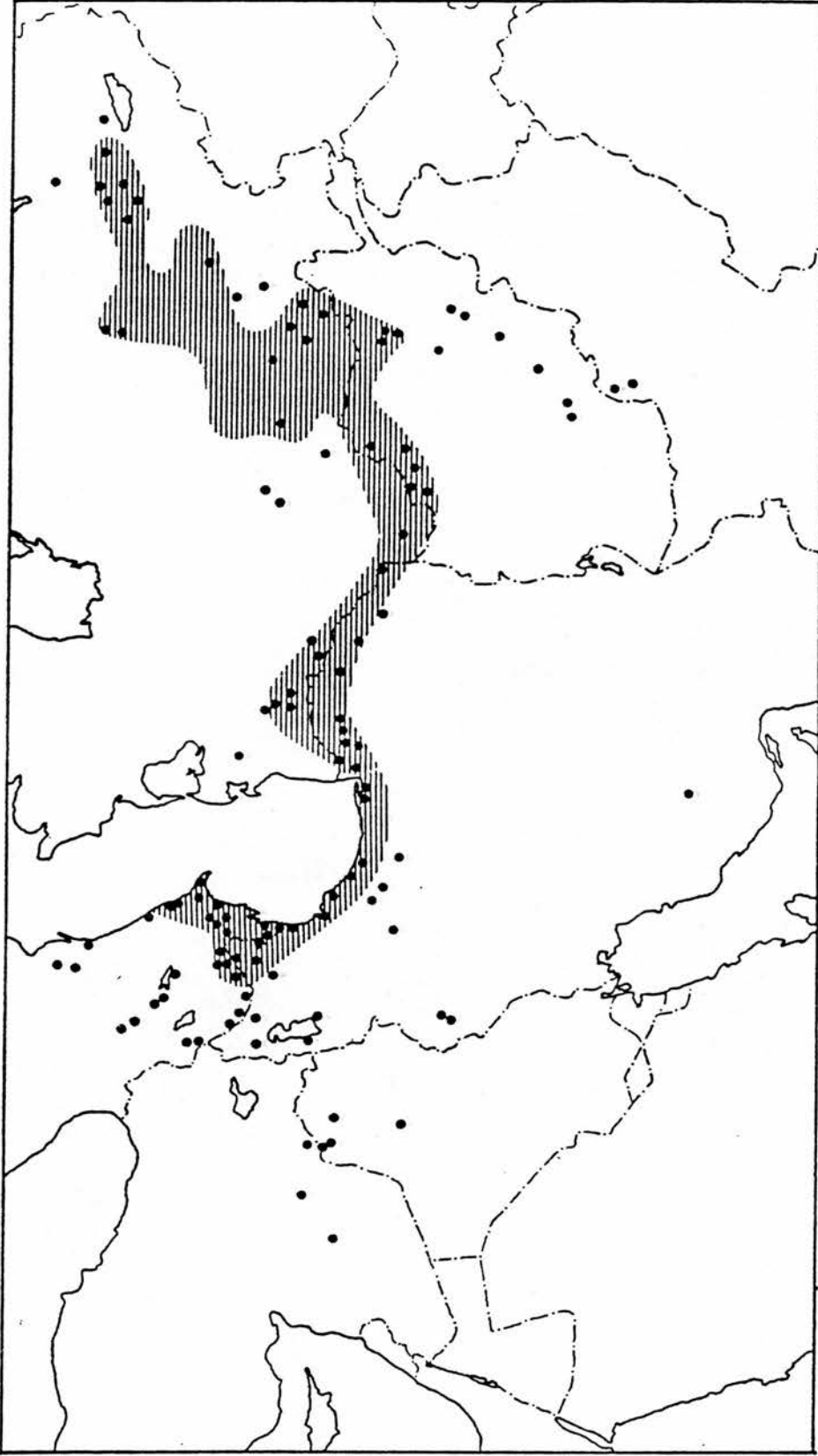
Those grasses, however, are mainly, but not exclusively self-fertilising. After a millenium or so of domestication, emmer-durum wheat crossed spontaneously with goatfaced grass (*Aegilops squarrosa*) whose distribution, as will be seen in the illustration overleaf, adjoins, but does not overlap with the natural range of the emmer-durum wheats. What was formed thereby was the bread wheat, *Triticum aestivum*, a hexaploid plant that has no equivalent in nature, consisting as it does of two sets of chromosomes (genomes A and B) present in the emmer-durum wheats, together with a third set (genome D) from *Aegilops squarrosa* (Zohary, op. cit., p.60). As Zohary observes, *Triticum aestivum* (i.e. bread wheat) was formed by hybridisation and subsequent chromosome doubling, this fusing tetraploid (2n=28) emmer-durum wheats with the diploid (2n=14) *Aegilops squarrosa* and resulting in the hexaploidy (2n=42) of three sets of genomes. The third set (D) of genomes promotes a hardness which enabled the spread of 'mediterranean' emmer-durum wheats to both continental and more humid climatic zones. This quasi-natural developmental process is illustrated below (Figure III:3). The diagram should be read from the bottom, while on the right can be noted the ascending order of ploidy.

Figure III:3: Diagram of the History of Diploid, Tetraploid, and Hexaploid Cultivated Wheats<sup>10</sup>



10. From Baker 1970 [1965]:66.

Map X: Distribution of Wild Goatface Grass (*Aegilops squarrosa*)



Dots represent known sites, and the areas in which primary habitats occur are shaded. (Adapted from Zohary, D., Harlan, J.R. and Vardi, A. (1968). The wild diploid progenitors of wheat, *Euphytica*.)

Source: Zohary 1969:62.

Not only do the stalks of the inflorescence of bread wheat not shatter upon harvesting, unlike emmer and the diploid wheats, but the glumes that enclose them open easily permitting the grain to fall out during threshing. Thus they are called 'free-threshing' wheats.

**6: Cereals as the Basis of a Self-Amplifying System**

It is no accident that areas of indigenous 'High Civilisation' are those - Meso-America, China, the Near East - where the domesticated grasses, maize, millet and rice, wheat and barley, became the staple. Harvesting wild einkorn in southeastern Turkey, first by hand-stripping and then by using a primitive flint sickle, Jack Harlan (1967:197-201) was able to obtain easily 2.05 kilograms of clean grain per hour by hand, and 2.45 kilograms per hour using a reconstructed flint sickle. This represents about 50 kilocalories for every kilocalory expended, a ratio far more efficient than any form of agriculture for which there are figures (Harlan 1975:49).

Compared in constitution with hard red winter wheat of premium quality, the wild wheat turns out to be 'far higher in protein', as may be seen from Table III:3.

**TABLE III:3<sup>11</sup>**

**NUTRITIONAL VALUES OF WILD AND DOMESTICATED WHEATS**

	%	%	%	%	%	%
	water	ash	ether extract	crude fibre	crude protein	% NFE*
wild einkorn	7.91	2.77	2.64	2.33	22.83	60.04
modern wheat	10.60	1.80	1.62	2.78	14.50	68.70

\* Nitrogen-free extract, which is mostly carbohydrates other than fibre.

From the above Harlan concludes (1967:198) that ancient man would

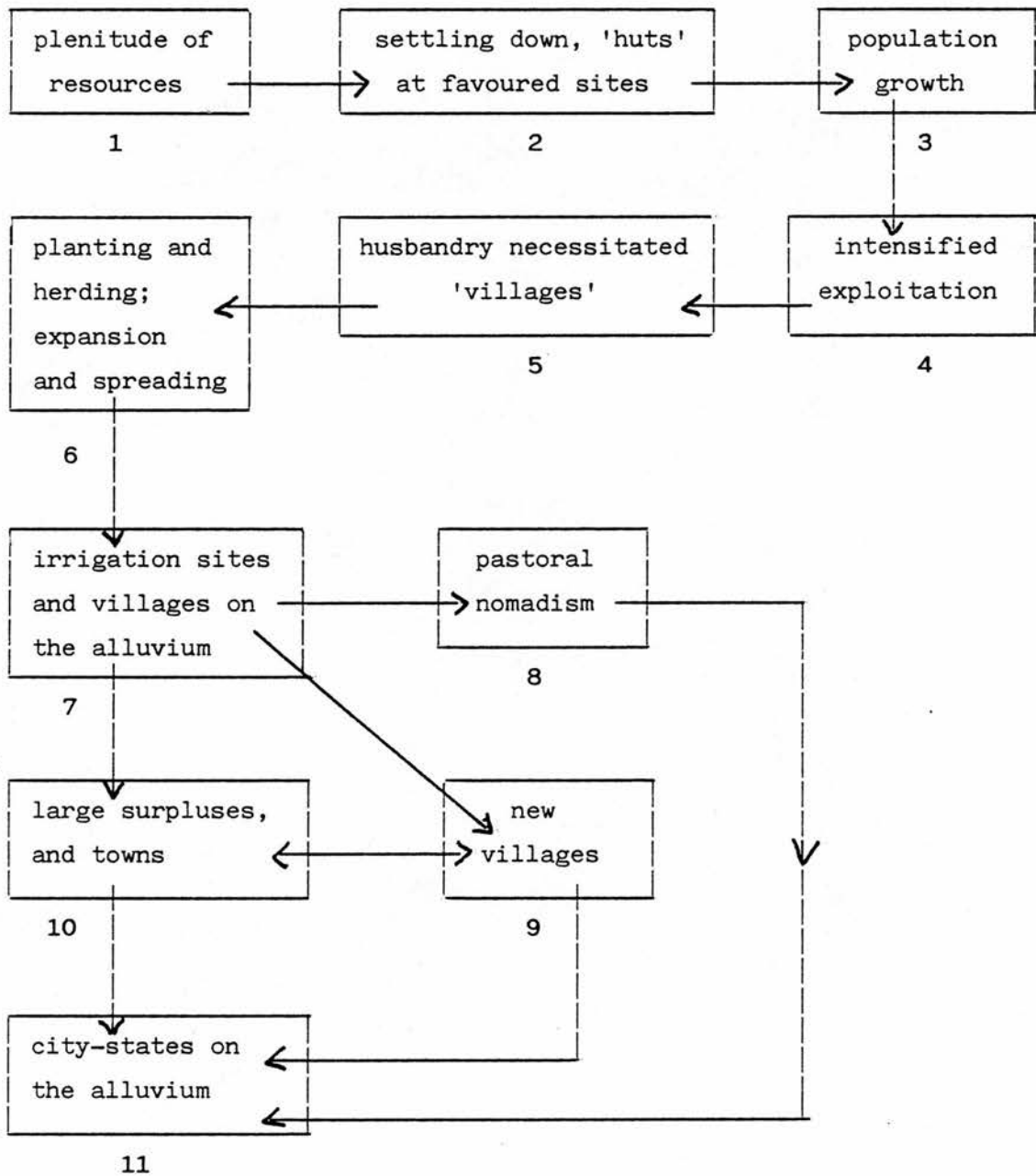
11. From Harlan (1967:198).

have had no difficulty in collecting "one-half pound of protein per hour during the wild wheat harvesting season": a season which can extend from four to six weeks in the one area (Zohary op. cit., p.57). Harlan's evaluation (op. cit., p.198) is very suggestive indeed:

A family group, beginning harvesting near the base of Karacadag a basaltic mountain ridge and working slowly upslope as the season progressed, could easily harvest wild-cereals over a three-week span or more and, without even working very hard, could gather more grain than the family could possibly consume in a year. It seems to me that this would offer a very attractive alternative to living by the chase. To be sure, cereal pottage alone would be dull fare, but the ease of harvesting, the dependability of such a source of food, the assurance that comes with abundant stored food and the high nutritive value all combine to suggest that a way of life more attractive than hunting might be developed, based upon the harvesting of wild cereals. The grain diet would, of course, have been supplemented by hunting, fishing and the gathering of other plant food.

The question then becomes: why adopt agriculture if wild cereals can be so productively harvested? One has, as it were, the productive output of an agricultural cycle without the heavy inputs required. Hence the postulate in the previous chapter that agriculture could not occur as an either/or event - it was a cumulative process. Ultimately, however, there comes a point at which the former balance can no longer be maintained. This is reached when the actively husbanded resources pre-empt the majority of time and effort available, either because ecological relations have been upset by this activity pattern, or because population has grown beyond what the balance will bear. Certainly the accumulation of a tonne of clean grain in a season is a solid staple. Its availability answers the very first question posed about succession - why give up mobile foraging? It is the paths by which a way of life developed from harvesting dense stands of 'free' cereals into being forced to make costly labour inputs continuously that has now to be elucidated. The socio-economic processes involved will be adumbrated in subsequent chapters. Here the evolutionary course followed will be simply itemised as discrete steps in a flow chart (Figure III:4 overleaf) with only outline commentary, numbers referring to stages in the flow chart.

Figure III:4: Flow Chart of Social Evolution from Hunter-Gathering to City-States in Mesopotamia



In the first instance (1) there is a particularly prolific source of calories and protein that is both dense and elastic in exploitation, stable on an annual basis, and eminently storable until the next year's harvest. (2) Those conditions of exploitation engender the necessity of 'staying put', as harvesting/storing is



confined to about one month, and once laid down stocks must be consumed nearby. (3) Sedentism allows population to increase: (a) positively, as there is plenty of food at hand; (b) negatively, since the premium on women's mobility is now lost; (c) complementary to (a) and (b) by the advent of meal weaning foods and later dairy products. (4) With population rising resource exploitation must be intensified and extensified to feed more mouths. (5) Game animals are rendered scarce by increased human pressure and disturbance; husbandry (selective culling) of these resources is required, especially where aquatic animals are not available. Husbandry can readily commence from young animals surviving from the hunt (Bokonyi 1976:20-21). (6) As settlements multiply cereals are taken from their spontaneously occurring sites to others suitable for settlement, primarily those with hydromorphic soils (Sherratt 1980: 315-318) which are permanently damp, such as riverbanks, lakemargins and marsh areas. Thus planting is now necessary for harvesting. Size of settlements practising sheep herding with agriculture grow larger and bud off, thus pushing settlements out in demic 'waves of advance' (Ammerman & Cavalli-Sforza 1973:352).

(7) As population is pushed from optimal to increasingly marginal areas for cultivation, the artificial provision of water is required, where hydromorphic soils cannot be located. Thus we find early irrigation in areas marginal to rainfall farming, as excavated in the Mandali area by Joan Oates (1982:25-29). Success in small-scale irrigation in otherwise marginal areas causes further population expansion and use of the alluvium proper. In order to maximise the use of all the resources of the region as a whole, specialised (mobile) pastoralism develops (8), along with the proliferation of new villages (9). (10) Political and cultic institutions develop in 'central places', around which dense populations cluster crystallising into towns. Towns make their own and quite novel demands on production, no longer just upon existing subsistence production. The natural economy has given way to political economy. The alluvium is the zone in which, with irrigation developed, surpluses can be maximised and a high

population density sustained. It does, however, give rise to new administrative organisational structures, the outcome of which is the evolution of a hierarchy (of administrators and administered) in the place of mere ranking (described in Chapter VI). Finally (11) competition and consolidation promotes the formation of a ramified politico-economic entity, the city-state; first, as will be seen below, on the settlement alluvium. Thus with the concomitant development of a written language to facilitate the administration of the resultant complex political economy, prehistory has ended and (written) history has begun.

In conclusion a note on the bifurcation occurring specifically at Row C of the flow chart, where pastoral nomadism emerges. Sequential evidence to be reviewed in the next chapter shows that plant domestication broadly evolved along with the domestication of animals, though secondary products like wool and milk were considerably later. Mixed farming was practised, for reasons of ecological prudence or dietary variety, wherever the terrain allowed. Pastoral nomadism is thus a later specialisation not only on temporal grounds but because it is a 'part society' (Barth 1960: 71) depending as it does on settled society for its grains, oils and manufactures. Of specialised pastoralism Barth (*idem*) states, "their culture is such as to presuppose the presence of such [sedentary] communities and access to their products. As far as the economic structure of an area is concerned, nomad and villager can therefore be regarded merely as specialised occupational groups within a single economic system".

The specific period of emergence of specialised (i.e. full time) nomadic pastoralism, and not merely seasonal transhumance, Lees & Bates (1974:187-193) have argued to coincide with that of irrigation agriculture on the following grounds: (1) mixed farming allows animals fed either agricultural surpluses or more usually upon waste to function as a nutritional reserve in years of poor cereal crops and thus herding would not easily be separated out by agriculturalists. (2) The pressure to do this arose only after

settlement of the alluvium proper, at which point a number of factors, which tended to be mutually reinforcing, came into play: (a) labour demands of intensive agriculture coupled with the labour required on canals and ditches meant that the labour involved in seasonal movement of stock by members of a family or village could not now be spared, especially when coupled with the extended distance of the alluvium villages from their former areas of transhumance in the hills to the north; (b) as population rose with the newly elevated levels of grain output new villages were founded and extra land was taken into cultivation through extended irrigation networks. This, however, would take into cultivation 'next best' land, that is, the more moist land previously offering better forage in its unimproved state. This leaves only the poorest forage grounds near the village plus seasonally available field stubble, both too scant to support herds of any size.

As good grazing land became scarce on the alluvium, a niche was created for non-cultivating pastoral nomads on long range circuits not confined to the alluvium. Pastoral nomads derived partly perhaps from internally displaced elements<sup>12</sup> and partly from hill-herding outsiders (cf. Woodburn 1972:205; Mortensen 1972:293-297) and in part from those, notably in Syrian rain shadow areas, where herding was always primary; the specialisation allowing full use to be made of the region's potential. In the process the pastoralists developed their own villages and had sectors in others as we know from textual evidence. Contemporary practice, such as that reported from India by Allchin (1972:117), supports this construction:

Throughout India there are communities or castes who specialise in the management of flocks and herds, either on behalf of villages to which they are attached or as independent owners or agents who herd them in remote or uncultivated areas and bring their young stock to fairs and markets at certain times of year to sell to farmers on the plains as draught oxen or milking cows. Today

12. Such as the original dry farming Deh Lurans (see next chapter), who had traditionally practised transhumance, displaced by the arrival of post-Samaritan irrigation agriculturalists (Hole 1977:17).

such pastoral people operate in a kind of symbiotic relationship with settled agriculturalists with whose yearly routines their movements are closely integrated.

Allchin stresses this relationship is of importance especially in the dry areas. In short the view accepted here is of a fundamental bifurcation in the mode of production emerging as part of the crystallising division of labour in Mesopotamian society<sup>13</sup>. The development of specialised nomadic pastoralism was, as will be delineated later, almost as profound in its long-term consequences as was the emergence of ruling as the occupation of a distinct stratum of society, in which the nomads were often a major force with which the states had to contend.

13. Although herding did not originate with irrigation on the alluvium, cf.: discussion in Chapter IV on mobility and land-use.

## CHAPTER IV

### THE ORIGIN AND GROWTH OF VILLAGES

Here archaeological flesh will be put on the bones of the flowchart above (Figure III:4, p.79). The procedure will be to detail the course of succession in the Near East starting with the terminal Paleolithic. Three groups of sites indicative of three zones are selected for examination on the basis that they illuminate different parts of the Zagrosian arc, from Palestine to the Gulf, and specifically because they each embody time-depth. This involves not a comprehensive survey, but illustration. The movement will be from West to East, from the Levant to Mesopotamia, with greatest attention being given to the latter because it is the area of central interest in this work, and also because it is an area of recent and intense survey and excavation. The three zones are illustrated on Map XI overleaf (adapted from Singh 1974: Fig.2).

#### 1: The Levant

Nearest the Mediterranean we find the Natufian Mesolithic to Neolithic culture,\* extending from c.10,000 to 8,000 BC. Centred on Palestine it is known from Syria to outliers at Helwan south of Cairo. Generally, however, the culture is concentrated south of Beirut and west of the Jordan with no site more than 40 miles from the sea (Garrod 1957:212). The Natufians, successors to the Epi-Paleolithic Kebarans in their area, continued the generalised hunting of the Kebarans, but added to it the reaping, storage and processing of wild cereals, for which purpose they moved their living sites from the coastal plains inland to the terra rossa limestone uplands then covered by the Pistacieto-quercetum belt in which wild emmer and barley grew (Mellaart 1975:30). Accordingly a new suite of equipment occurs that includes sickles, querns,

\* These terms are used with the reservations made at the outset and because no other classifications are current.



mortars and pestles, and clay-lined storage pits. This was a transitional economy, and hunting continued with gazelle, ibex; fallow and roe deer and boars as major prey, along with fishing and the gathering of plants and molluscs. Indeed, for the Lower Natufians (earliest), hunting and fishing remained the major source of food (Garrod op. cit., p.216). The continued importance of hunting into the Upper Natufian is indicated by the innovation of the flint arrowhead (ibid., p.224), of which many were found. Natufian Mesolithic is the immediate precursor of Neolithic sites such as Beidha. Presently it looks as if the Kebaran hunting economy continued in the more desertic environments such as the Negev, while some of them, such as those at Beidha, settled at places where they could exploit cereals and tree crops, as well as hunting and fishing, and those were the hill zone and plateau areas (Henry 1973:188; Mellaart op. cit., p.30).

Beidha is the site, near Petra on the east bank of the Jordan, of a Natufian village dating from about 7,000 to 6,500 BC (Kirkbride 1968:263-265). Its elevation, at 1,000 metres is quite high and its area 0.4 ha. of which about half has been excavated. It is a permanent village lacking pottery, which along with other characteristics, associates it with the lowest (earliest) levels at Jericho, called Pre-Pottery-Neolithic (PPN with suffix A, B, etc.). Instead of pottery Beidha people used stone bowls, troughs and mortars. Baskets coated with lime plaster and bitumen also served as containers. (Kirkbride 1968:268). Wood seems to have been the preferred medium for food preparation, since stone bowls are relatively scarce. The key point is however twofold: wild barley was cultivated (Kirkbride's term, ibid., p.267), as also was Emmer in a range of forms indicative of transition from the wild race to the domesticated. Associated with this were (carbonised) large baskets of pistachio nuts and acorns, along with other vegetable foods such as field-pea, two kinds of wild lentil, vetch, medick, cock's comb plus other leguminous plants. And while still hunting, the people of Beidha herded goats (idem). With this there was associated a degree of craft-specialisation in the existence of

'houses' too full of raw materials - bone, wood, stone and ochre, (malachite and hematite as pigments) - to be other than workshops.

By the time of Level IV, perhaps 200 years after Level VI, a series of large fine houses, about 5 x 6 metres, appear disposed along two sides of an open area like a plaza. Floors and walls were plastered and they had large interior hearths with raised and plastered sills. Stone bowls were set in the plaster near the hearths (Kirkbride op. cit., p.270). The excavator saw this as "a hint of a privileged and a not-so-privileged class" (idem). All houses are still, as indeed at all times on the site, 'semi-subterranean' and entered by a flight of 3 stone steps. Between Levels IV and III there is a discontinuity, after which the whole village was rebuilt simultaneously, perhaps as a result of earthquake damage on the now more vulnerable stone buildings. For the first time truly rectangular buildings appear (when formerly they were curvilinear or rectangular with rounded ends), integrated into a gridplan layout of the whole village (idem). In strongly built stone baulks there is also evidence that second storeys were built, something facilitated by the rectilinear walling.

Continuity is marked, however, by what seems to be the religious function of a large (9 x 7m) building containing a highly polished table or seat and a circular stone-lined pit at the base of which was a large stone, both outlined in red paint, about a metre wide, which ran parallel to the walls of highly burnished white plaster and continuing up them (ibid., pp.270-1). The pit feature at least, occurs in earlier versions of this house in the same relative position. Handicraft specialisation continues, the number of chipped stone axe-heads greatly increases (for tree felling?) and querns are abundant everywhere (ibid., pp.271-2). But what is clearly a religious complex of considerable size and cost lies at a distance of about 45m from the village and is perhaps associated with burials or a cult of the dead. It consisted of no less than three structures of different periods with associated standing and lying ('horizontal') stones aligned to the cardinal



points. "The materials were obviously hand-picked with loving care, to which may be added the fine workmanship and absolute cleanliness of each one, quite apart from the labour and organisation involved in detaching and transporting the huge blocks of sandstone from the mountains " (Kirkbride op. cit., p.273).

Level I is poorly preserved at Beidha due to Nabatean terracing. Nevertheless, at all levels at great number of chipped stone artefacts were recovered, ranging from mortars and pestles to sets of arrowheads. From his study of them, Mortensen (1970:47) concludes that type stability is so high at 93.9% that "we must conclude that the chipped stone industry from Level VI to Level II represents a development from generation to generation within the same group of people". The point being that permanent and durable settlement precedes and lays the basis for farming, thereby instantiating Row A of the flowchart (Figure III:4, p.79). And as for the postulate (box 3, Figure III:4) of consequential population growth, Mellaart (op. cit., p.32) is in "little doubt ... that by the end of the [Natufian] period their numbers would have increased as the result of their improved economy". The Natufians exploited all of the flora and fauna and made artefacts of all available materials - bone, stone, wood and reed.

## 2: The Zagros

Further instantiation can be had from the site of Zawi Chemi-Shanidar in Northern Iraq, representing in the Zagros a phase that is the nearest equivalent to the Natufian of the Levant (Mellaart op. cit., p.70; Solecki 1981:66). Zawi Chemi is a pre-pottery, proto-Neolithic site of 250 x 275 metres (of which 112m<sup>2</sup> has been excavated to 3m depth), located in a modern wheatfield on a terrace over the Greater (Upper) Zab (Map I and discussion pp.51-2). The valley floor is at 425 metres, and surrounded by high mountains (Solecki op. cit., p.67). Zawi Chemi is the open air site, Shanidar is a cave with a long Paleolithic occupation. Dated to the

mid-ninth century BC, Zawi Chemi is relevant not because of continuous occupation through qualitatively distinct phases but because, in the middle of the region of particular interest (the Zagros), it seems typical of a range of sites of its period, such as Karim Shahir, M'lefaat<sup>1</sup> and Gird Chai (downriver from Zawi Chemi), with which it has "close cultural parallels" (Solecki op. cit., p.63).

This was a period in the Zagros already getting warmer and wetter, with trees, cereals and other plants spreading out from refuge areas, one of which, that of the Rowundaz River (a branch of the Greater Zab), is only some 35km southeast of Shanidar (ibid., p.59). Nonetheless, in the ninth millenium the general environment of Zawi Chemi was characteristically steppe-savanna (Leroi-Gourhan 1981:77) on palynological evidence. As elsewhere in Mediterranean and sub-Mediterranean zones, modern levels of humidity were not fully attained before c.6,000 BP (Van Zeist, Woldring & Stapert 1975:139-40). Today the undisturbed vegetation of the region is oak forest (Solecki op. cit., p.56). The Zawi Chemi area was rich in wild game; species hunted included both large (bear) and smaller animals, with red deer, wild sheep and goats being preferred prey (Perkins 1964). By the end of occupation at Zawi Chemi (around 8,000 BC), sheep had been domesticated and formed the major source of meat (Solecki op. cit., p.68). Mullers, querns, mortars, pounders and shaped slabs indicate plant processing, while the advent of stone celts, the earliest so far in the Zagros, were probably used as axes, adzes, gouges and chisels for wood and boneworking, the prominence of the latter again mirroring the Natufian (ibid., p.62). The importance of boneworking, in what Solecki (ibid., p.68) stresses was a period of experiment, lies in the find of a bone reaping knife with a flint blade fixed by asphalt, plus a more 'conventional' sickle handle of bone.

1. See Map II, p.55.

Nonetheless, in contrast to a late Natufian site like Beidha, occupation at Zawi Chemi appears to have been seasonal despite its considerable area (Solecki, op. cit., p.68). Local Kurdi peoples still live in open villages during the warmer months and in the winter move to the shelter of nearby Shanidar cave or others in the vicinity (ibid., p.69). A Zawi Chemi occupation level in Shanidar cave has been dated at 10,600<sup>±</sup>300 BP. Significantly, Shanidar valley lies within the natural range of wild wheat and barley, and palynological evidence suggests, by the definite increase in Cerealia-type gramineae pollen around the site in excess of likely environmental augmentation, that cereals were being increasingly manipulated, perhaps planted in cleared fields (Leroi-Gourhan op. cit., p.77). Layers of this date in Shanidar cave contained storage pits, querns, mortars, grinding slabs and chipped stone tools, together with basket impressions, but the grains involved must have been morphologically wild. Unfortunately no cereal grains have yet been recovered, but the number and diversity of tool types recovered in addition to their applications (e.g. stone-polishing techniques for the production of more efficient and durable cutting edges), means that "Zawi Chemi may be viewed as culturally transitional between the Epi-Paleolithic Zarzian and the later, fully settled villages of the region" such as Ganj Dareh or Jarmo <sup>2</sup> (ibid., p.67). As such Zawi Chemi, like early Natufian, represents the process of 'intensified food collection'; but Zawi Chemi is at Stage II of mobility/settlement, while Beidha is Stage III.<sup>3</sup>

### 3: Khuzistan

To instantiate Rows B and C of the flowchart (Figure III:4, steps 4 to 8), we turn to the long sequences produced by Frank Hole and his co-workers (1969, 1977) in the Deh Luran plain area of

2. See Map II, p.55.

3. Of Mortensen's model (1972:294) as discussed below, p.111, See also Figure IV:1.

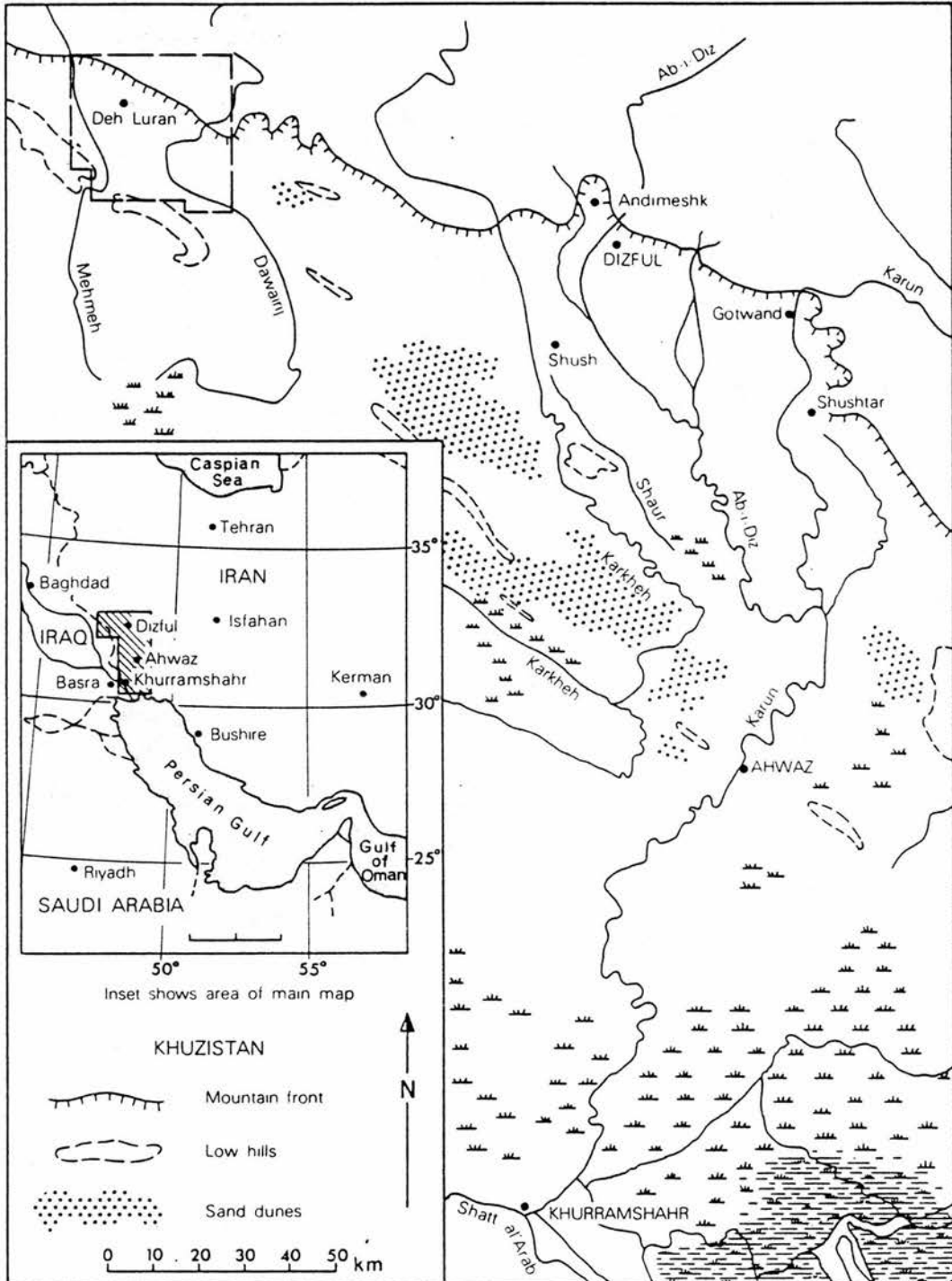
Greater Mesopotamia. These show in one and the same location the transition from seasonal villages not only to permanent ones, but to villages in a matrix where towns are nodal. Unlike other sites throughout the region, those excavated in Deh Luran have the great advantage of being undertaken by the same team over a short period, with the "all-important economic details" (Mellaart op. cit., p.74) prominently in mind, and for whom early and full reports were also a priority. Deh Luran has the additional advantage of reflecting on a small scale the sort of ranges of environment that made for dynamic change in the region as a whole (Kirkby 1977:251; Hole et al. 1969:2). Kirkby's Location Map for Khuzistan as a whole, with Deh Luran, a "microcosm of Upper Khuzistan" (ibid., p.253), shown boxed in the top left corner of the expanded map, follows overleaf (Map XII).

In Deh Luran, proceeding from the Kuh-i-Siah mountains towards the centre of the valley, there are four key environmental zones: 'dry steppe', then the more heavily used alluvial plain, and in the centre the seasonal marsh and floodplain areas (ibid., p.285). Surface slope declines from 5° at the edge to under 0.5° at the centre with boulder scatter confined accordingly. Current vegetation changes in the same direction from scattered jujube (Zizyphus) trees, via Prosopis and Alhagi bushes, to salt-tolerant and phreatophyte species in the centre flats and along the river floodplains (idem). Though natural salinity is present and some parts have been salinised historically, sodium alkilinity is not the problem in Deh Luran that it is in the Tigris-Euphrates valley where, especially in the south, high water-tables and high salinity are the dominant conditions (ibid., p.286).

In order to gain a long sequence covering millenia, excavation was initially undertaken at two sites in the Deh Luran plain: Ali Kosh (the earlier) and Tepe Sabz.\* Ali Kosh is a roughly

4. Both are illustrated relative to contemporaneous sites in Map II, p.55 .

Map XII : Location Map of Khuzistan with Topographic Detail.



From Kirkby (1977:252).

circular mound c.135 metres in diameter, 7 metres in depth, and with a fairly flat summit rising 4 metres above the plain. Tepe Sabz ('green mound' in Farsi) lies 16km west southwest of Ali Kosh and of the modern village of Deh Luran ('village of the Lurs'). It is a large low mound, originally 120 x 140 metres, 10.5 metres in depth, but only 7 metres above the level of the plain.

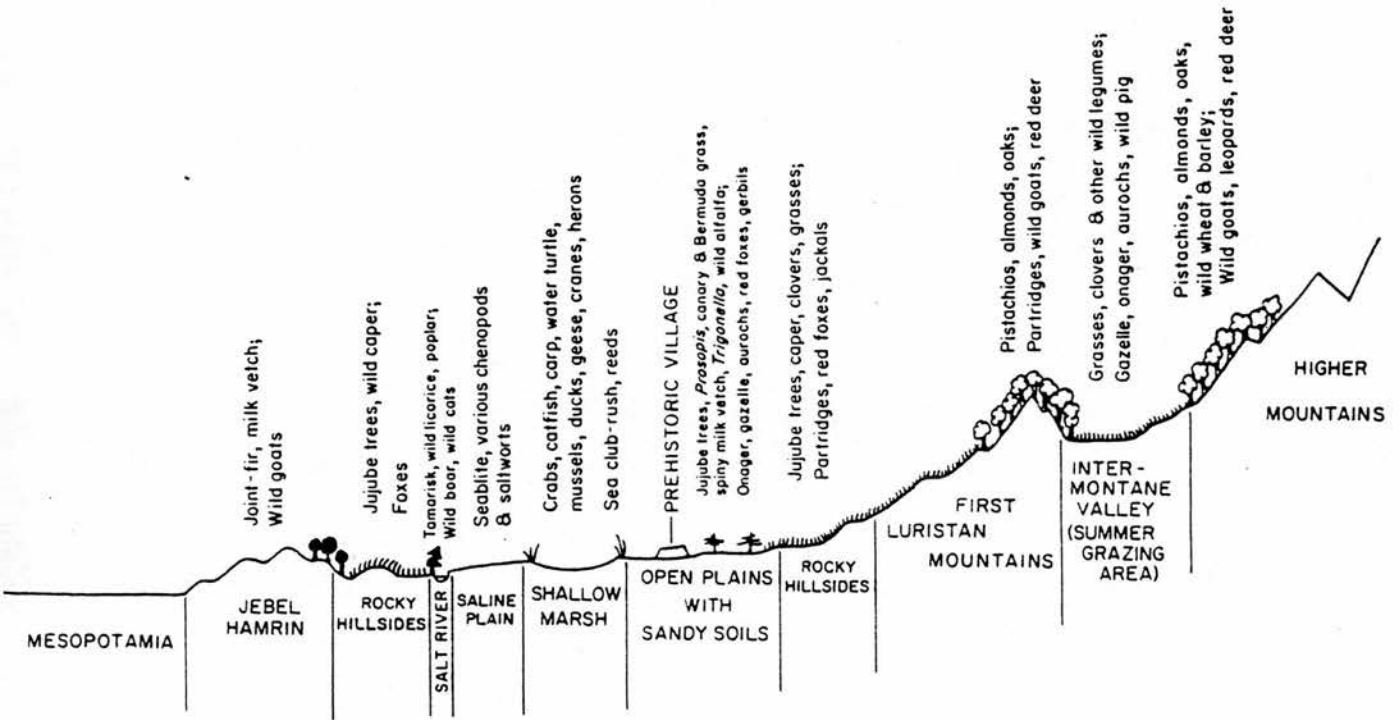
The schematic location of the Bus Mordeh villagers on the Deh Luran cross-section should be noted (see Map XIII overleaf). The village was established in the southeastern part of the plain, in a sandy, relatively well-drained area only two kilometres from the Jebel Hamrin (Hole et al. op. cit., p.342). Small houses or huts, often only 2 x 2.5 metres with walls 25-40cm thick, were constructed by cutting red-clay slabs (15 x 25 x 10cm) for use as unfired bricks (idem). It seems this was the only village on the plain at the time, which, on the basis of artefactual cross-referencing as well as a radiocarbon date of 7,900 BC, makes the Bus Mordeh phase broadly contemporary with sites like Zawi Chemi-Shanidar, Karim Shahr, Asiab and Tepe Ganj Dareh (ibid., p.345).<sup>5</sup>

At this point it is as well to be reminded that

The Zagros-Taurus Mountains consist largely of folded limestones marked by long ridges and valleys, sharp canyons, broad gravel terraces and other diverse geomorphic features that provide a wide variety of habitat for wild game and edible plants. (H.E. Wright 1977:297).

5. Dates were revised by Hole (1977:27) on the basis of the newly known half-life of C14. These are the ones given here, and not those originally published in Hole, Flannery & Neely (1969). Correspondences are listed in Table IV:1, p.106.

Map XIII: Idealised Cross-Section of Northern Khuzistan, Between the  
Jebel Hamrin and the First Luristan Mountains - showing  
'microenvironments' with some of their characteristic  
flora and fauna.



from Hole at. al. (1969:13).

### 3:1 Bus Mordeh Phase: 8200-7200 BC

Bus Mordeh folk were farmers and herders as well as hunters and gatherers. They planted emmer wheat and two-row hulled barley, neither of which are native to Khuzistan, admixed with goat-faced grass, ryegrass and wild einkorn wheat as weeds, along with club-rush (Scirpus) suggesting they were grown on the edge of the marsh or slough (Hole et al. op. cit., p.243). However nine-tenths of the seeds in Bus Mordeh levels derived from annual legumes and local wild grasses. They included the seeds of medick or wild alfalfa, spiny milk vetch, Trigonella (a small plant of the pea family), canary grass, oat grass and goosefoot. Those are mainly small seeded plants in contrast to the imported cereals (ibid., p.343). The latter were harvested with flint sickles, roasted to render the glumes brittle, and then, since these are the primitive non-free threshing grains, 'threshed' by grinding with flat-topped or saddle-shaped grinding slabs of pitted limestone to produce groats, eaten as gruel (ibid., p.343; cf. Harlan 1967:197-201 for experimental preparations).

They also herded sheep and goats with the latter predominating by ten to one, the excellence of North Khuzistan for winter grazing suggesting to the excavators that this had a great deal to do with the beginnings of food production there (Hole et al. op. cit., p.344). Indeed this seasonal utilisation would conform to the semi-permanent pattern of occupation suggested above for Zawi Chemi (pp.89-90). Further seasonal inducements to early use of Deh Luran in winter are provided by the aquatic resources like carp, catfish, mussels and water turtle, while from November to March waterfowl visit the area (ibid.).

Hunting was also important and the prey diverse, including onager, wild ox and boar. Small mammals formed a very small part of the diet but Persian gazelle "was brought down in tremendous numbers" (idem). With four major areas of subsistence, hunting and gathering, farming and herding, it is not surprising to find a



large and diversified tool-kit including tens of thousands of flint blades, some only a few millimetres wide, archetypally Neolithic so to speak.

### 3:2 Ali Kosh Phase: 7200-6400 BC

In the next phase, Ali Kosh still seems to be the only occupied site on the plain (Hole et al. op. cit., p.349), and an increasingly successful one. Individual houses increase in size to 3 x 3 metres and the walls become a metre thick. Floors were of stamped mud, often surfaced with a layer of clean clay and topped with over-two, under-two mats of reed or club-rush. What seem to be courtyards also existed, containing domed brick ovens and brick-lined roasting pits. No ovens were found inside rooms. These are still not bread ovens, but parching ovens, sufficient to lightly fire clay figurines of people and animals (idem).

Cultivation of winter-grown cereals increases in this phase to form about 40% of all carbonised seeds left behind in hearths and middens, accompanied by a significant tapering off in the collection of small-seeded legumes. But the hunting of gazelle, onager and wild cattle also increased and there was a slight increase in sheep numbers (ibid., p.347). Domestic goats, now showing clear osteological evidence of domestication in their flattened horn cores, were the commonest animals eaten (idem). Small mammals were still of little interest, in contrast to catfish, carp, turtle, mussels, ducks, geese, herons and river crabs (ibid., p.348).

Crops were harvested with flint sickles set into hafts by use of asphalt, which is locally occurring. Grains were probably collected in the simple, twined ('wicker') baskets of over-one, under-one weave, and, after grinding ('threshing') with simple discoidal handstones on grinding slabs, further reduced in the stone mortar and pestle of new advent (idem). The new innovation

was also used to grind pigment, notably red-ochre (iron oxide). Stone bowls, made of limestone or marble greatly increase in number, used most likely for the gruel (Hole et al. op. cit., p.349). Again there are tens of thousands of flint blades, but now imports of obsidian have risen from 1 to 2% in this phase and turquoise is also imported to be made into beads, obtained from nowhere nearer than the Iranian plateau.

With the Ali Kosh site now covering about 1 hectare, and given the size and spacing of the houses, a population of about 100 individuals is estimated, giving a population density for the Deh Luran plain, about 300km<sup>2</sup>, of 0.3 persons per square kilometre (idem).

### 3:3 Mohammed Jaffar Phase: 6400-6100 BC

By the Mohammed Jaffar Phase the village, now with boulder and pebble foundations and plastered walls, still only covered about one hectare, though surface finds indicate it had been joined by two other settlements (ibid., p.353). Population density was now approximately 1.0 person per square kilometre, and the landscape in the vicinity of the villages was being altered to a noticeable degree (ibid., p.350). Emmer wheat and two-row hulled barley were still virtually the only crops sown (with occasional lentils suggesting mountain contacts), but the processes of fallowing and grazing had replaced much of the local vegetational cover with pasture plants, such as plantain, mallow, vetch, oat and canary grass (idem). In particular shauk (Prosopis) thrived. It is a weedy perennial legume which increases with cultivation since it, unlike other plants, does not compete with winter-sown crops. More than a hundred sickle blades were recovered from levels of this period, an innovation being the trimming of the blades to fit a particular slot in the handle, fixed by asphalt. At the beginning of this phase goats still outnumber sheep, though by its end parity was approaching. The panting mechanism of sheep gives them the advantage

on lowland plains. Osteologically, however, both sheep and goats can be considered fully domesticated, and both continued to be eaten young, with only about 40% of the herd reaching three years of age (Hole et al. op. cit., p.351). Fox, hedgehog and wild cat were now included in the diet along with gazelle, onager, aurochs and wild pig.

For the first time pottery appears in Deh Luran with the advent of a soft, friable and straw-tempered ware of three types employing poorly cleaned clay. The technique was essentially the same as that previously employed in the making of figurines and was almost certainly made in the same ovens. This leads Hole et al. (p.352) to "point out that, like all innovations, it was simply a recombination of previously existing techniques". Indeed the lightly baked figurines continue in great numbers. Obsidian, however, remains at around 2% of chipped stone with cowrie shells and turquoise still imported.

The excavators see this as "a time of population increase and settlement into a variety of habitats" in the Zagros and Khuzistan region generally, bringing with it heightened degrees of social contact and accelerated exchange of techniques (ibid., p.354).

#### 3:4 Sabz Phase: 5200-4800 BC

The Sabz Phase is the first in which fragments of pottery recovered exceed fragments of flint (ibid., p.357). Thousands of sherds were recovered but, whereas flint blades had been counted in the thousands during the Mohammed Jaffar phase, their numbers were reduced in the Sabz phase to under one hundred in excavations of comparable magnitude (idem). Further there is now a tough grit tempered pottery in addition to the chaff-tempered friable stuff decorated with red-ochre paint, and probably fired at a higher temperature (idem) though still hand-made. Clearly fundamental changes are indicated in this brief period, reflected in what had

become one of the commonest tools recovered, a polished stone celt, which is a flat, elongated limestone pebble, chipped into shape and ground until smooth, often with traces of asphalt at one end (ibid., p.355). As the other end shows the polish associated with use in sandy soil, the best guess is that it was used for the leading of water to crops under irrigation (ibid., p.356). A stronger indication of the onset of irrigation is the shift of settlement away from well-drained, low rises near the margins of the seasonally flooded central depression of the Deh Luran plain, relocating instead to the north where they could take advantage of many small stream channels coming down off the mountains (ibid., p.355). As the villages now lie within the 300mm isohyet making rainfed farming quite reliable, artificial water control may have functioned principally as an insurance against drought or as a supplement to rainfall. Certainly the size of the flax seeds recovered are reckoned by Helbaek (1969:408) to be too large not to have been grown with irrigation. Also grown in addition to emmer was the free-threshing hexaploid wheat, a breakthrough in itself. Two-row hulled barley was still grown, plus lentils, vetch and vetchling (Hole et al. op. cit., p.354), but plants were still processed with the same equipment as hitherto. **Obsidian is absent and hide-working tools decline perhaps giving way to the working of flax and wool** (ibid., p.356). In this phase goats are found whose small, helically twisted horn cores make them indistinguishable from the modern Iranian domestic goat. Domestic sheep are found but still in smaller numbers than goat, to which has been added the domestic ox, much smaller than wild aurochs so much hunted (idem). But hunting of gazelle, onager and boar continued, as did fishing, mussel and turtle collecting and fowling (idem). Domestic dog, like the modern wolf-sized sheepdog of the area, now appears as a village scavenger.

There were at least six villages of this phase in Deh Luran, each with a population of perhaps one hundred (ibid., p.358), giving a population density estimate of about two persons per square kilometre.

Sabz phase materials are widespread in Khuzistan and lie mainly north of the 300mm isohyet, indicating that rainfed cultivation was the principal means (Hole et al. op. cit., p.358). However in regard to tools, pottery, and its complex of domestic plants and animals the Sabz (linked through its pottery types to other lowland sites such as Eridu I, Samarra, Matarrah and Jaffarabad, and not to the Zagros highlands), is in the mainstream of that tradition which leads on to the Ubaid (ibid., p.355) underlying urban Mesopotamia.

It is at this point between the Mohammad Jaffar and Sabz phases that the excavators perceived a gap associated with the onset of irrigation. The lower levels of Tepe Sabz did not go far enough back in time to yield materials of the Mohammad Jaffar phase (Hole et al. 1969:5). To uncover a sequence that might illuminate this departure, excavations were undertaken at Chaga Sefid (published 1977), a site located only 1.5km from the modern town of Deh Luran, situated at the lower end of the alluvial fan which was always the locus of the largest settlements in historic times (Hole 1977:41). Other than ceramics and architecture, few differences were found between the earlier series and the later, those of 1977. However, the earliest Sabz phases were amplified at Chagha Sefid as intended, and found to be a variant of the Choga Mami Transitional, a period previously known from the site of that name excavated by Joan Oates at Mandali, east of the Diyala in Iraq (1969:115-152). Choga Mami is a site showing early simple fan irrigation at Samarran levels: it is indeed close to that eponymous site (Oates 1982:26). What Choga Mami is 'transitional' to is Ubaid and Uruk occupation. Specifically, "the transitional ceramic tradition of central Mesopotamia is contemporary with Ubaid I and probably early Ubaid II in the south" (ibid., p.28). At Choga Mami the full range of Near Eastern domesticates was present - sheep, goat, cattle, pig and dog - and breadwheat was grown along with flax, naked barley, lentil, large-grain oat, ryegrasses, einkorn and emmer (ibid., p.27).

Short summaries of the supplementary work at Chegha Sefid on the Choga Mami Transitional and Sabz Phases follow; thereafter the Ali Kosh/Tepe Sabz sequence resumes.

### 3:5 Choga Mami Transitional (Chegha Sefid Site): 5400-5100 BC

This is indeed the onset of the "era of irrigation agriculture ... and cattle domestication" (Hole 1977:35). Irrigation and cattle not only supplant dry-farming and caprine domestication, but marks the effective end of the 'broad spectrum' economy that included hunting and gathering. Ground stone and blade tools thus decline in quality and quantity (ibid., p.36). However there is no mere addition of cattle and grains to caprines and grains, but a concentration upon barley and wheat supplemented by animals as auxiliary to cereculture; such that:

This change to an apparent emphasis on farming at the expense of herding is reflected in a marked decline in the amount of meat consumed, from both domestic and wild stock. In view of the history of this region, stretching from the late Pleistocene, this shift in diet is remarkable indeed, and presages modern conditions in which most villagers live nearly exclusively on cereals, supplemented with dairy products and minor amounts of meat (ibid., p.34).

It is under just such conditions that we should expect long-distance herding to develop as a specialism. Simultaneously, for the first time in the Deh Luran sequence, substantial brick houses are found, with walls standing a metre or so high and not founded on rows of stones (idem).

Choga Mami is a phase clearly distinguished by its ceramics, which increases from 4 to 6 varieties by the addition of a buff ware with a gritty texture and bearing relatively crude geometric designs. This ware has antecedents in the Samarran tradition in northern Mesopotamia, as does the Sialk Black-on-Red also occurring

in Deh Luran at this time (Hole op. cit., p.36). Hole remarks (idem) in the light of the decline of the variety of ground stone and other tools and indicators of the mode of life, that "this is a truly transitional phase in that we find the last uses of naturalistic figurines, most ornaments and some of the artifacts associated with butchering".

### 3.6 Sabz Phase (Chegha Sefid Site) 5200-5000 BC

Hole (1977:37) regards this phase as the local crystallisation of an irrigation tradition - no longer is it transitional, but "the crystallisation of new ways". The Sabz transformation is instanced in the reduction of earlier tool types to near extinction, along with traditional figurines and personal ornaments (idem). Instead chipped and polished celts (perhaps functioning as hoes) are commonly found, as are spindle whorls and perforated stones that could be either loom weights or digging-stick weights (idem). Susiana Black-on-Buff predominates, with lesser quantities of Susiana Plain Buff and Sialk Black-on-Red.

Hole (idem) surmises that the Choga Mami Transitional leading to this phase, as a late development of the Samarran tradition which previously is not found in Deh Luran (ibid., p.12), is consequently the outcome of an intrusion of a 'separate and distinct' tradition into Deh Luran. For the Deh Luran tradition is related to the mountain regions of western Iran (Zagros) and eastern Iraq (Kurdistan) rather than to those of the steppelands of northern Iraq (Assyria). Here, with the use of hybrid cereal races, domestic dogs and cattle, perhaps already used for ploughing, or at least for trampling and threshing (Hole op. cit., p.34), we have the last major subsistence items that make the rise of cities possible.

### 3.7 Khazineh Phase 5000-4800 BC

Khazineh Phase villagers now lived in settlements of around

two hectares, although larger villages are likely under bigger unexcavated mounds in the area, such as Tepe Musiyan. There were in the Deh Luran plain at this time from six to eight villages, but the geographic range of the Khazineh Phase includes all of Khuzistan (Hole et al. op. cit., p.360). The subsistence pattern set by this time continues to be recognisable in small Khuzistan villages to this day: "hoeing, harvesting, grinding grain, roasting and cooking cereal and legumes, spinning fibre, tending and butchering sheep and goats, and working their hides" (idem; cf. Watson 1979:73-118).

In this phase the first examples of coiled basketry from S.W. Iran appear, a contrasting technique to the laminated construction previously employed in twilled and twined basketry (Hole op. cit., p.359). But no microlithic tools or obsidian appear in this phase, though polished celts continue in importance as do pounders made of flint nodules or cores. But the variety of ground stone implements goes generally into decline, for both free-threshing wheat and two-row and six-row barley, both hulled and naked, were being grown, along with the usual complement of vetch, vetchling, lentils and flax. By now sheep and goats appear in roughly equal numbers, although cattle are few and hunting is slight (idem). However, the horn cores and bones recovered from the domestic animals are quite indistinguishable from those of modern domestic breeds in Iran (idem). Population density in the Deh Luran plain during the Khazineh Phase is estimated at 4 per km<sup>2</sup> (ibid., p.360).

### 3.8 Mehneh Phase: 4860-4400 BC

By now it is clear that the Deh Luran plain is a backwater in Greater Mesopotamia. The major developments are occurring on the Diz-Kharkeh plain, near Susa, and of course around Eridu and Ur on the lower Euphrates (ibid., p.363). Nonetheless the Deh Luran architecture is particularly clear for the period, due to chance exposures. Rectangular houses, now easily 5 x 10m in size, were constructed with outer walls, a metre thick, of untempered sun-dried



clay brick in two parallel rows of cobble separated by a band of closely-set river pebbles (Hole et al. op. cit., p.361). Floors were covered with twilled (over-two, under-two) reed or club rush mats and doors swung in stone sockets. The houses, with internal partition walls, could easily accommodate from three to five persons (idem). Nine villages of this phase are known from the Deh Luran plain, but now the smallest range between one and two hectares in extent, while a very large village of this phase may lie buried under Tepe Musiyan (ibid., p.362). This produces a population density estimate for Deh Luran at this period of five persons per km<sup>2</sup> (idem).

Subsistence activities continue as before but a new type of pottery appears with strong Iranian affinities, Mehmech Red-on-Red, the temper including both chaff and grit. It is regarded as a real 'index fossil' for the Mehmech phase (idem). The extremely fine quality of some of the deep bowls of this phase suggests to the excavators not only professional craftsmanship, but also the use of at least the 'slow wheel' for pottery (idem). The pottery also has representations of bowmen, gazelle and wild goat tracks, probably reflecting such hunting by ambush along Tamarix-lined wadis (ibid., p.361). Onager, wild pig, turtles, small mammals and birds continue to be hunted, though now a small percentage of the diet (idem).

### 3.9. Bayat Phase: 4400-3900 BC

The Bayat Phase is the last at Tepe Sabz before the settlement was moved, perhaps c.5km away, to a site like Tepe Farukabad, a shift due almost certainly to salinisation of the immediate area. In some parts of present day Deh Luran salination is such that only sesame will grow (ibid., p.363). Nonetheless the established plant-animal complex continues until the site is abandoned and it seems that sheep were becoming the dominant herd animal (idem). Hunting continues of gazelle, onager and small game, as also does seasonal

transhumance of caprines, a possible explanation for the absence of the domestic pig. Cattle herding remains a relatively minor activity. Houses were large in this period, with rooms in some cases measuring 3 x 3 metres. External walls were now bonded at the corners by the interlocking of alternate bricks.

Bayat Phase pottery lies squarely within the Ubaid tradition, corresponding roughly to phases of the Susiana sequence as defined by Le Breton. Ties were overwhelmingly within southern alluvial Mesopotamia and the Susiana sites of the Diz-Kharkeh River area: "the naturalistic motifs of the Mehmeleh phase had vanished, along with most of the other 'Iranian Plateau' ceramic characteristics" (ibid., p.364). Indeed the excavators doubt whether by this time any of the pottery used at Tepe Sabz during the Bayat phase was locally made, since even the most utilitarian wares not only appeared mass-produced and standardised, but were indistinguishable from those at Choga Mish over 100km away (ibid., p.365). But perhaps the clearest indication of evolution on a broad front (see Conclusion) is the advent of seals as property marks. In a remarkable harbinger of Mesopotamian practice in the historical period, Bayat phase Tepe Sabz folk sealed jars with clay onto which, while wet, an incised cylindrical bead rolled a unique pattern, such as stylised trees or herringbone designs (idem).

There are at least nine villages or towns (some quite large) apparent in Deh Luran in the Bayat period, one apparently containing a series of temples (ibid., p.365). Population density in this period is estimated at around six persons per square mile, but the most significant aspect of Deh Luran settlement at this time is that "The Ubaid 'oikumene' of which the Bayat phase is just one regional variant, stretched from Syria and eastern Palestine to the Turkoman Steppe" (ibid., p.366).

TABLE IV:1

APPROXIMATE AGES OF THE PHASES IN DEH LURAN AND THEIR RELATION  
TO PERIODS DESIGNATED IN OTHER AREAS <sup>6</sup>

	Years BC (Date x 1.03-1950)	Northern Mesopotamia	Southern Mesopotamia	Khuzistan
Bayat	4400-3900	Ubaid	Ubaid 4	Susiana d
Mehmeh	4800-4400	Ubaid	Ubaid 3	Susiana c
Khazineh	5000-4800	Ubaid	Ubaid 2	Susiana b
Sabz	5200-5000	Halaf	Ubaid 1	Susiana a
Choga Mami Transitional	5400-5100	Halaf	?	?
Surkh	5900-5400	Samarra/ Halaf		Choga Mish "Archaic"
Sefid	6300-5900	Hassuna		
Mohammad Jaffar	6400-6100	Jarmoan		
Ali Kosh	7200-6400	Jarmo (preceramic)		
Bus Mordeh	8200-7200	Karim Shahirian		

We can now, broadly following Oates' scheme (1973:148) conceive of three broad phases of development from the Upper-Palaeolithic to large settled villages along the Zagrosian Arc.

Phase I is that of post-Zarzian intensified food gathering in the broad-spectrum economy. Extending from c.9000-7000 BC, it is roughly contemporary with the Natufian of the Levant and is represented by such sites as Zawi Chemi and Karim Shahir in the Zagros region.

6. From Hole (1977:27).

Phase II, extending from c.7000-6000 BC and generally called 'Jarmoan', is represented in the Zagros region by such sites as Jarma itself in Kurdistan, Tepe Guran and Ganj Dareh, both in the area of Kermanshah in Iran. The sites of this phase discussed here have been the long-sequences at Ali-Kosh in Khuzistan.

Phase III, commencing at around 6000 BC, is that of the developed village community, the epitome of the Neolithic 'revolution'. In Greater Mesopotamia it is represented by the Hassuna, Samarra and Halaf cultures in broad order of appearance. These have well-developed ceramic traditions by which they are recognised, but much else regarding origins, duration and even subsistence is still disputed (Mellaart 1975:144).

I envisage the Hassuna, Samarra and Halaf cultures to be roughly contemporary and to overlap both chronologically and geographically with one another, manifesting contrasting and contiguous development. Hassuna seems to have been somewhat the earlier (in the sixth millenium) and to be confined to the Assyrian plain and steppe where dry farming was at least possible (cf. the location of Hassuna and Samarra type-sites [ringed] relative to the 200mm reliable isohyet on Map II, p.55 above).

Samarra, by contrast, seems to be a specifically southern adaptation to riverine and lacustrine habitats (Hole 1977:22), and Joan Oates (1973:166), while remarking that with very few exceptions Hassuna sites lie within the area where rainfed agriculture is currently possible, contrasts this (ibid., p.172) with "the area of the middle Tigris, which we now believe to have been the centre of Samarran development, [where] widespread agrarian settlement would have been inconceivable without some recourse to irrigation, even if rainfall was marginally more reliable".

Halaf was another independent tradition (perhaps originating in the Transcaucasian region according to Merpert & Munchaev [1973: 111]), occurring farther north and west than either Hassuna or

Samarra and particularly widespread. From another possible area of origin in the upper Jezirah between the Tigris and Khabur rivers (Davidson 1977:340), Halaf culture, recognised for its very distinctive painted pottery (and 'tholos' round-houses), is found over large parts of Eastern Turkey, northern and coastal Syria and eastern Lebanon (idem) from the beginning of the end of the sixth millenium and continuing for most of the fifth (Curtis 1982:36). Later, in what seems a harbinger of the spread of Ubaid culture throughout the Near East, Halaf, from the end of its middle phase, expands southward into areas then dominated by the Samarran tradition. Davidson (op. cit., pp.346-7) considers this to be due to a genuine expansion of Halaf settlement rather than merely to an extension of its stylistic influence on ceramics, for "although widely dispersed geographically, Halaf settlements were culturally well integrated".

#### 4: The Crystallisation of the Village as a Type

In the first instance a model is provided for the very advent of permanent villages employing durable architecture instead of temporary camps, for villages did not, contrary to common belief, always exist, and if one feature has to stand for the Neolithic as a process, it is the existence of the village for the first time. The existence of villages has two preconditions: some kind of architecture to provide habitations for all seasons; and the subsistence basis to make it possible. It is a specific part of the argument, however, that any type of localised abundance tends to sedentism and that agriculture is both the outcome and the most characteristic form of such resource concentration.

In the Near East the Epipalaeolithic hunting cultures are Kebaran in the Levant, Belbasi in the Antalya region of southern Turkey and the Zarzian of the Zagros (Mellaart op. cit., p.19). Very roughly they span the period 20,000 to 10,000 BC. They are succeeded chronologically, and only roughly in phase, by the

Natufian in the Levant, by the Zawi Chemi-Shanidar phase in the Zagros, and by the Beldibi in Anatolia. Flannery's (1972b:25) settlement process over this period in the Zagros is of base-camp consisting of around 15-40 persons, from which hunting parties of 3-8 males made periodic trips to 'transitory stations' or vantage points from which they stalked "the herbivores which provided 99% of their meat supply. This game was sometimes cut into portable sections at temporary 'butchering stations' from whence it could be transported back to the base camp" (idem). From base camp with temporary 'stations' for specific tasks, Flannery sees the next stage as being the emergence of kraal-type compounds so well-known in African ethnography. This "typical compound [which still shares many of the characteristics of hunting-gathering groups] is a group of 6-8 males with 1-3 women and their children" (ibid., p.31). Each adult tends to occupy a separate hut, since the compound is a collectivity which produces and consumes together. "Generally, the people of a single compound form a basic labour group, and below this level, 'full siblings tend to work together'" while "the food storage is open and shared by all occupants of a compound" (idem).

The compound unit of settlement is subsequently replaced by villages of rectangular houses designed, unlike the huts of a compound, to accommodate families rather than the individuals forming a compound collectivity (ibid., p.39). Flannery sees evidence for this in the greater size of the rooms in a rectangular house, with "no complete house smaller than 15m<sup>2</sup> and most 25-35m<sup>2</sup> - large enough in Naroll's terms [of 10m<sup>2</sup> per occupant] to shelter at least three to four persons" (ibid., p.31). In contrast, rarely do circular huts exceed 7m<sup>2</sup> of floor area and in the rectangular structures both male and female tool-kits are found in the same building. Further, rectangular buildings tend to be grouped in settlements of greater size, typically of 1 to 4 hectares (ibid., p.40). Flannery surmises (ibid., pp.39-40) that the rectangular structures represent the emergence of the individual household as the basic unit of production, and indeed consumption, for

possessing "household storage units [they] were not subject to the same kind of obligatory sharing as those of the compound (ibid., p.39); which on size alone would have been a larger kinship grouping. Flannery represents the individual households reciprocating between nuclear and 'extended' (stem?) families in the accommodation of which they are facilitated in being able to add rooms to rectilinear walls, or block off their openings. However, it is not clear why the addition or subtraction of a circular hut in a compound would be any the more difficult.

Joan Oates (1977:465), however, sees the evolution of settlement structures as representing not so much social changes as the very process of settling down. This is, after all, a first. The first permanent structures are roughly circular in plan because that is the shape of semi-permanent huts. As sites become occupied on a more continuous basis, the huts, in shape and construction, are, so to speak, frozen in place by the addition of stone walling around posts formerly bridged by wattle and daub, as at Beidha in the Natufian (Kirkbride op. cit., p.266). Later, floors are dug into the ground for about half a metre, extra stones added as walling, and a brush or reed supported clay roof put over the top of what remains a 'round-house' (idem). Oates (op. cit., p.465) concludes that "A tent or hut may be round or rectangular depending on the number of poles employed, but when a permanent structure has to be roofed, the simplest technique is a system of parallel roof beams that are most easily supported on a rectilinear wall plan. A careful examination of the archaeological evidence from Beidha shows precisely this sequence. We need not in fact, postulate changes in social structure or people when the architectural development can be explained more simply." However, at Beidha a system of uprights dictated the round shape. There the houses were "arranged in separate clusters like cells in a honeycomb, each individual building roughly circular in plan, erected around an inner skeleton of posts and beams. Stout posts dug in round the perimeter of the floor at regular intervals,

usually 30 or 50cm, were linked by beams to a central post" (Kirkbride op. cit., p.266). Indeed Kirkbride (ibid., p.269) suggests that a major reason for the shift from 'post houses', using lots of wood, to free-standing structures of stone was the frequency of fire in the former to which we owe the good state of preservation of organic materials at Beidha. Though round forms do indeed evolve throughout the Near East into more rectilinear ones, neither the material used nor the juxtaposition of units suggests the 'kraal' settlement type and its concomitant social relationships; neither is it safe to see the evolution of the nuclear family simply in rectilinear shapes of houses. Physical rather than social structure appears to be the determinant.

Mortensen's model (1972:294; see Figure IV:1 overleaf) is the one that best allows us to conceptualise the initial 'settling-down' process. Although specifically developed for the Zagros it is generally useful for the Near East.<sup>7</sup> In the first stage, during the Zarzian period (>10,000 BC) specialised hunter-gatherers move, at least seasonally from one camp to another, so describing a circular or rotational annual movement.

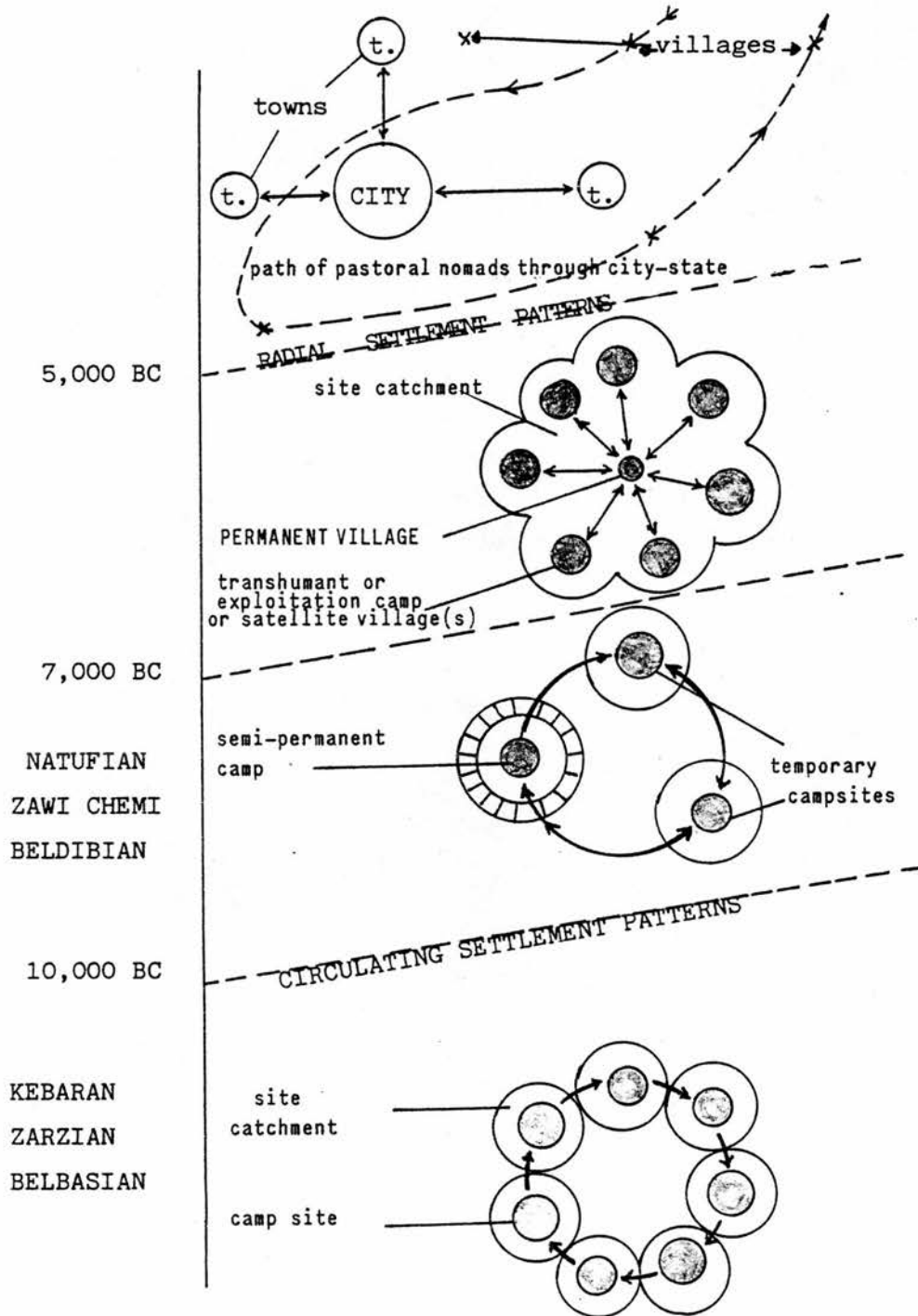
In the second stage (c.10,000-8,000 BC), while the annual movement is still circular, the number of camps is decreasing as longer stays are made at more favourable sites, increasing with the advance of Neothermal conditions. Mortensen (op. cit., p.294) suggests that by this period the favourable sites are those where herding and/or farming are possible, but this stage, immediately post-Zarzian, can on present evidence (below) only represent increasing use of more plentiful and diverse flora and fauna, which lends itself to manipulation and intensified exploitation but not cultivation or herding. The third and final stage of Mortensen's

7. Cf. Henry's (1975:382) application in the Levant.



FIGURE IV:1

PATTERNS OF MOBILITY AND LAND USE<sup>8</sup>



8. After Mortensen (1972:294) and Henry (1975:382).

scheme shows a semi-permanent camp that has developed into a permanent village (e.g. Beidha). At this point the rotational annual pattern is replaced by a radial one representing either butchering stations or pastoral camps of herdsman sent out in the spring from permanent villages to the higher valleys with flocks of sheep and goat.

The most economical explanation of this phenomenon, and one which serves to provide an overview of the processes itemised earlier in the Flowchart, is as follows:

Hunter-gatherer groups in their annual cycle spend longer at sites with permanent water and a diversity of resources; these are essentially marsh and riverside locations. This impairs hunting prospects, so young animals surviving from the hunt are kept at such favoured sites, to be moved onward as the group moves around its circuit. Because there are favoured sites at which lengthy stays are made, wild cereals which do not grow naturally in the low-lying areas are transposed during the normal annual cycle from highlands to lowlands. Thus the mechanisms of animal and plant domestication proceed in tandem, and the preference for hydromorphic soils, later expanded as irrigation, is simultaneously accounted for. And those failing to secure for themselves access to hydromorphic soils would simply continue and specialise in their herding activities, complemented by gathering and hunting, until later integrated into the regime of agricultural-surplus exchange.

The present day situation around the well-known early farming site of Tepe Guran in Luristan, has been described by Meldgaard (1964:104) as follows:-

Tepe Guran is situated at an altitude of ca.950 metres at the northern fringe of the plain of Hulailan. This very fertile plain stands out between the high surrounding mountains as a wide valley, ca. 20km. long and up to 8km. wide, with the river Saimarreh (Kharkeh) winding below the southern slopes. In the early summer the plain appears like one enormous corn-

field, dotted with some 30 villages, and traversed by numerous small irrigation channels nourished from the many brooks in the side valleys. In these valleys, and at the lower mountain slopes, we find the larger part of the population moving around in their black tents with large herds of sheep and goats.

Further, Tepe Guran is situated only 140 metres from the right river bank (idem).

However, two further observations are required. The first is that by this permanent village stage later than 7,000 BC, it is probably too late to speak of 'butchering stations' when dealing with herded animals which can be driven (Perkins & Daly 1968:111) to be "slaughtered conveniently near home". Second, in the light of the discussion of nomadic pastoralism above (pp.81-3), after about 5,000 BC simple transhumance to and from villages is at least complemented by long distance, specialised pastoralism. It is, for completeness, thus added as the fourth stage in Figure IV:1 and takes us on to historical types of mobility. Movement is no longer tied to a settlement of whatever size, but instead weaves between many of town size on the alluvium, through the villages of the piedmont up into the relatively unpopulated mountains. Contact with urban culture of the historic period takes place mainly peripherally through villages satellite to urban centres, as will be seen below.

The particular value of the Deh Luran sequence outlined above (pp.90-105), apart from its actual existence as a sequence, is that the excavators paid particular attention throughout to intensity of land-use and density of population (Hole et al. op. cit., p.4). Extending as it does over four millenia from the proto-Neolithic to the onset of urbanism, it enables us to test theoretical models against data. In particular it enables us to see how useful diverse models are in explaining demographic increase, many of which are reviewed in Hassan (1981). The short answer, and a most unexpected one, must be that none of them apply; no model of the demographic consequences of the settling down of hunter-gatherer populations, whether in Africa, Australia or the Arctic is applicable to the

proto-Neolithic Near East.

The reason for this is not far to seek. 'Settling down' along the Zagrosian arc was a long drawn-out process of the reduction in mobility by steps, until year round settlement was viable. This is a learning curve which required the emergence of new subsistence techniques based upon domesticates, something which only occurred upon long manipulation. By contrast the demographic explosions consequent upon the sedentarisation of !Kung, Eskimo and Australians are of limited value as historical analogues, since they are the consequences of contact with, and partial integration into, societies with a completely different mode of production to which the indigenous one remains (if at all) **supplemental**, no longer functioning as an intrinsic part of its own social organisation. Indeed, in what can often be a situation of culture collapse, previous mechanisms of social regulation of production and reproduction can disintegrate. Even without collapse the demographic consequences are drastically affected by special circumstances, from modern health care to the availability of paid employment. Even outside mediation becomes necessary in the case of Bushman disputes at their large permanent camps (Lee 1972b:186).

Most ethnoarchaeological models turn upon the immanent consequences of permanent settlement. Reductions in necessary mobility, the loads of child-transport and female work-loads are amongst those hypothesised either to produce physiological effects that raise fertility (for instance, by lowering menarche or extending life to menopause), or those lessened transport demands permit close child spacing (cf. Lee 1980:321-346). However the Near Eastern data will sustain no such formulations, for there was **no population explosion** but only incremental expansion. Thus from the earliest phase at Deh Luran for which there is a population estimate (Ali Kosh = 100) to the next (Mohammad Jaffar = 300, a generous figure), a period of about a thousand years, gives a rate of population increase of a mere 0.2 per year, or one new person every five years on a simple average. Clearly when we are dealing

with reduced birth spacings for every fertile woman, each one is capable of adding at least one extra member of the population in her own reproductive span, that is, in a single generation, something that did not occur. Coale ([1974]1975:466) sums it up nicely by stating that the "Neolithic Revolution had demographic consequences whose net effect was a slight increase in population growth", a point reinforced by another demographer, Petersen (1975: 232), who states that during the Neolithic "the growth was so slow as to be imperceptible during anyone's lifetime, and during the whole era the fertility and mortality were more or less in balance".

The reasons why are apparent when we look mathematically at potential rates of growth in thousand year intervals. Here Mortensen's model is additionally valuable for indicating what sort of startpoint should be looked to: it is, of course, the mobile hunting-gathering band, indicated by Flannery (op. cit., p.25) to consist of from 15-40 persons in the Mesolithic Near East. Now, if we postulate the Bus Mordeh phase, for which no population estimate is given by Hole et al., to be just over the upper limit of this range, i.e. to consist of 50 persons, exactly half that of the phase to which our first estimate (Ali Kosh) applies, and note that in all of the Deh Luran there was one such settlement, then it is reasonable to infer that there were not very many such bands. Thus the population figure of 100,000 for the whole of the Near East at 8,000 BC given by Carneiro & Hilse (1966:178) as the basis of their calculations seems eminently viable, representing as it does 2,000 groups 50 strong or, more likely, 4,000 groups with a mean membership of 25, the ethnological 'magic number'<sup>9</sup> for band size (Lee & DeVore 1968a:245-9). Taking this as a basis and rates of percentage annual increase ranging from 0.07 to 0.50, the following table emerges:

9. Oates (1980:308) suggests a population of 50-100 persons on average for fully agricultural villages of 1 hectare in the most fertile parts of northern Iraq, from early 6th to late 5th millenia.

TABLE IV:2  
 CALCULATION OF THE POPULATION OF THE NEAR EAST AT 1000-YEAR  
 INTERVALS FOR VARIOUS RATES OF INCREASE, ASSUMING A  
 BASE POPULATION OF 100,000.<sup>10</sup>

% Increase	8000 BC	7000 BC	6000 BC	5000 BC	4000 BC
.50	100,000	14,700,000	*	*	*
.40	100,000	5,420,000	*	*	*
.30	100,000	2,000,000	40,000,000	*	*
.20	100,000	737,000	5,440,000	40,100,000	*
.15	100,000	448,000	2,000,000	8,970,000	40,200,000
.14	100,000	405,000	1,640,000	6,650,000	26,900,000
.13	100,000	367,000	1,340,000	4,930,000	18,100,000
.12	100,000	332,000	1,100,000	3,650,000	12,100,000
.11	100,000	300,000	902,000	2,710,000	8,130,000
.10	100,000	272,000	738,000	2,010,000	5,450,000
.09	100,000	246,000	605,000	1,490,000	3,650,000
.08	100,000	222,000	495,000	1,100,000	2,450,000
.07	100,000	201,000	405,000	816,000	1,640,000

\* Above 50,000,000 and therefore considered to be impossibly high.

Significantly, if our generous starting level of 100,000 is cut in half, the picture does not qualitatively change - rates of growth above 0.1 per annum on a sustained basis are impossible, otherwise colossally large populations emerge before the advent of cities (see Table IV:3 overleaf). Even with the advent of cities over a half a millenium later than the terminal date of the tables, we find the following population estimates by Adams (1981: 90) of the then most densely populated parts of the Near East: the Nippur and Uruk regions of Mesopotamia. In round numbers they amount to a mere 60,000 in Early to Middle Uruk times (c.3,500-3,300 BC), and attain 110,000 for the combined areas only in the First Dynastic period, well into the third millenium (Table IV:4).

<sup>10</sup> Taken from Carneiro & Hilse (1966:178).

**TABLE IV:3**  
**CALCULATION OF THE POPULATION OF THE NEAR EAST AT 1000-YEAR**  
**INTERVALS FOR VARIOUS RATES OF INCREASE, ASSUMING A**  
**BASE POPULATION OF 50,000.<sup>11</sup>**

% Increase	8000 BC	7000 BC	6000 BC	5000 BC	4000 BC
.50	50,000	7,330,000	*	*	*
.40	50,000	2,710,000	*	*	*
.30	50,000	1,000,000	20,000,000	*	*
.20	50,000	369,000	2,720,000	20,000,000	*
.15	50,000	224,000	1,000,000	4,490,000	20,100,000
.14	50,000	203,000	821,000	3,330,000	13,500,000
.13	50,000	183,000	672,000	2,460,000	9,030,000
.12	50,000	166,000	550,000	1,830,000	6,060,000
.11	50,000	150,000	451,000	1,350,000	4,060,000
.10	50,000	136,000	369,000	1,000,000	2,730,000
.09	50,000	123,000	302,000	743,000	1,830,000
.08	50,000	111,000	248,000	551,000	1,230,000
.07	50,000	101,000	203,000	408,000	821,000

\* Above 50,000,000, and therefore considered to be impossibly high.

**TABLE IV:4**  
**CHANGING CHARACTERISTICS OF LATE PREHISTORIC AND PROTOHISTORIC**  
**SETTLEMENT ENCLAVES<sup>12</sup>**

Period	Northern Enclave	Southern Enclave
Early-Middle Uruk	Area: 2,087km <sup>2</sup> Estimated population: 38,540 Density: 18.47/km <sup>2</sup>	Area: 2,010km <sup>2</sup> Estimated population: 20,110 Density: 10.00/km <sup>2</sup>
Late Uruk	Area: 1,619km <sup>2</sup> Estimated population: 21,300 Density: 13.16/km <sup>2</sup>	Area: 2,231km <sup>2</sup> Estimated population: 41,020 Density: 18.39/km <sup>2</sup>
Jemdet Nasr	(Ambiguities in data do not permit comparable estimates)	
Early Dynastic I	Area: 1,184km <sup>2</sup> Estimated population: 20,240 Density: 17.09/km <sup>2</sup>	Area: 2,938km <sup>2</sup> Estimated population: 86,300 Density: 29.37/km <sup>2</sup>

<sup>11</sup> Taken from Carneiro & Hilse (1966:179).

<sup>12</sup> Adams (1981:90). Note absolute decline in both area and population of the Northern Enclave over this half millenium, while in the same period the population of the Southern Enclave more than quadrupled while the area went up by around 50%.

The inference to be drawn is that the very lowest rate in each case, that of 0.07, is the most realistic with 0.1 in the nature of a ceiling. Carneiro & Hilse conclude (1966:179):

First and foremost, the increase in population that occurred during the Neolithic Period was not 'exceedingly rapid'. It was, in fact, only on the order of one-tenth of one percent per year. For a village of 100 this rate of increase is equivalent to a net gain of only one person over a ten-year period. Yearly population increments, of course, increased as the Neolithic progressed; yet these increments probably never became very large. Only by virtue of the fact that they were accumulated over several thousands of years did they culminate in a population of considerable size.

Implicit in current accounts of the onset of the Neolithic is a form of 'Big-Bang Theory', in which the initial act of settling down in permanent villages has explosive demographic consequences, whose inertia provides all the impetus required to drive the population forward to urbanism. It does so, however, only as an artefact of retrospection and that only in the few locations where an indigenous Neolithic had continuity forward to large nucleated settlements. In many parts of the world, especially sub-Saharan Africa, social organisation stabilised at the (Neolithic) village level for millenia; it is by contrast the peculiarity of sustained change which must be explained in the Near East. Even there, in the 'heartland of cities', "an examination of the evidence for pre-mechanisation agriculture in Iraq and of relevant cuneiform sources leaves little doubt that until very recently farming practices had altered little over the past 5000 years" (Oates 1980:303). Flannery (1973:284), in his review of the origins of agriculture in three continents, criticised his own (widely accepted) earlier views as "coming too close to making population growth and climatic change into prime movers". Instead he suggests that cultural factors, such as "changes in socio-political organisation" might provide a more adequate basis of explanation (idem).

In the first chapter it was argued that population density,



technology and social organisation are so interactive that each is a function of the others, with population density not itself an independent variable or prime-mover. Renfrew's (1975:36-7) specification of population and population density as conditions of state of other variables or sub-systems and not themselves independent variables or prime movers, is particularly relevant to the process of Neolithisation envisaged. Different population levels and densities restrain certain processes like, at low levels, organisational complexity (Textor 1967) and require others, such as the smoothing of inter-annual variability of subsistence production.

The flowchart (Figure III:4, p.79) began with a plenitude of resources in the Neothermal Near East. This allowed bands to exploit seasonal abundance, particularly grains, encouraging ever more restricted mobility. Lee (1980:334) describes camp moves 5 or 6 times a year as the "classic foraging pattern". Now assume for the Mesolithic of the Near East that the number is cut to three moves per year with a 'storage' site for harvested grains being the longest occupied, moves being made, perhaps to no real distance and of short duration, to game trails in the Spring and to a lakeside site for fowling in the Autumn. Such a regime could easily support what is after all only a large foraging band in the range of 25-40 persons. If more grains were harvested and well preserved in storage, that particular seasonal camp would not need to be moved at all, only the adult men going to hunt herd animals with, say, youths fowling from temporary camps in the Autumn (cf. Binford & Chasko 1976:139). Indeed, the reverse might well apply where, as in the southern Iraq marshes, aquatic resources of some type (including fowl and other birds) are available on a year round basis. Such a regime allows the size of the band to be augmented, say from 40 to 50 persons over a number of generations, because of the adequacy of resources available even in the poorest experienced years. People with such a diversified set of procurement strategies are not at the mercy of any one resource. In failure there is always 'slack' that can be taken up from the others. What is to be stressed, however, is that the demographic brakes are not now off.

Plenitude of resources has permitted a larger population to remain together for more of the year (cf. Lee 1972b:182-184), but the previous means of population control still apply. Though Binford & Chasko (op. cit., pp.127-131) found the effects of male absenteeism, when the Nunamiut (in Alaska) were still mobile hunters, produced a difference in the mother/child ratio of 6.52 births per thousand mothers as between maximum male absenteeism (amounting in some periods to 76 days/household head/year) prior to sedentism and the lack of absenteeism at the end of the sedentation process, such an effect, they state, would be swamped by random variation in a cohort of 50 women.

Whatever the physiological/environmental factors in play, conscious adjustments of fertility to social requirements can readily be implemented in egalitarian forager society, since as Ripley (1980:355) has remarked: "the ecological pressures indicating need to exert limitations on population growth can be sensed directly, simultaneously, and cognitively by the very figures who, in exerting such controls, would be acting in their own best reproductive interest as well as that of the larger society". This is obviously the same argument at the level of the individual mother with her direct knowledge of the social and natural environment, as that cited earlier in regard to the band's unmediated knowledge of its core range. Peterson (1976:274) states that in Australia "Infanticide was not practised through awareness of population problems, but through pressure on individual women in the food quest", while in Africa too the staples are vegetable foods which are gathered mostly by women (Lee 1968:33). This, of course, is particularly the case where gathering is the primary subsistence resource, as it is in societies situated below c.40° latitude, above which hunting and fishing assume heightened importance, as can be seen in Lee's (1968:43) global survey (Table IV:5 overleaf).

TABLE IV:5  
PRIMARY SUBSISTENCE SOURCE BY LATITUDE<sup>13</sup>

Degrees from the Equator	Primary Subsistence Source			Total
	Gathering	Hunting	Fishing	
More than 60°	—	6	2	8
50°-59°	—	1	9	10
40°-49°	4	3	5	12
30°-39°	9	—	—	9
20°-29°	7	—	1	8
10°-19°	5	—	1	6
0°-9°	4	1	—	5
World	29	11	18	58

It is worth reminding ourselves that the Zagros/Levant region is broadly encompassed between 40°N (the latitude of Ankara) and 30°N (Cairo); and between 30°E (the longitude of Alexandria) and 50°E (Baku on the Caspian, Bahrain on the Gulf). The Deh Luran plain lies about 32°N and 47°E. Differences in altitude and habitat along the Zagrosian Arc have the effect of sustaining flora and fauna characteristic of higher latitudes and, as we see from faunal remains in the region, hunting plays an important role through to the full and widespread domestication of animals.

With increasing sedentarisation the previous tight damping of population to retain homeostasis at that level can be henceforward less rigorous because more bands can be supported in an ameliorating environment, sustained at a new level, or rather, sequence of levels. As each band restricts its range to an environmental cross-section now exploited more intensively, a higher overall population density for the Near East can be supported. This looks like 'where we came in' to the Deh Luran in the Bus Mordeh stage around 8,000

13. Taken from Lee (1968:43).

BC. By the next but one stage, a generous estimate puts Deh Luran population at 300; this, it will be remembered, taking at least a millenium to attain. Nonetheless, during this time of permanent village fixation, allowing new villages to fill the niches previously exploited seasonally or partially by one village only as at Bus Mordeh, the knowledge and skills of Natufians, Deh Luranis etc. are not standing still. The environment is not static, their population is not static but able to inch upward into the new or newly released niches, and their knowledge of plants and animals increases the more they manipulate them. By the time whole new villages require to be set up quite away from the original loci, whether that be Deh Luran or the Judean Hills, not just the plants and animals are taken but necessarily the skills involved in their exploitation. However in new locations new skills and techniques evolve which may well have application back in the original centre and/or in further advance into quite new environments (cf. Kirkbride 1980:11-21). There, say Khuzistan, the supplementing of goat by sheep may allow more animals and thus more people to be raised, who then, with a further extended subsistence repertoire go forth to exploit areas (e.g. the Negev or the Mesopotamian plains) hitherto only exploited by mobile foraging bands. Thus, contrary to Cohen (op. cit.) and other population pressure theorists (e.g. Earle 1980, Christenson 1980a), it is a very low initial population at the Epi-Paleolithic which allows them to expand by learning to cope in a new environment; it is not a response to a previously over-exploited environment (cf. Watson 1979:293).

And this remains the case even after millenia of agriculture on the plains (Oates 1980:308). The fertile moist steppe west of Mosul, with a generously estimated population of 1200 in the sixth millenium BC, reaching perhaps 6000 in the Ubaid Period and giving over its 350km<sup>2</sup> a population density in the order of 8-11 persons per square kilometre "in an area of fully arable land which even under conditions of hoe agriculture could support a theoretical population of 20,000 ... with additional grazing land available on the nearby jebel ... would appear to constitute evidence of

population increase but hardly 'population pressure' even assuming the simplest of agricultural techniques" (Oates, op. cit., p.308). And Halaf sites in northern Iraq near Nineveh "occupying only prime arable land in the rainfall zone (the deep brown soils of the moist steppe)" while leaving unutilised for millenia other excellent soils in the area, some of the richest in Northern Iraq, means that "there is no conceivable argument for population pressure at this time" (idem); which is indeed a later time of palpable expansion.

In sum, post-Pleistocene man grew into an expanding environment at a rate determined by his own expansion of the 'effective environment' (Chapter II). In this learning process the diversity of the Zagrosian Arc as a whole and within its sub-regions, assumes its full importance as localised developments become mutually reinforcing through cross-fertilisation. There is no single centre in the region where, for instance, what was to become the Sumerian subsistence complex of wheat and barley, cattle and sheep, were domesticated and from which they spread. This is the significance of the coexistence over at least a millenium of three major cultures - the 'classic trio' (Mellaart op. cit., p.141) of Halaf, Hassuna and Samarra - until their traditions fused into the succeeding Ubaid, in its turn the basis of Sumerian culture (Oates et al. 1977:224).

Cross-fertilisation has a literal aspect too, and here bread-wheat, Triticum aestivum, is archetypal. Exclusively a cultivated hexaploid with no wild counterpart (Zohary 1971:242-3), bread wheat is found during the 8th millenium BP in Anatolia and in Khuzistan, though only in irrigated areas of the latter (Helbaek 1971:265). Yet its origins are at neither of those reaches of the Zagrosian Arc. Rather "at the start of Neolithic agriculture the two contributors that fused to form T. aestivum were geographically separated from one another. Dicoccoides wheats were apparently restricted to the arc; and Aegilops squarrosa most probably did not spread westward from the Caspian belt. Contacts between 4x [tetraploid] wheats and Ae. squarrosa could thus be established

only after the spread of Neolithic wheat agriculture to Armenia and North Iran. The most likely place for the initiation of hexaploid wheat is therefore somewhere near the southwest corner of the Caspian sea" (Zohary, op. cit., p.244, my emphasis) from whence it spread out again throughout the region as a much more robust crop.

There are two further concomitants of permanent villages that are catalytic and which point forward to the early historic textual materials. When settlements are at least semi-permanent, to contact arising from seasonal mobility is added a greater intensity of social interaction resulting from a permanent 'public season' where around 100 persons live most of the year at the one site. From this follows the necessity of new kinship relations to fix agricultural land and the development of political roles in the settlement of disputes. Resolution which had previously been by the disputants' mobility using distance as the mediator (Woodburn 1972:200-1; Forge 1972:371-3; Lee 1972b:182) now required some institutional means (Chapter VI).

Early large settlements, such as Jericho or Abu Hureyra on the west bank of the Euphrates in upper Syria, the latter covering 30 acres late in the 8th millenium BC (Moore 1979:67), saw a great deal of coming and going with the importation of soapstone from the Zagros Mountains, turquoise from the Sinai and cowrie shells from the Mediterranean and/or Red Sea, in addition to obsidian, jadeite, serpentine, agate and malachite (idem). What was given in exchange is not known; the point, however, is not about trade and accumulation but the networks of exchange of which those minerals are the markers and which would have included ideas and novelties, not the least of them being domesticates and the techniques for their utilisation.

## CHAPTER V

### THEORIES OF THE STATE

As suggested at the outset, chiefs rule in chiefdoms and kings reign over states, while meritocratic entrepreneurs such as big-men, famed hunters or shamans have merely influence in more acephalic societies. States possess a unique power centre manifesting sovereignty, characterised by **ultimate control** of the populations which are their subjects. In chieftaincies only hegemony obtains: autonomous foci of power over which the centre is merely preponderant (perhaps only for reasons of tradition or prestige) and any of which might secede to form the nucleus of another chiefdom. Yet most theories of state formation fall at the first hurdle through their authors' failure, or their formulation's inability, to distinguish chiefdom from true state. There is governance in the former, only in the latter is there government: overall social regulation by specialised apparatuses of control emanating from a unique power centre. Unlike the chiefdom "the state is never the kinship system writ large, but is organised on totally different principles" (Fortes & Evans-Pritchard 1940:6) which can be summed as the contrast between statuses and offices.<sup>1</sup>

Generalising, villages are characteristic not just of the Neolithic but of a chieftaincy, whose capital is but the village writ large. By contrast the state necessarily has an urban focus, due not only to elevated population densities and clusters (Lenski 1966:145-6), but to a more ramified division of labour in general, not least in the process of government itself. Further, small-scale societies and chieftaincies are relatively homogeneous in language, belief and custom, while states tend over time to become inclusive

1. A full treatment of the statuses/offices distinction is given early in Chapter VI.

and composed of groups and individuals of disparate ethnic origin. This is possible because the subject's primary relationship is vertically to the state and not horizontally to the rest of society as it necessarily is in a less stratified social order where identity and cohesion are at a premium.

Social complexity, stratification and urbanisation are usually discussed in the light of the theories or models of state formation obtaining. It is thus necessary, having previously outlined the spread of villages in the Near East, and prior to leading the archaeological evidence for the advent of cities, to analyse the theories of state formation currently held.

### 1: Evolutionary Underpinning to Theories of the State

It is to Elman Service's work Primitive Social Organization, first published in 1962 (with a second revised edition in 1971), that we owe the full and rigorous distinctions<sup>2</sup> between band, tribe, chiefdom and state levels of what he calls 'levels of sociocultural integration'. So fecund has this approach proved that implicitly or explicitly it informs most contemporary ethnoarchaeology and most fittingly the Studies in Honour of David Clarke (Hodder, Isaac & Hammond eds., 1981) that add much depth to the subject. It is indeed difficult to imagine how ethnoarchaeology could be practised without such a framework, and because this is so, Service's formulations first need to be outlined prior to the elucidation and criticism of the specific models developed by others.

For Service then (1971b:100) "a band is only an association, more or less residential, of nuclear families, ordinarily numbering 25 to 100 people, with affinal (i.e. marriage) ties allying it with one or a few other bands". The loose structure of bands will be developed subsequently, but for Service (ibid., p.98) the salient

2. Despite Steward's pioneering work in this field, cf. Theory of Culture Change, 1955.



feature of the band level of sociocultural integration "is simply that all of the functions of the culture are organised, practised, or partaken of by no more than a few associated bands made up of related nuclear families".

From those loose aggregates a tribe is formed (under certain circumstances) through the crystallisation of 'sodalities' which become 'pan-tribal'. These stabilise the fluid groupings and give them cohesive structure in both depth and extent. "Probably the most usual of pan-tribal sodalities are clans, followed by age-grade associations, secret societies, and sodalities for such special purposes are curing, warfare, ceremonies and so on" (Service, op. cit., p.102). This structuration is brought on by pressure, not so much from the natural as from the human environment, what Service (ibid., p.103) calls the "superorganic environment". Hence, though "a tribe is a fragile social body compared to a chiefdom or a state ... it seems likely that without foreign-political problems overall tribal integration would not take place; it is always such problems that stimulate the formation of large political bodies" (idem). Thus while it is the extension and elaboration of pan-tribal sodalities that 'make a tribe a tribe' (ibid., p.105), the process is associated particularly with the Neolithic, for "The competition of societies in the Neolithic phase of cultural development seems to have been the general factor which led to the development of integrating pan-tribal sodalities" (ibid., p.103).

Other than mentioning the transformative influence of competition in general and warfare (or its threat) in particular, Service does not elaborate on the reasons for intensified competition and conflict during the Neolithic, though he maintains that even at the band level it is precisely hostility, actual or latent, that calls forth social organisation (ibid., p.108). In regard to tribe formation, Service does suggest that this has something to do with increased population around the Neolithic, and this is a crucial consideration we shall have to pursue later.

While "it is possible that intense competition and frequent warfare among tribes was an important condition for the rise of chiefdoms in the first place, inasmuch as planning and coordination have obvious advantages in war" (Service op. cit., p.141), we see that this is not a sufficient condition, in that 'incessant warfare' amongst New Guinea or Amazonian horticulturalists, for example, fails to generate the state or even a chiefdom. This is a point not lost on Carneiro (1970:735), who advocates his own conquest theory but for whom warfare is a necessary but not sufficient cause. Accordingly, for Service (ibid., p.136), "most chiefdoms seem to have arisen where important regional exchange and a consequent increase in local specialisation came about because differentiation in habitat was combined with considerable sedentariness". Instead of people moving to exploit different ecological zones, they stay put and their goods move (ibid., p.135). Sedentariness, we shall argue, has a lot to do with it, but as for local specialisation and overall re-integration by the chief, Earle (1977a:223) shows quite plainly that territories within the Hawaiian proto-state were specifically organised to ensure local autarchy and that what was 'centralised' and 'redistributed' (only to the elite) were sumptuary items marking their status, a conclusion generalised by the broad survey of Peebles and Kus (1977:444-445).

However, Service himself has unconsciously produced the best argument against the 'necessity' of chiefly redistribution for the complementary exploitation of diverse habitats. He observes (op. cit., p.136), in regard to specialised nomadic pastoralists, that inasmuch as they are part societies dependent on exchanges with settled agriculturalists "economic symbiosis must have been well-established **before** pastoralist chiefdoms could become so specialised as herders" (his emphasis). But he goes on in the mistaken belief that 'primitive reciprocal exchanges', since they are of interest to the whole group, though they are undertaken by individuals, demands "organisation - which implies some form of leadership" (idem). On the contrary, we have seen above that it is

density of settlement and economic specialisation which generates nomadic pastoralism (Chapter III). Nonetheless, for Service (op. cit., p.138), "a fully developed chiefdom is likely to have both regional specialisation and individual division of labour tied into the redistribution".

The redistributor-chief, whom it is suggested commenced his career not, significantly, as a war leader but as a 'big-man' type distributor of the fruits of his own labours (ibid., p.139) 'having control of the magazine', can then subsidise further specialisation, particularly of crafts for his own utility. This chief is also able to mobilise large amounts of labour for both military and productive purposes. Instancing the creation of water control schemes amongst the latter, Service concludes (ibid., p.141), "Once this kind of project was well under way, the societies were transformed to a new level - the classical archaic states - thereby obliterating the antecedent chiefdoms after a brief lifespan".

Service does not discuss archaic states in Primitive Social Organization (1962/1971b), but does so in a later work, Origins of the State and Civilization (1975). There he continues to stress the development of a permanent redistributinal system as "closely associated with the origin of chiefdoms" (ibid., p.91), for "it is the basic supply system - and hence it is obviously necessary to the whole society" (ibid., p.92). It is further reiterated that "big-man systems did in fact sometimes turn into hereditary chiefdoms" (ibid., p.294), but once established "all chiefdoms (become) theocracies and an important aspect of the bureaucracy is its function as a priesthood" (ibid., p.296). The development of bureaucracy is stressed (ibid., p.321), in addition to "the immense benefits of fitting such different niches and skills into a centralised redistributinal system" (ibid., p.285). Hence we find the chiefdom/state distinction now rendered as the "relatively peaceful theocratic mode of rule (of the chiefdoms); states, on the contrary we have thought of as having more prominent secular sanctions backed by force or the threat of it" (ibid., p.294).

Remarkably, however, in his chapter of final conclusions, Service (1975:304), while maintaining that "Chiefdoms seem to be clearly distinct from segmental societies", postulates that since archaeologically "there seems to be no way to discriminate the state from the chiefdom stage", he wishes to conflate bands and tribes "into a single segmental stage" (idem), while chiefdoms and states proper are to be merged under the rubric of "caste societies in the fullest sense of the word" (ibid., p.301). This despite the fact that the former classification into bands, tribes, chiefdoms and states "may still have its uses in characterising contemporary (or historically known) primitive societies (but) it does not seem so useful for prehistoric archaeology" (ibid., p.303); a matter surely for archaeologists to gauge and a modification that Renfrew (1977:99), for one, finds distinctly unhelpful.

Further, in the shift from Primitive Social Organization to the Origins of the State and Civilization, Service's emphasis has shifted from strife to benefits in causing heightened social organisation, while armed conflict now appears (1975:298) as a failure of governance. From conflict to cooperation by way of the centrally administered division of labour, what is now proposed in "the evolutionary route from big-man society through chiefdom to civilisation" is that "political evolution can be thought of as consisting, in important part, of successfully 'waging peace' in ever-wider contexts" (ibid., pp.297, 305).

Service, having provided some fundamental elements for a theory of the generation of the state, has attempted an eclectic synthesis and must be judged to have failed to provide a clear conceptualisation. His leading factors were redistribution at the stage of chieftaincy and at the level of the state proper the benefits of administration. As such his model of state formation comes under the heading of 'managerialism' and as such it will be treated below in the appropriate section. The valuable aspect of this has been in drawing our attention to political means of gaining power over the labours of others and in so doing obtaining

differentially favourable conditions of life for a ruling minority.

## 2: Models of State Formation

Modern ethnoarchaeological models of state formation fall under two broad categories: (A) the Managerial and (B) the Stress, whose rationale may respectively be rendered as 'benefits' versus 'conflicts'.

Both Managerial and Stress theories divide again in two, so that under Managerial we find explanations in terms of (i) benefits of provisioning, specifically in redistribution, and (ii) benefits accruing from information processing and the coordination of a complex division of labour. Stress theories divide broadly into: (i) 'circumscription theory', whereby internal stress is induced by the society meeting external barriers to its expansion, geographical or socio-military. The internal stresses thus set up cause a portion of the population to be circumscribed in their range of options leaving only that of subordination to an emergent state centre to which they must render taxes or tribute. (ii) 'Stratification theories' under which internal stresses induced by emergent class stratification cause the privileged classes to defend their position by building the state.

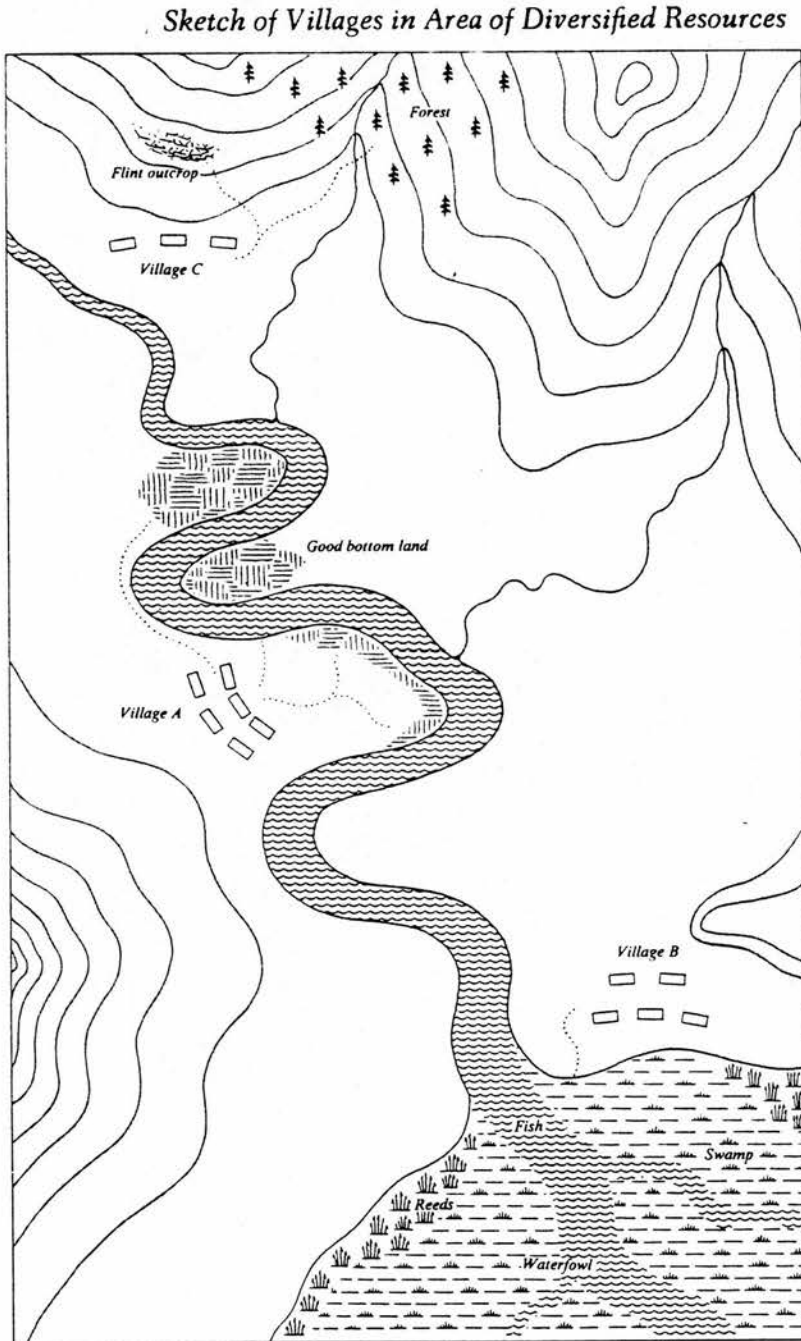
It is clear that none of those models are mutually exclusive and most contain elements of the others structured around one major principle of causation. Service's theory can thus be seen to contain two main strands, that of warfare and supply benefits (though as his 'warfare' is in fact effective defence, both reduce themselves to varieties of 'benefit'). And in his own classification (1978:22), Service's scheme comes under the head of 'Integrative Theories', albeit a synthetic one.

### A: Managerialism

A (i): Service's theory has been extensively reviewed so now his

more specific model will be evaluated. In The Origins of the State (1975:76-9) he provides a 'sketch of villages in an area of diversified resources' (Figure V:1), to show how a chief can be generated from a big man.

FIGURE V:1<sup>3</sup>



3. Taken from Service (1975:77).

Such villages lie along the course of a river which flows from a hilly region through 'good bottom land' debouching into a productive swamp. These are villages C, A, B respectively (in Fig. V:1). The original settlement is A on the most productive farming land. Thriving, population grows and buds-off to form village B at the edge of the swamp where farming is poorer but marsh resources of fish and fowl, plus reeds, are ample. Then a related group comes over the mountains to settle at the upper reaches of the river, which it does unopposed since the land there is relatively poor for farming. But this is compensated by ready access to forest products and to mineral outcrops in the hills, especially flint.

Those villages peacefully exchange the resources in which they are favoured. However village A is in a way 'most favoured' for, "not only is its status highest, because it is the original site, and its production higher, because it is in the best all-round location, but for these reasons it may also be larger" (Service 1975:76). Being in the middle, Service continues, it is easier for B to deal with C through A and vice versa instead of directly. All this still at the level of balanced reciprocity. "A, then, by simply storing the goods acquired from B and later giving a part of them to C (along with some of its own production), gradually becomes in part at least the 'magazine' of the valley, and A's reciprocities at that time turn into true redistribution" (idem). Or, according to the next passage, they do when 'an adequate big-man' at A is able to take matters and the magazine in hand, making redistribution 'his own' and turning himself, or at least his successors into a chief in the process. "Meanwhile, the local specialisation is so advantageous that it naturally augments, so that C village may give up maize-growing altogether, depending on A for its supply, while B may give up tobacco growing" (ibid., p.78).

As production and population further increase, A becomes the chiefly village wielding power by consent that is rooted in economic advantages (both to A and the other two villages) and in

emergent kinship seniority (Service op. cit., p.78). This becomes the instituted power of permanent offices as the system extends itself and the chief becomes invested with charismatic authority, while "a chiefly line is likely to become a priestly line" (idem) and so priest-king with an aristocracy come to rule over an extended society become a state. In summary

we are considering essentially the evolution of a bureaucracy of theocratic authority, a bureaucracy that was also the creator and administrator of the important parts of the economic system. Even in the earliest, simplest systems, this political power organised the economy, rather than vice versa; and it was a redistributive, an allocative, system not an acquisitive system that required personal wealth in order to acquire political power. (1978:xiii).

Thus there could be no question of the state emerging to contain an economic class struggle.

The greatest lacunae in Service's argument, both in his 1971 and 1975 works, reside precisely in the transition from chiefdom to state. Indeed the latter is scarcely defined but, rather, described in such terms as "the power of force in addition to the power of authority [either charismatic or theocratic] is the essential ingredient of 'stateness'" (1975:15). The lack of clear articulation is, of course, a major drawback when attempting to account for the 'Origins of the State and Civilization'; but especially so when this statement contradicts the key process of advancing benefit. But this is not even the major defect. The problem is that all the generative assumptions are contradicted by ethnography.

In the first place it is not the villages that function as corporate entities, rather their component families or lineages are the active entities. Exchanges may affect villages of residence in some fashion but it is individual households or lineages that exchange, for it is they who produce (Vayda 1966:494-500) even at



'trade-feasts' conducted en masse between 'sub-tribal villages'. And in particular it is those groups that produce and exchange women, the key exchange 'good' as Service himself originally recognised (1971:32-40), a realization which is central to modern alliance theory. Since there will be many cross-cutting links (and antipathies!) between and within villages, it is hard to see how a clear politico-economic ranking would arise **between whole villages**, rather than their component groups, unless the 'villages' are merely hamlets or lineage compounds. One could say it might arise as a 'statistical tendency', but it might just as well be random too. Further, affinal links and prestation, which played such a role in the Primitive Social Organization scheme, now do not figure in this purely economic, functionalist one of 1975. As for the key magazine/redistribution function at A, are we to assume that A takes on the role of emporium storing ducks and (dried?) fish against supplies of flint from upland? Again by and for whom? Big-men are no help here, for the functioning of big-men is as instigators of intensified local production for essentially free **distribution**, what is received in exchange being credit, not commercial credit but social prestige. A big-man (or 'centre-man') is a **faction** leader who has built up a **personal** following by being

prepared to demonstrate that he possesses the kinds of skills that command respect - magical powers, gardening prowess, mastery of oratorical style, perhaps bravery in war and feud. Typically decisive is the deployment of one's skills and efforts in a certain direction: towards amassing goods, most often pigs (in New Guinea) shell monies and vegetable foods, and distributing them in ways which build a name for cavalier generosity, if not for compassion. (Sahlins[1963]1968:164).

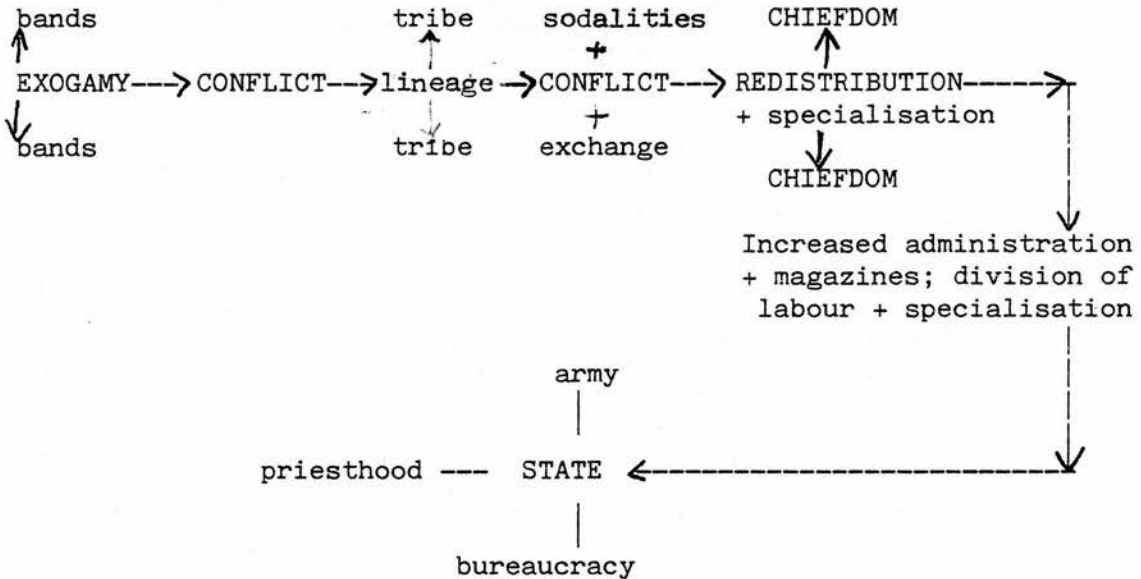
The big-man's is not an office that can be transmitted and stabilised but, on the contrary, a personal capacity that ends not even upon his death but with his decreasing vigour in 'fishing men'. Big-man mobilisations are thus inherently unstable, depending as they do on personal prowess and conditional faction: "in its superstructure it is a flux of rising and falling leaders, in its

substructure of enlarging and contracting factions" (Sahlins op. cit., p.166). The 'big-man route' is thus a dead-end and cannot serve as the point of departure for what Service calls (1975:308) "the final benefits of a form of centralised and expanding political organisation that began in the simple attempts of a big-man to perpetuate his social dominance by services to his fellows". Other institutional structures are required for this which, however, still allow the rising chief to appear as public benefactor.

For purposes of comparison and coherency, Service's model for the evolution of the state might be represented as follows:

FIGURE V:2

SERVICE'S MODEL OF THE EVOLUTION OF THE STATE



Page references (which appear on subsequent models) need not be given for each of the elements in Figure V:2 in view of the previous citations. Instead we will conclude with a final quotation from Service (1975:302). Prior to empires he states:

the earlier origins of institutionalised power and its development en route to the classic forms was clearly associated with increased bureaucratic mobilisation of resources in several ways, but most striking in creating

specialisations (of skills and of regions) in an organismic redistributinal system that so typically involves complex administration.

A (ii): It is precisely the benefits of 'complex administration' that the 'information' school of thought singles out as prime determinant if not prime mover. In fact this other stream of managerialism, perhaps best known from the work of Flannery (1972a) and Wright & Johnson (1975; and each individually), posits the state as primarily and pre-eminently the regulator (and executor) of a flow of information between social subsystems, many of which are of the state's own creation (Wright 1978:56). In such a scheme, "regulation involves information flow, even if it is expressed in flow of material items" (idem). This is, then, a reversal of Service's causality which explains administration from material provisioning, in contrast to the 'information' view which seems to value regulation for its own sake. As Wright explains:

For my purposes a **state** can be **recognised** as a society with specialised decision-making organisations that are receiving messages from many different sources, recoding these messages, supplementing them with previously stored data, making the actual decision, storing both the message and the decision, and conveying decisions back to other organisations. Such organisations are thus internally and externally specialised. (Ibid., pp.55-6; his emphasis).

This is, then, an extreme synchronic and cybernetic view that not only omits but virtually precludes diachrony, such as was central to Service's account. And just in passing, one wonders how orders passed from the state to, say, the village headman, makes him, the focus of a network of cross-cutting local relationships, into a 'specialised organisation'. But the outcome of this type of explanation is to see the emergence of the state as the 'promotion' of a hitherto existing 'specialised organisation' from a lower and integrated level to a more nearly apical one, at which position it reacts back upon the whole structure, re-ordering it. In the process of its 'promotion' the institution moves from being a

'system-serving' or special purpose institution toward being a 'general purpose' or self-serving institution (Flannery op. cit., p.411). Such would be the emergence "of the Sumerian palace out of the secular residences included in southern Mesopotamian temple complexes at 3000 BC, with its implications for the evolution of kingship out of some kind of 'priest-manager' role in the preceding chiefdom stage" (ibid., p.413). For it is the lower-order institutions that are charged with maintaining their own output within certain ranges, while higher order institutions function not directly in meeting those goal ranges but in supervision of the functioning of the institutions so charged.

Such a hierarchy, by which Flannery means to model 'a simple human ecosystem' (ibid., p.409), is illustrated overleaf (Figure V:3). Of it he remarks that

it consists of a series of subsystems arranged hierarchically, from lowest and most specific to highest and most general. Each subsystem is regulated by a control apparatus whose job is to keep all the variables in the subsystem within appropriate goal ranges - ranges which maintain homeostasis and do not threaten the survival of the system. Management of crop plants, for example, might be regulated by a lower-order control issuing specific commands; the distribution of harvests and surpluses (the 'output' of the latter subsystem) might in turn be regulated by calendric rituals or group leaders somewhere in the middle levels of the hierarchy. (Ibid., p.409).

Should, however, the lower order entities fail in meeting their targets, "as in the case of socio-environmental stress", then the next one up can take over its function at least temporarily. This however is dependent upon spare capacity and buffering such that the limits set allow room for manoeuvre and the institutions are not too integrated vertically, a process known as 'linearisation' (ibid., p.413). Under linearisation a failure in one is likely to jeopardise the whole system. A failure in this, the 'hypercoherence' mode, in which signals are not buffered, allows

FIGURE V:3  
MODELS FOR THE OPERATION OF CONTROL HIERARCHIES

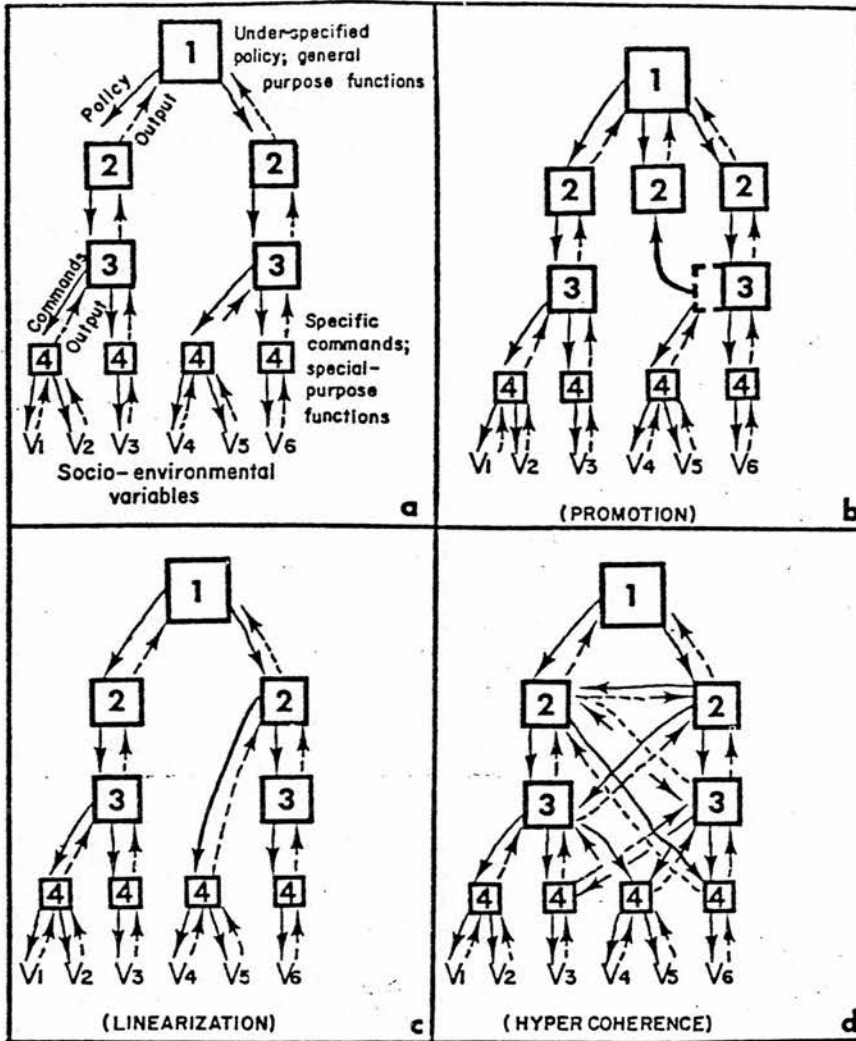


FIGURE 3. Models for the operation of control hierarchies: (a) the model for a control hierarchy as described in the text, with socioenvironmental variables ( $V_{1-6}$ ) at the bottom regulated by low-level institutions (4), and each successively higher level (3-2-1) regulating the output of the level below it; (b) an example of "promotion," with one function of a third-level institution rising to assume a position of importance in the second level; (c) an example of "linearization," with a second-level control bypassing level 3 and directly regulating the output of a fourth-level institution; (d) an extreme case of "hypercoherence," with too great a degree of direct coupling among institutions on various levels.

4. Taken from Flannery (1972a:410).

the system no time to generate new institutions to cover changing circumstances, "which means that more complex, more 'highly evolved' systems may be less stable or more demanding, with more direct influence of one subsystem on another, and thus with a need for stronger and more centralised management at the top of the hierarchy" (Flannery op. cit., p.411). From the logic of the system the state emerges "when segregation (of ramified institutions) and centralisation reach a certain threshold" (ibid., p.423).

"Thus, one of the main trends in the evolution of bands into tribes, chiefdoms, and states must be a gradual increase in capacity for information processing, storage and analysis" (ibid., p.411). Well so it must - where would we be without palace and temple cuneiform texts - but recording and communicating are means, and not ends in themselves.

There is little that can usefully be said about this general systems model<sup>5</sup> except that it can apply to many systems. Its application to 'The Cultural Evolution of Civilizations', which is Flannery's title, or 'toward a generative model for the state', which heads his conclusions, brings us, he admits (ibid., p.421), not much nearer to solution. This despite the fact that the last part of the paper draws upon the topographic hierarchy of settlement types (cities, towns, villages) in 'hexagonal lattices' as demonstrations of the evolutionary processes involved in Sumeria and southern Mexico (Maya) (ibid., pp.418-422). But the problem is that this cyberneticist model is not really a generative processual model, rather an 'ex post facto' construction, compatible, as Flannery himself suggests (ibid., p.421), with virtually all the established models, many of which he reviews and classifies as 'prime movers' (ibid., pp.404, 407). While those prime movers (e.g., population growth or social circumscription) as 'socio-environmental conditions' may represent in his terms "either

5. Which Flannery subsumes under the head: 'cultural ecology' (op. cit., p.400) but differentiates from the traditional or 'pre-information' ecologists like Steward, while he identifies with Rappaport's approach.

evolutionary mechanisms of pathologies (Flannery op. cit., p.421) of societies, it is hard to see in the Sumerian instance how our understanding of the emergence of (or the distinction between) **ensis** or **lugals** ('kings') is advanced by categorising the advent of the palace as a case of 'promotion'. There is even very little true 'ecologism' here, where, one suspects, at least the thorough-going 'cultural materialism' of Marvin Harris (e.g., 1975, 1978) would be more suggestive in explaining the cluster of states on the alluvium of Mesopotamia. It does not advance our understanding a great deal to be reminded that for systems to be stable they must incorporate redundancy.

A (ii) b: Another, but traditional, version of managerialism arose early this century<sup>6</sup> and now is associated with the name of Karl Wittfogel. From a 'hydraulic thesis' saying that states arose from the bureaucratic necessity of managing irrigation systems on the great rivers of Asia, he derived the necessity of an 'Oriental Despotism' (1955, 1957), the actual title of his best known work. Wittfogel suggests ([1955] 1971:560) that the term 'hydraulic society' applies to "agrarian societies in which agro-hydraulic works and other large hydraulic and non-hydraulic constructions, that tend to develop with them, are managed by an inordinately strong government". This latter attempt to grapple with the Asiatic Mode of Production will not detain us as it is treated systematically in Chapter VII. A diagrammatic representation of his scheme is reproduced overleaf (Figure V:4). The fact that the final term is 'differentiated leadership' and not the state, is symptomatic, as will be shown below.

Wittfogel's central premisses fall on a number of counts: In the first place, the hydraulic regimes and topology of all the 'rivers of civilisation' are quite different, from the regular and limited inundation of the Nile floodplain (so narrow that it never

6. In the next chapter we shall observe that V.V. Struve incorporated a hydraulic rationale into his account of Sumerian state origins (see pp.266-7 below).





its own way" (Flannery op. cit., p.416). Wittfogel, however, tries to save his scheme against the facts by making this local, unstructured type into a 'loose' variety ([1955]1971:563) of 'hydraulic society' in contrast to the 'compact', i.e. integrated, network to which managerialism might apply. Such a dilation Adams (1966:67) regards as further impairing a scheme that he anyhow rejects for the 'compact' or 'core' variety supposed to obtain, and that archetypally, in Mesopotamia. But further, into this 'loose' category, states of early India and China are also said to fall (Wittfogel op. cit., p.563), yet of the birth of civilisation on the Indus Allchin & Allchin (1982:192) remark that "the principal food grains (wheat and barley), would have been grown as spring (rabi) crops: that is to say, sown at the end of the inundation upon land which had been submerged by spill from the river or one of its natural flood channels, and reaped in March or April. In modern practice such land is neither ploughed or manured, nor does it require additional water". In other words we have a regime similar to that of the Nile.

The archaeological facts are quite simply that irrigation precedes the rise of the state in Mesopotamia (Helbaek 1964:45-8; Oates 1982:25-7) as also in Egypt where a good nomarch or monarch would cut canals to conduct water further, but could do nothing about the height of the Nile in flood (Kees op. cit., pp.52-3). In his review of 'The Indigenous Origins of Chinese Agriculture' Ping-Ti Ho (1977:428-9) dismisses Wittfogel's hydraulic thesis for China as "completely without foundation", since the location of the more than 1,000 Neolithic sites known, shows them to be located on "loess terraces or mounds at varying altitudes ranging from fifteen or twenty to hundreds of feet above riverbeds", and so demanded "sophisticated water wheels and water pumps before irrigation could be practised" (ibid., p.428). "Clearly", Ho continues, "the rise of Chinese agriculture and civilisation bore no direct relationship whatever to the flood plan of the Yellow River, and of all the ancient peoples who gave birth to higher civilisations in the Old and New World, the Chinese were the last to know irrigation" (idem).

By the time of its advent in China in the fifth century BC, the state form had been known for at least one millenium and there were indeed several large states in competition. This relates directly to the next point: the ethnographies present a case the reverse of that given in Wittfogel's scheme.

Big-men **distribute** the product of their own entrepreneurial activity; chiefs **redistribute** the fruits of others' labour, while kings (states) extract resources from the peasantry, only a fraction of which is ever redistributed, not in recirculation as it is in chiefdoms, but either as largesse to retainers or to the politically important. It is also used for public display, religion, and for the maintenance for servitors, chief among which is the state bureaucracy (Eisenstadt 1965:218-9). To raise the absolute levels of extraction (and thus their own consumption, personal or political) states **mobilise** labour directly to further the productive infrastructure.<sup>8</sup> Just such a state — mobilisation — irrigation/taxation sequence will be illustrated ethnographically from Madagascar, and it also obtains **after** the advent of the Aztec state (Brumfiel 1983:274-6). Thus once the state has arisen, it tends to involve itself heavily in major irrigation facilities since water is the major constraint on production in low latitudes. But this is exactly the **reverse** process to that envisaged in Wittfogel's form of managerialism, leaving the fundamental origins of the state still to be explained. Indeed, it is only because irrigation in general, and competitive irrigation in particular, is so central to Mesopotamian history that it has been worth dwelling on Wittfogel's model with its popular currency, a view with no ethnographic or archaeological basis and which he admits (1981:xxxix) **was really devised to account for a quite different political problem: to account for what he calls Asiatic Despotism and which will be dealt with in Chapter VII as the Asiatic Mode of Production.**

8. And conversely through their warfare, for which they also mobilise a lot of resources, can also destroy them - the Roman destruction of, for instance, Carthage, is deservedly as famous as Roman aquaducts.

## B: Stress Models

### B (i): Competition and Conquest

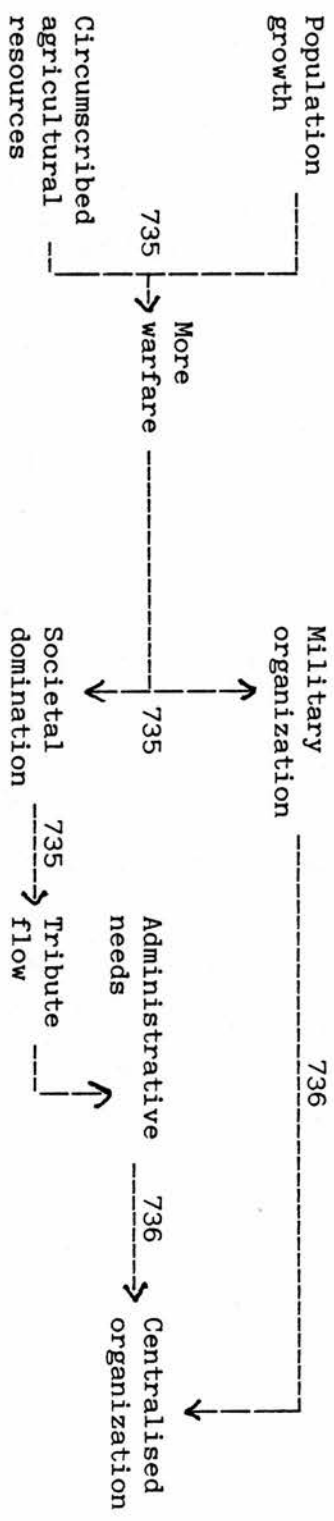
Carneiro's model (1970, 1978), best known from its concept of 'social circumscription', is fundamentally a conquest theory with ecological aspects. Its prime mover is simply competition for land brought on as a result of the Neolithic, "when human numbers began to press on the carrying capacity of the land" (1978:210). Villages proliferated to occupy all the good land leaving little that was of much value. "As population density in such areas increased and arable land came into short supply, competition over land ensued. This competition took the form of war, and those villagers vanquished in war, being unable to flee as they might have done in areas of uncircumscribed land, had to remain in place and be subjugated by the victors" (ibid., p.207).

The ecological coda to this straightforward (and very traditional) conquest-state model (Figure V:5 overleaf), resides in the notion of circumscription providing the 'container', as it were, for the state. Within such boundaries natural or social, however, no actual process for internal generation of state structure is advanced. Subjugation is accepted, the theory runs, because the original territory of the cultivators is bounded by geographical barriers like deserts or mountains making escape to 'freedom' and new farmland impossible; while being hemmed in by other societies has the same effect. Unless of course they, the conquerors, are, in their turn, conquered and such pyramiding is precisely Carneiro's model: "through the conquest of village by village, chiefdoms, the first supra-community political units, came to arise ... from village to chiefdom to state to empire, is the direct consequence of competition between societies..." (ibid., p.210).

Well, it's simple but does it work? It actually tells us nothing about the rise of the state, still less of ranking or

AN EXTERNAL CONFLICT THEORY OF STATE ORIGINS (CARNEIRO 1970) <sup>9</sup>

FIGURE V:5



9. Taken from Wright (1978:53). Numbers refer to page references in Carneiro (1970).

stratification, except that the rulers consist of (or employ) warriors who exact tribute. And the earlier strictures made above on the possibility of "social augmentation through successful competition", to use Carneiro's (op. cit., p.208) own words, are certainly not dispelled by his assertion that "the political unit warranted being called a state" is one "so much larger, stronger, and more highly organised than the small chiefdoms out of which it had arisen" (idem). This is merely description and fragmentary description at that.

The Neolithic transition to settled village agriculture was, as has already been indicated (Chapter IV), a slow and uneven process, that for millenia depended upon continued foraging as much as cultivation. This provided established settlers and new colonists with all manner of flexibility, not least for new combinations of resource exploitation and, indeed, for new specialisations on new terrain.<sup>10</sup> Even after millenia of city-states in Mesopotamia there were always significant numbers 'voting with their feet' as they alternated between and around cities and fluxed from agrarian villages to nomadic niches and back again. Very often indeed, such fluid elements posed problems to the very stability of states. Stability neither of watercourses nor of population or of politics could be taken for granted. Further, despite Carneiro's 'Principle of Competitive Exclusion' taken from Hardin (1960), whereby "two species occupying and exploiting the same portion of the habitat cannot coexist indefinitely", the city-states of Sumer and Akkad did just that with basically only boundary variations, despite engaging in frequent warfare. But perhaps several millenia are not indefinite enough.

Most tellingly, however, it will be shown that states arose

10. Cf. Halstead (1981a:334) for Greece: "The observed spacing between Neolithic settlements may rather reflect the need for access to wild foods in years of bad harvests, while the broadening of the subsistence base to include, in particular, olive cultivation may have taken place for a similar reason". Indeed Meillassoux ([1972] 1978:161) regards this as axiomatic.

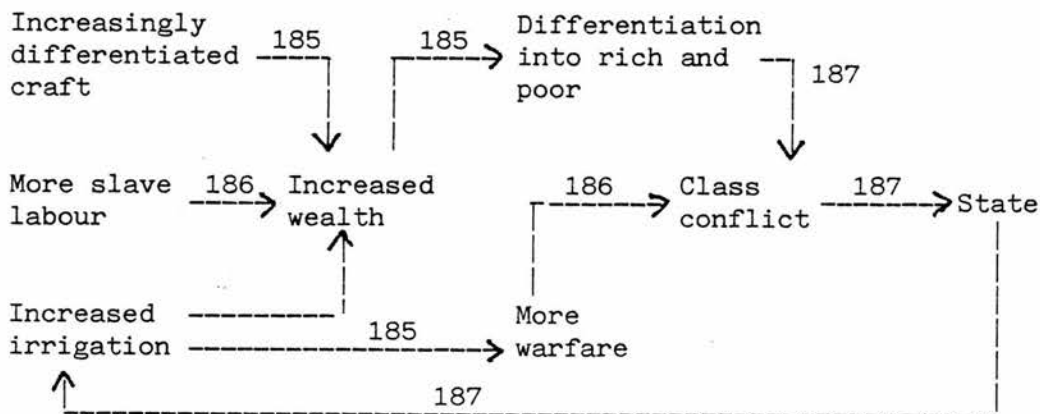
not in the original Neolithic upland hearths where demographic pressure would have been greatest. On the contrary, they emerged on the alluvium precisely under those environmental constraints in contrast to which favoured focal areas are supposed to make cultivators stay put and accept domination. It was the breaching of any 'circumscription' that took settlers down from the fertile piedmont onto the plain, and it is there in a semi-desert punctuated by marshes that we find 'The Heartland of Cities' (Adams 1981: title) whose advent demands explanations less schematic.

**B (ii): The Stratification Model**

I.M. Diakonoff, the eminent Sumerologist, has consistently pursued a class-stratification model for the rise of the state in the Near East (1969a: Editor's Preface p.15). This is not a model peculiar to him but a fairly orthodox Marxist one, which may be found in one form in Engels' Origin of the Family, Private Property and the State (1884) and in contemporary sociological literature in the work of Morton H. Fried (1967, 1978). Diakonoff's model is reproduced below from Wright's construction (op. cit., p.51).

FIGURE V:6

**AN INTERNAL CONFLICT THEORY OF STATE ORIGINS (DIAKONOFF 1969)<sup>11</sup>**



11. Numbers refer to page references in Diakonoff (1969).

This approach is too well known to need extensive discussion at this point. Briefly, it maintains that the state comes into existence to protect, by politico-military means, an order of stratification arising from control of society's means of production by an economically powerful class. In this process class struggle between 'haves' and 'have-nots' develops over control of social resources. In reaction the state emerges to contain class conflict, and it does so in the hands, and in the interests, of those already economically powerful. Or, as Fried (1978:36) summarises this position: "Central to the concept of the state ... is an order of stratification, specifically a system whereby different members of a society enjoy invidiously differentiated rights of access to the basic necessities of life". This engenders a "formal organisation of power (which) has as its central task the protection (and often extension) of the order of stratification" (idem).

The problem here is twofold. On what basis did economic stratification arise in the first place, and secondly, just how does this translate itself into state power? The latter, it must be stressed, is fundamentally **political** power, which, in general, I take to be the contest over publically endorsed (and/or enforced) means to private or sectional ends.

The onset of major economic disparities is usually accounted for with some kind of 'trade' postulate (cf. Alden 1982:613-640; Friedman & Rowlands 1977b:204),<sup>12</sup> implicitly retrojecting the role of mercantile capital in the rise of modern European capitalism. The bourgeoisie arose, however, by trade and investment within an already highly stratified and state-ordered society. Such an analogy cannot account for aboriginal stratification. The ethnographic literature abounds in accounts of exchanges affective, ceremonial and utilitarian, both between individuals and between

12. For whom "production for exchange seems to be a constant factor in evolution" (1977b:204).

corporate groups of band, tribe and chiefdom societies without any of the parties thereby becoming enriched, for the whole point is reciprocity (Sahlins 1974:185-191). Indeed 'negative reciprocity' is **the** anti-social statement, being either latent hostility or open warfare (raiding); giving without receiving in the first case, taking without giving in the second (ibid., pp.196-200). But even was wealth to be accumulated 'in exchange', yet another mechanism would need to come into play to translate this into control of the means of production. Again, the analogy with capitalism, where everything is open to sale, purchase and amassment, and where private prerogative has displaced social responsibility, is entirely misleading for prehistoric conditions (Dalton 1981:18-22). One gets some inkling of an entirely different 'mode', not least of 'exchange', where the greatest good in, and the strongest bonds for, the reproduction and cohesion of society, are brought about by the exchange not of commodities but of people, i.e. women. In return for this 'good', goods and services flow in return from the 'wife-takers'. Are we to reckon this as the 'sale' of women? Only if we apply our totally inappropriate market categories, and to which one is tempted to rejoin in the words of Paul Lafargue (1890:16) that: "If political economists so confidently refer capital to the childhood of humanity, it is because they indulge themselves in a convenient ignorance of the customs of primitive peoples".

Both Henry T. Wright (1969, 1972) and Gregory A. Johnson (1973) have conducted field research in Southwestern Iran aimed directly at testing monocausal explanations for the rise of the state. This area, centred upon Susa and which was to become the early historic state of Elam, is directly relevant as it lies southeast of the Tigris and forms part of Greater Mesopotamia. In their joint summary (1975:283-286) they maintain that while local exchanges make for regional cohesion and self-sufficiency, "there is some inter-regional movement of metals, but little else". And having dismissed "the hypothesis that population growth in a circumscribed area is in itself a necessary and sufficient condition for primary state



formation", since population had actually fallen in the preceding centuries, they conclude that "there was not primary expansion of exchange just prior to state formation. Inter-regional exchange did not increase markedly until the end of the Uruk Period" (Wright & Johnson op. cit.), which is in fact the period **after** the advent of the world's first states.

Hence neither from ethnography nor archaeology is there any support for the prime role of trade in Sumerian state origins, whatever its role may have been later (Adams 1974:239-256); and if a stratification model is to be pursued it must find other transformative mechanisms.

In fact a stratification model **type**<sup>13</sup> is possible if, and only if, a number of considerations are met:

1. it concentrates upon control of the means of production, that is, it rigorously deals with the **relations of production**.
2. it ceases to be a monocausal model relying upon a single prime-mover.
3. accordingly, it stresses simultaneity of processes and does not look to pre-existent economic classes to secrete the state.
4. it sees the state as a 'total political system', not simply a bundle of apparatuses, but as the arena of contest and exchange between ideological, economic and military forces; and hence one, as Fried (op. cit., p.36) justly remarks, that is "a source of revolutionary transformation of culture in general".

13. Such an approach Brumfiel (1983:263) calls 'structural', since "certain socio-cultural systems, because of their inherent structural properties, are dynamic" and "structurally induced social conflict has both a **political** and an economic basis in political systems where leadership is instituted in weak, but permanent offices", that is, in chiefdoms. While responding to certain ecological possibilities and constraints, it is the social structure as an emergent complex organisation that develops according to strains and opportunities set up in its own continuing operation.

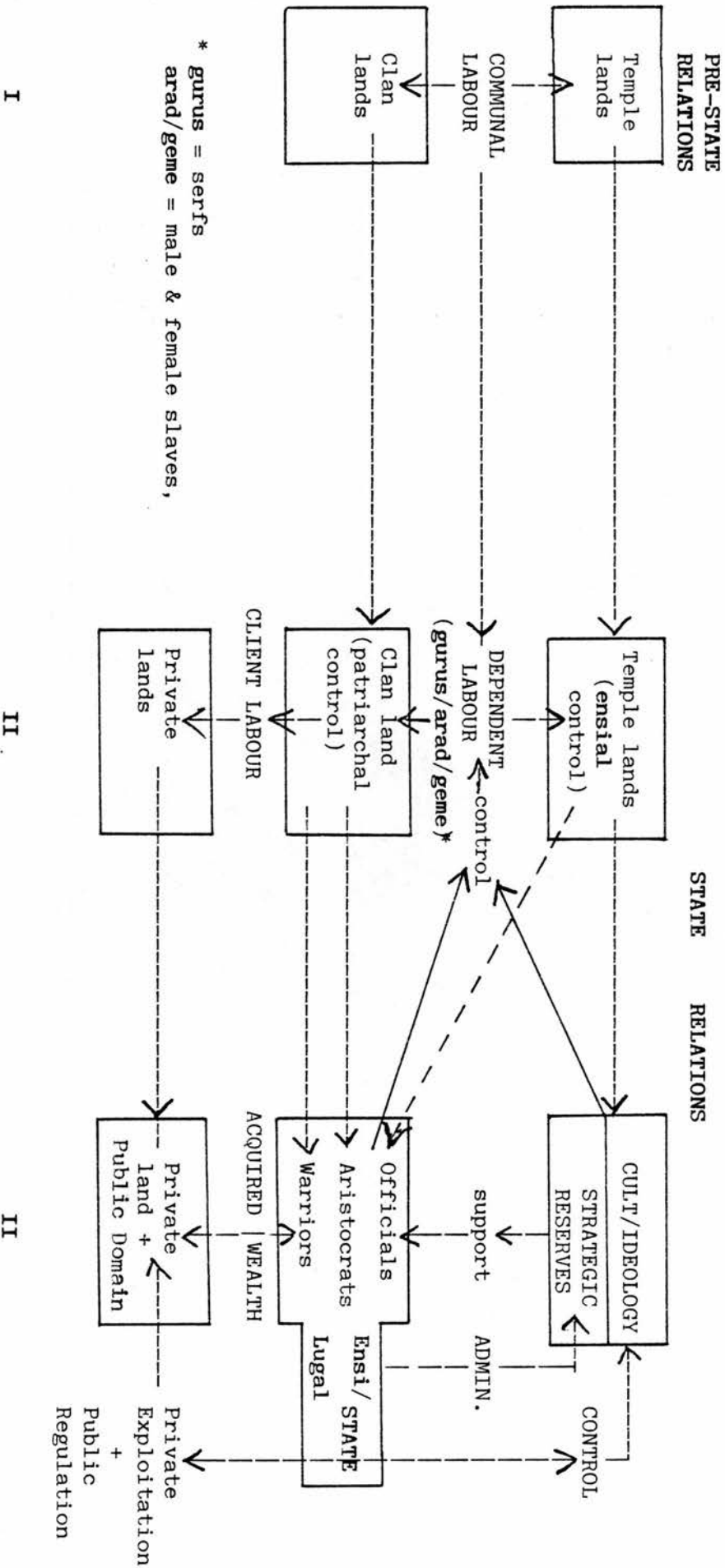
In a processual sense this must imply that power gained in any major field - ideological, production or distribution, war-leadership, dispute resolution - is able to crystallise other sources of power around itself to the extent that the institutional locus of that initial position of power is itself sufficiently central in the social structure. In Mesopotamia there were two such leading institutions: the temple and the settlement nucleated around it, the urban settlement itself, generating respectively, and in chronological succession, *ensi* and *lugal*. But they personally were not the state; that, as we shall show next, is an outcome of certain relations of production.

### 3: Relations of Production and the Advent of the State in Mesopotamia

Having dispensed with the presently encountered types of models as either too general, too partial, or just contradicted by the evidence, it is possible to outline my own working model of state formation, based on the Mesopotamian material adduced in previous and subsequent chapters. (See Figure V:7 overleaf).

Since we are dealing with agriculture, we are dealing at this point with landholding, of which there are two basic forms in pre- and early-historic Mesopotamia. Temple-land, the agrarian property of the community as a whole, but run by temple personnel for cultic purposes and as community reserve. Second, but originally of greater extent, land held corporatively by 'patriarchal clans'. Over time this twofold landholding tended to produce a tripartite division of arable land, resulting in temple lands, community land and a private sector of lands held by eminent individuals from land alienated by the clanship sector. While cultivation was originally by community labour on temple domain, with the labour of kin on the 'patriarchal', both came to rely increasingly (during the Early Dynastic period) and preponderantly thereafter on the varieties of dependent labour specified in the following chapter. As weaker clans and lineages went under they were forced to alienate land,

FIGURE V:7  
THE RELATIONS OF PRODUCTION AND THE ADVENT OF THE STATE IN MESOPOTAMIA



\* gurus = serfs  
arad/geme = male & female slaves,

The relations in column II, generate the ruling class and the state in column III (middle). The top of column III represents their means of ideological control and social leverage; the bottom indicates the basis of their economic power.

while their members eventually became either seasonal wage labourers or formed types of client subordinate labour, most typically receiving rations, in the other (now three) sectors.

In parallel the supreme temple functionaries had gained control of the 'public' land and its reserves, due in large measure to the fact that they never came to 'own' temple resources as their own property, since the city god 'owned' the temple as his household. Such 'corporate control', however, served to crystallise state apparatuses from temple personnel at the highest levels (*sanga, en, ensi*).

With continual inter-community conflict a warrior elite led by a *lugal* (lit.: 'big-man') like Gilgamesh emerged from the ranks of the citizenry of good family. When this office, originally transient because *reversionary* (*bala*), merged with the emergent temple hierarchy, it became permanent and the locus of all the levers of power - ideological and economic, as well as military.<sup>14</sup> In this fusion it is particularly important to note "the Mesopotamian conception according to which *royal* piety is the warrant for national well-being and fertility"<sup>15</sup> (Hallo 1975:212; his emphasis). The stabilisation of such concentrated (but far from absolute) power characterises the Early Dynastic period (c.3000-2,300 BC). In Chapter VIII we will look in detail at this emergent polity. The following chapter will examine the mainsprings of such processes in the movement from status to state, from intrinsic role differentiation to the formal concentration of powers giving quite a new dimension to relations of super- and subordination.

14. Diakonoff (1982:66).

15. Accordingly, "there is good evidence for agricultural festivals during which the king performed activities related to the plow, its oxen, and the first opening of the furrows" (M. Civil 1976:84; Kramer Festschrift).

## CHAPTER VI

### FROM STATUS TO STATE

In Chapter V, dealing with sources of power and the rise of the state, a twofold criticism was levelled at current theories. The first problem was a lack of specification in the terms used: status, rank, role etc., even indeed in the clear differentiation of chiefdom from state. The other problem was the failure to specify concretely the socio-cultural dynamics involved in the transition from egalitarian, acephalous society to one of stratification, or at least to account for the stable cleavage into rulers and ruled.

In this chapter the positive aspect of those criticisms will be pursued using ethnological examples and models. First terminological confusion resulting from the loose usage and abuse of fundamental terms will be clarified. Then two bodies of data will be presented following upon a discussion of intrinsic loci of authority. One will detail the type of social organisation designated the 'lineal (or kinship) confederation' by Turner (1978: 230) and its logic will be shown to entail (in Chapter VII) the 'Asiatic Mode of Production'; that is, to eventuate in a state order where the relations of kinship have not been swept away but progressively transformed. This has produced its best known effects in Southeast Asia and so the examples used will be drawn from societies spread between India and China.

The other corpus of ethnography employed, drawn in the main from Africa, indicates the opposite direction in which kinship functioning as relations of production can move: through Turner's (*ibid.*, p.229) 'locality incorporative' principle to territorial organisation by way of cognatic relationships. In the former lineality (clanship amongst Chinese and Japanese for instance)

remains intact; in the latter genealogy applies optatively and at a depth of around three generations, exogamy is applicable only within this range and higher identifications are with territory, later eventuating in citizenship. The 'kinship-confederational' can be considered a 'people-focussed' arrangement, the latter a 'locality-focussed' arrangement.

All societies employ both modes of social organisation in complementary fashion as Turner observes. What concerns us here will be the divergent outcomes obtaining when the logic implicit in one principle is pursued in an evolutionary sequence.

It is next argued that the environmental potential for raising and sustaining large disposable surpluses in production must exist for a political system to develop any distance in the direction of the state. Toward substantiating this postulate the data from S.E. Asia is relevant. However new and quite distinct data from Pacific Micronesia are introduced, the components of which, similar to one another in culture, scale and location, makes controlled comparison more sound.

And finally, in returning to our major themes of the inter-relationships between settlement, agriculture and the state, those materio-structural elements will be delineated for a society of comparable age and organisation to a Mesopotamian city-state, namely the 'palatial' economies of Minoan Crete, where the production and disposition of agro-pastoral surplus will be shown to be determinative of the mode of social integration.

### **1: Status as the Prerequisite of all Social Roles and Offices**

All people have status and rank, not all peoples have had stratification and the state. It is possible, however, to show that the latter is rooted in the former and that no sudden external inputs are required to produce social classes and the state.

By status I do not mean the usual conflation of prestige and rank, nor of charisma with power, but will employ status in the literal (Latin-derived) sense of 'standing', particularly in the life-cyclical sense, as we currently use the term 'marital status'. Both roles and statuses are socially conferred - however status is an individual **condition** while the role played or the office held is always something public and distinct from any particular actor.

One can have the 'status' (kinship position) of son-in-law, but not the 'status' of priest, unless was is being reckoned (in idiomatic usage) is the esteem in which the priesthood is held. Status is then a 'position' held by an individual in the overall system of social relations and refers to that individual's general fitness or capacity, while 'role' such as that of 'father' (**pater**) refers to the operation of distinct sets of relationships (toward children, wife, ancestors etc.) by someone in the status of adult, male and married. As Radcliffe-Brown (1952:11) expressed it: "we may say that when we are dealing with a structural system (i.e. a network of social relationships) we are concerned with a system of social **positions**, while in an organisation we deal with a system of **roles**" (his emphasis).

One **has** a status, one **performs** a role and one **occupies** (or 'holds') an office, which is an institutionalised role. Thus 'Status is an elementary form of office' (Hughes 1958, cited Fortes 1962:61), since what is held by the individual is a social **position** (situation + capacity) nomatter how general or diffuse.

Indeed the life-cyclical statuses of baby, child, youth, adult and senior are the most general statuses and the ones prerequisite to the holding of all and any others. "It is because a man is invested with (licensed for) husbandhood that his children are able to be born into their 'ascribed' status" (Fortes 1962:84).

"Citizenship, surely, means the sum total of all the legitimate offices, statuses and roles a person can have in his

society" (Fortes op. cit., p.87). Citizenship, full membership in the society, is thus the Ascription par excellence. Absence of 'offices, statuses and roles', conversely, defines the Ascription of slavery (Finley 1983a:75).

By prestige, now separated out from status, I shall mean differential respect or esteem, and that only. But the usual conflation of prestige with status is now easy to see, as, for example, men and women of senior status, being advanced in their life-cycle, enjoy a heightened prestige in most societies, especially the traditional.

Rank I shall employ exclusively to mean relations of superordination and subordination in a way that applies much more generally than class. Thus Gluckman ([1951]1959:43) analysing such relationships in the traditional state of the Lozi in Zambia, speaks of:

Rank - the relationship of lord (mulena) and underling (mutanga); of parent (mushemi) and child (mwana); of warden or owner (mung'a) and a person (mutu) or thing (nto) - is implicit in every Lozi relationship. Each of these three types of relationship, these three kinds of ranking, is contained in the others. The parent is lord over his child and owns him; the husband is lord over his wife and owns her; the king is parent of his followers and owns them.

Gluckman goes right on to say that those prerogatives involve reciprocal duties, and this is quite different from Linton's (1936: 114) definition that "the status of any individual means the sum total of all the statuses which he occupies"; while "A status, as distinct from the individual who may occupy it is simply a collection of rights and duties" (idem); notwithstanding "When he puts the rights and duties which constitute into effect he is performing a role" (idem). Nonetheless it turns out that in Linton's own view "Role and status are quite inseparable, and the distinction between them is only of academic interest" (idem). In other words



his distinctions cannot be operationalised. This is particularly debilitating when, as below, we are dealing with a class of dependent labourers or clients (**gurus/geme**) whose socio-political status is one thing and their economic dependence another.

And while "social stratification is present wherever an objectively differential distribution of life chances and situations obtains among categories or groups of persons ranked as superior and inferior within the social aggregate" (Smith 1977:29); the use of the term class will be restricted to those with a shared position in the relations of production. This in preference to the more usual 'shared relations to the **means of production**' which cannot account for stratification arising from purely political power. The designation 'state' will be reserved to permanent and institutionalised means of wielding economic, armed and ideological power in the maintenance or development of the order of stratification.

From this process of clarification, the rest of this chapter sets out to show just how

The condition of filial dependence from infancy to adulthood, is the model of subordination to authority throughout the domain of kinship and descent. Hence the **experience** of filial dependence, as recognised and interpreted by the culture, provides the material for the code of symbolism and ritual by means of which reverence for authority can be regularly affirmed and enacted. For it is in this experience that the beliefs and sentiments of respect, reverence and worship are inculcated. (Fortes & Dieterlen 1965:139; their emphasis).

## 2: Intrinsic Sources of Rank

At the outset I made the perhaps surprising statement that all peoples had status and rank embodied in their social structures. In order to be correct, this statement must hold for the least

institutionalised and egalitarian societies we know.

Hadza hunter-gatherers live in small, fluid and mobile bands in Tanzania, and are as acephalous as might be, hence Woodburn's description of them as exhibiting 'minimal politics' (1979:245). They have no formal leadership even to the extent of people dodging positions to which any responsibility attaches and conflict is resolved 'by scattering' (ibid., p.250). Yet there is still some ranking for:

The initiated men hold jointly the right to eat in secret certain specific portions of the best meat of each large game animal killed. Which portions they are depends on the species of animal but they always consist of the fatty meat which the Hadza value particularly highly and are cut from the carcass with great care. The men must eat the meat together well away from the women and children; they must not be seen eating and they deny to the women and children that they have eaten. (Ibid., p.254).

This is clearly a privilege, a prerogative of rank held by men on the basis of their status, that of being adult male initiates. It is also a privilege expressing their superiority to women and children that is maintained on the basis of their collective power, for, against them "the men guard their privilege of eating the sacred meat with the greatest rigour" (idem), the sanctions ranging from assault and the destruction of property to rape, while serious illness is usually attributed to unknowing consumption of the sacred meat by non-initiates.

What is manifested here, then, in such relations of super- and subordination is rank, conferring differential access to resources, on the basis of fundamental status. This is quite clearly visible amongst Australian hunter-gatherers also, for whom, for example, "every active relationship among the Yir Yoront involved a definite and accepted status of superordination and subordination" (Sharp 1964:88). So much was this the case that "a person could have no dealings with another on exactly equal terms. The nearest approach

to equality was between brothers, although the older was always superordinate to the younger" (Sharp op. cit., p.88). Harner (1975: 128) speaks in similar terms of the Jivaro Indians of the Upper Amazon who practise a mixture of hunting, fishing, gathering and horticulture and where "women are both formally and informally subordinate to men".

The two axes of social differentiation are thus age and sex (La Fontaine 1978b:3). However the whole point is that "the classification of human beings differs from the classification of animals or plants in that it constrains the behaviour of those classified. Members of a society identify themselves and others in terms of the distinctions and act in relation to these identifications" (idem). This is, of course, the whole point of kinship terminology and of status in general as it is defined above. At another level, that of the classification of things, knowing their 'secret names' is thought, as amongst the Baruya of New Guinea, to confer the power of constraining them upon the magical practitioner (Godelier 1977:197). As people act implicitly according to their classification of each other, they generally imagine that the non-human world is similarly constrained.

Drawing upon her own fieldwork amongst the Gisu of Uganda, La Fontaine (op. cit., p.12) describes how

The boys who are initiated by the ritual both experience and express the underlying principles of age-differentiation: that life is an ordered series of stages, that experience confers authority and demands respect, that traditional knowledge is the basis of the elders' power. Two further points are of relevance to this discussion: first, that immaturity and maturity are ranked stages in the life-cycle. **Their relationship is thus one of intrinsic hierarchy, not complementary.** Secondly, boys are equated with women and men with the role of husband, that is, initiation confers domestic **authority** on men. (My emphasis; cf. Meillassoux [1960] 1978a:134)

While kinship and descent obtain in all societies, in some,

such as ours, they function to provide or deny access to other social prerogatives (and thus might be called 'vectoral'), whereas in what is conventionally called 'tribal' society kinship relations **are themselves** polyfunctional relations of production (Godelier 1980:6; Bloch 1973:86-7). Fortes (1969:276) describes, *inter alia*, the 'modern Euro-American family' as inhabiting "a system in which simple filiation is the sole and exclusive source of full civic, moral and ritual status (and) in which no cognisance is taken of ancestry antecedent to the parents for any social purposes". If not for 'any' social purpose, at least for most this distinction applies in contrast to 'kinship ordered' societies. And whereas "filiation is the relation that exists between a person and his parents only, descent refers to a relation mediated by a parent between himself and an ancestor, defined as any genealogical predecessor of the grand-parental or earlier generation. A **grandparent is therefore a person's closest ancestor...**" (Fortes 1970:108; my emphasis).

Relations of production are analysed extensively in Chapter VII. Here we simply cite Godelier's (1980:6) theoretical summary in order to say what is unique to the 'kinship mode'. For Godelier then, relations of production are "all social relations whatsoever, which serve a threefold function: first to determine social access to and control of resources and the means of production; secondly to redistribute the social labour force among the different labour processes, and to organise these processes; and thirdly to determine the social distribution of the product of labour" (*idem*).

Thus, the components of kinship ordered relations of production are:

1. production for the direct use of the producers (organised by age and sex only), with human labour (and correlatively natural abundance/fertility) the main force of production.<sup>1</sup>
2. production by associated households which are also the consuming units.

1. A more expansive definition of terms will be found in Chapter VII.

3. direct access to both instruments and objects of production by all producers, who are thus technically competent to make or manage their own tools, domesticates etc. ('instruments') and have the 'right' to apply them to their productive ends ('objects') restricted if at all only by sex and seniority.
4. The unit of production coincides with the unit of reproduction, the domestic group; with the notable exception that spouses must be found from households other than those of origin.

The main point here is that social reproduction is a matter of replacing the requisite individuals in their 'rightful places' to 'continue the corporation', with consequently strong jural implications, connected as such places are with specific rights and obligations (Fortes 1969:300).

As a society of 'domestic economy' outlined above is one of direct production of use-values and systemic reproduction of its replacement parts, it is one necessarily ordered by conceptions of kinship.

Where the living are thus decreed by custom to be, and see themselves to be, their progenitors ... incarnate, so to speak, extension of the category of the person from the filial-parental relationship to the most distant relationship of actual or presumed kinship is not logically difficult. That is how it comes about that the notion of the juristic person may be extended, in however attenuated a degree, to include the members of a widely dispersed clan, as among the Ashanti and the Alur (ibid., p.305).

Fortes' point is that descent groups form corporations as the very 'organising principle' (into structurally similar units) of a society where reproduction of people is of the greatest moment. Hence the 'corporations' or social molecules are acting as if they were biological entities obeying the fundamental rule of organisms - simply to stay in the game. Hence "particular forms of property relations are contingent upon, not constitutive of corporate group structure; and this applies to every aspect of property relations,

no matter what may be the customary ways in which title arises and is devolved or disposed of" (Fortes 1969:302).

What is being transmitted is always a specific cultural property, even if only a particular identity, but often too, songs, dances, myths and rites are 'handed down' genealogically (Fortes 1970:111). It is however generally when rights in land or animals are transmitted through descent, manifesting the 'strong' or 'pedigree' principle of genealogy (ibid., p.107) that what crystallises is the classic 'tribal' system constructed of lineages and clans with rights 'descending from' an apical ancestor, in contrast to the essentially 'filial' form of foraging bands in which there is little contrast between family and public relationships (Fortes 1969:122).

Lee & DeVore (1968b:11) made a couple of fundamental assumptions about hunter-gatherers which they characterised as 'nomadic style'. If we elaborate their points (1, 2) that:

1. they live in small groups;
  2. they move around a lot; therefore
  3. they accumulate few possessions;
- we can readily understand why
4. social arrangements are very flexible.

This can be contrasted with what can be called 'cultivator's style':

1. they live in larger groups (typically by factors of 4 to 8);
2. they do not move much;
3. they tend to accumulate possessions (both luxuries and equipment);

from which we can see why

4. social arrangements are highly regulated, not least in rights to land.

Given demographic and environmental fluctuation, the matching of people to resources means that one or the other must be mobile.

In foraging it is of course the people who move, as also with slash and burn horticulturalists. When fixed-site agriculture has been adopted it is the produce that must circulate. And when cultivable land is short, it must be matched to demand in the most efficient way so that none goes underexploited and, if possible, none is overtaxed. When restrictions on available land are great, artificial restriction of access by the rigidities of lineal descent are inappropriate and cognatic principles are by far the most efficient (Goodenough 1968:146).

In the classic case of Trobriand horticulturalists, with villages and their gardens fixed, it is subsistence resources that move to knit up producing and consuming units into a whole, a society. In this matrilineal society, foodstuffs, in particular **taytu** tubers (small yams) which are the staple, move matrilocally from the adult male producer to his nearest lineal female, usually his sister. This means that "there is the main garden, **kaymata**, the yield of which is chiefly devoted to the supply of the female relatives" (Malinowski, Young ed. 1979:125), in particular his sister(s)' marital household. This transmission, called **urigubu**, consists of the majority and the best tubers produced. After every harvest they are ceremonially transmitted to another village where the lineal female recipient lives patrilocally. While the clan is the unit of exogamy, "it must be emphatically stated here that it is not the clan which acts as a unit in this complementary division of functions" (between production, residence and reproduction of the matrilineage) "but definitely the group consisting of brother, sister and her offspring" (ibid., p.128). Yet on such a basis is the whole of society linked up in systemic exchanges, with yet further redistributions at feasts, ceremonies and rites (ibid., p.39).

But circulation serves not only to link together the autonomous social units; it serves also, and paradoxically, as the basis of an overranking authority in the chief, which further reduces autonomy. However, this is not a contradiction, for in the

Trobriands the chiefly institution and its revenues exist "by virtue of his position as a glorified brother-in-law to the whole community" (Malinowski op. cit., p.132). At whatever level of eminence, from village headman to paramount chief, "most of the chief's tribute, though not all, is given as a glorified contribution from wife's brother to sister's husband, only in the case of a woman married to a chief, her whole sub-clan would labour for her and not merely one of her male relatives" (ibid., p.131). And since chiefs are traditionally polygynous, Malinowski estimated that a paramount chief with around sixty wives was in receipt of some fourhundred times as much income as an average commoner. A commoner was also liable to render his chiefly brother-in-law "a much wider range of services than is normally due from brother to sister's husband" (idem). Those revenues, to which are added some other tithes and dues, are used for political instrumentalities, in particular the financing of 'large projects' such as the construction of the 'long-distance' trade and warfare canoes, large storehouses and dwellings, in addition to public ceremonies (ibid., pp.51-2).

The creation, disposition and significance of surplus is dealt with below. Here we simply enter a further consideration on incorporation and the descent principle, also examined ethnographically below. Where 'local contiguity', instead of being complementary to the descent principle as it is, for example, with the Nuer or Tiv, becomes dominant, as it has in the Zambesi floodplain of the Lozi or in the rice valleys of the Malagasy Merina, then the descent system 'closes around' the property as it were, and itself collapses, producing for the Merina a valley-localised endogamy in which there are no affines or neighbours, only cognatic kindred, and no external kinship ties to other valleys, only strangers (Bloch 1977:307). The 'organising principles' of society have altered from a descent to a territorial principle dependent on joint residence and simple cognitive filiation (Fortes 1969:131), because the mode of production has itself evolved. Here Godelier's (1980:6) definition of 'mode of



production' is again relevant. It refers "to a specific combination of determinate productive forces and of determinate social relations constituting both material and social conditions, and the internal material and social structures through which society acts upon its natural environment in order to extract from it a series of socially useful goods" (Godelier op. cit.).

### 3: Loci of Authority in the Conditions of Reproduction

As far as the pastoral Fulani are concerned, Stenning (1958: 114) is particularly clear that social cohesion does not inhere at the level of production but of reproduction, specifically at the level of the conditions of reproduction:

In the context of seasonal variations and irregular natural hazards, the agnatic descent group and the clan are agencies for the re-establishment of the viability of their constituent families. This function emerges primarily when non-viability is caused by shortages of cattle. Indeed the ability of an agnatic descent group to act in this way is contingent upon the dispersal of its constituent families. Only by endowing household heads with full responsibility for the fertility of their herds and full authority for their deployment is it possible to succour any member of the agnatic lineage group whose family cannot maintain its viability.

In other words the 'full authority' of households heads for the autonomy of the individual households is not opposed to, but the pre-condition of, enduring relations at a societal level, in this case through the medium of the agnatic descent group. This must be so of all societies in which living labour with its accumulated experience and skills is not crystallised in the form of technology with the extensive control of the environment this permits (Meillassoux 1978a:153). Social control in such 'synergistic' societies instead resides in control of people, most notably women, with the central axis of authority running from senior to junior males (ibid., p.137). Specialists after the manner of Trobriand

canoe builders are not specialised in equipment but in accumulated technique, and even then are not full-time experts (Malinowski 1922: 133). The great sea-going canoes differ from the lesser types only "in the amount of time spent over their construction and the care given to details, rather than in essentials" (ibid., p.113).

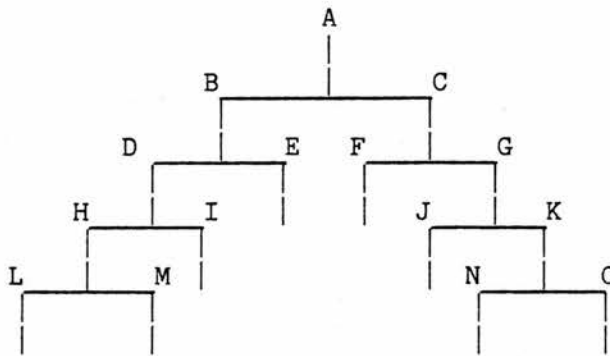
The clan and the lineage, then, secure for their component units their conditions of production in terms of shared access to land, water, game, etc., that Marx (1973:472) calls "the great workshop, the arsenal which furnishes both means and material of labour as well as the seat, the **base** of the community. They relate naively to it as the **property of the community**, of the community producing and reproducing itself in living labour" (his emphasis).

Rather than being just a position of domestic authority, headship of the basic productive and reproductive unit of society is the prime prerequisite for political influence and office. The **paterfamilias** is simultaneously a function of, and the bridge to, the 'politico-jural order' in Fortes' terminology. "Indeed in most societies, male adult status, headship of a household and an independent role in public affairs are closely associated" (La Fontaine op. cit., p.16). Being in **patria potestas** in particular and in general dependent towards the father's generation ('seniors') not least for wives, can be tolerated by juniors because it can appear to be but a stage in the life-cycle towards headship and seniority, open to all men, 'in due course', and in which the establishment, upon marriage, of a household under his own authority is the fundamental step (Meillassoux 1978a:139).

In contrast to a kindred organisation which is ego-centred, in a lineal organisation structured through ancestors ('pedigree focussed' - Fortes 1969:281), it is easy to see the co-residential unit as the 'live' end of the descent group (or, better, 'principle') and thus as the living realisation of that principle in a segmentary structure. The classic case of segmentary (opposed and complementary) social structure is, of course, the Nuer. In the

following diagram (Figure VI:1) from Evans-Pritchard (1940:193) we see that "A whole clan is thus a genealogical structure, and the letters in the diagram represent persons from whom the clan and its segments trace their descent and from whom they take their names".

FIGURE VI:1  
SEGMENTARY KINSHIP STRUCTURE



Apical clan A is segmented into maximal lineages B and C and these bifurcate into major lineages D, E, F and G. Minor lineages H, I, J and K are segments of major lineages D and G, and L, M, N and O are minimal lineages which are segments of H and K.

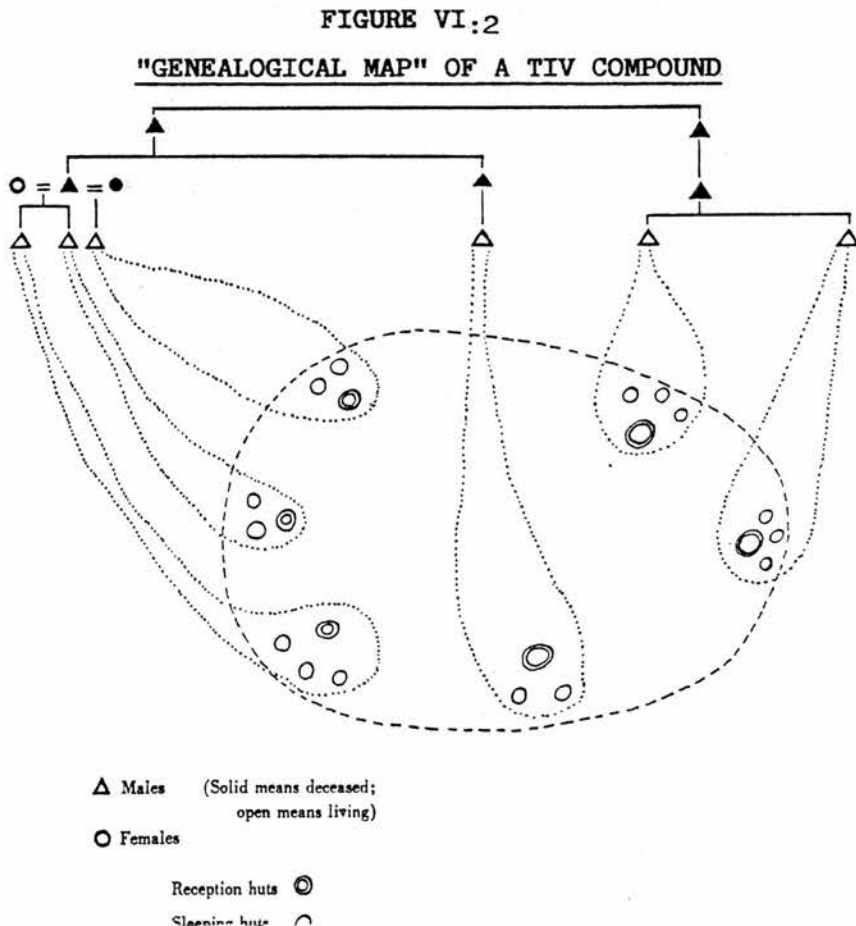
It is important to realise that this segmentary lineage structure is, as it were, the framework of an acephalous (stateless) society, a framework for actual relations 'on the ground'. The lineage structure serves only as a skeleton, it does not determine each and every decision and relationship, for those are the outcome of "a lack of fit between local (i.e. residence) structure and lineage structure ... due to the needs of cattle and the changing seasons"; also to fluctuations imposed by the state or war or peace prevailing at any time, where if fighting obtains lineages need to regroup for purposes of solidarity (Bloch 1973:84-85).

A minimal lineage is a group with at least three, more usually four or five generations depth (Evans-Pritchard op. cit., pp.196-

197) and not to be confused with the domestic group, which is a co-residential group. Lineages as lines of descent are schemata of reckoning and indeed morality (Bloch op. cit., p.85) and so neither co-residential groups nor villages can be reduced to lineages, if only because spouses necessarily derive from other lineages and (in the Nuer case) matrilineal kin are readily attached to the co-residential group.

A single living hut (dwil or ut) is occupied by a wife and her children and, at times, by her husband. They constitute a simple residential family group. The homestead, consisting of a byre and huts, may contain a simple family group or a polygynous family and there are often one or two kinsmen living there as well. This group which we may call a household is often referred to as the gol, a word which means "hearth". (Evans-Pritchard op. cit., p.114).

In Fig.VI:2 the relation between a three-generation (proto) lineage and their residence pattern in a segmentary structure, can best be seen from this mapping of Tiv genealogy onto the typical compound arrangement, from Bohannan & Bohannan (1968:15). It was this sort of 'kraal' pattern that was raised in Chapter IV in regard to the formation of villages in the Neolithic process.



In Figure VI :2 we can see the solid triangles of the deceased males in this patrilineal system, how the lineage structure is a 'mode of relation' for all the people of the compound (ya), whose composition may range from two or three to forty huts, but in which a minority of the people present actually belong to the lineage in question, the lineage of 'ownership'.

So it is with village clusters too. While the (agnatic) descent structure forms a skeleton for settlement, the flesh of daily life is filled in by all those who live and work together in the village.

Nuer villages are not corporate, localised, communities, though they are frequently associated with territorial units, and those members of a lineage who live in an area associated with it see themselves as a residential group, and the value, or concept, of lineage thus functions through the political system. Every Nuer village is associated with a lineage, and, through the members of it often constitutes only a small proportion of the village population, the village community is identified with them (the dil lineage) in such a way that we may speak of it as an aggregate of persons clustered round an agnatic nucleus. (Evans-Pritchard op. cit., p.203).

This is an instance of the complementary nature of descent and residential principles outlined at the beginning of this chapter.

In this clustering process individual and minor or sub-lineages will be attached to the dominant or 'aristocratic' (dil) lineage of a village by turning a relationship through marriage to one of the dil's daughters into a fictive-agnatic descent over time (Gough 1971:83). Thus the residential-territorial reality is squared with the politico-jural. "In this way the rules of exogamy isolate the dominant lineages within each tribe as a whole and permit their segmentary structure to provide a rough framework for the segmentary oppositions between territorial sections, while at the same time each local lineage of the dominant clan is fused with other elements to form a solidary community" (ibid., p.99).

Speaking of 'The Community and Domestic Group among Nilo-Hamitic Pastoralists', Bonte (1977:177) summarises the relationship of domestic to residential and kinship group by pointing out that "... the domestic group is an independent production unit. It is also a kinship unit based on the polygynous family (2-3 wives on average) itself a part of a larger group, the patrilineal extended family, made up of three generations: fathers, married sons and their offspring. Within the family, most of the work is allocated according to sex and age".

To summarise the argument so far, and to anticipate the discussion to come on kinship and property, ranking and stratification, all of which are political in idiom, we can say that what a lineage represents above all is the descent **principle** - that rights and duties shall be transmitted according to criteria of membership (types of filiation) which do not obtain in society at large. In fact to be a fully functioning member of a lineal society one must first have membership in a corporate lineal group, i.e. be 'affiliated' to it by real or fictive kinship. Ancestor worship, so prevalent in China and Japan, is thus the hypotaxisation of the continuity and authority of the corporate group. Lineages exist to transmit (allocate) social standing or social (real) property (i.e., not personal possessions), but basically, control of land (Ember, Ember & Pasternak 1974:74).

Where the property thus allocated is social standing it is, structurally, political position. Then revenues, rather than accruing from the ownership of land (privately or in trust) accrues from the 'ownership' of ('right to') office in a political institution. In the case of Roman politics, for instance, to be a member of the political classes, one had first to be a member of the large landowning classes, which were at least in Republican times also the most prestigious because venerable (Finley 1983c: 129-132).

However, in China, without private property in land, revenues

were derived from position in the state apparatus, which gave access to private wealth accumulation. Clans held land and their representatives held the offices of state (Fortes, in Fortes & Dieterlen 1966:137):

In these societies, the kind of authority and right here at issue is generated and exercised through social relations created by kinship and descent. Jural authority vests in a person by virtue of kinship status or of office that, in the last resort, depends upon descent. Ancestors symbolize the continuity of the social structure, and the proper allocation, at any given time, of the authority and right they held and transmitted. Ancestor worship puts the final source of jural authority and right, or to use the more inclusive term, jurisdiction, on a pedestal, so to speak, where it is inviolable and unchallengeable, and thus able to mobilize the consent of all who must comply with it.

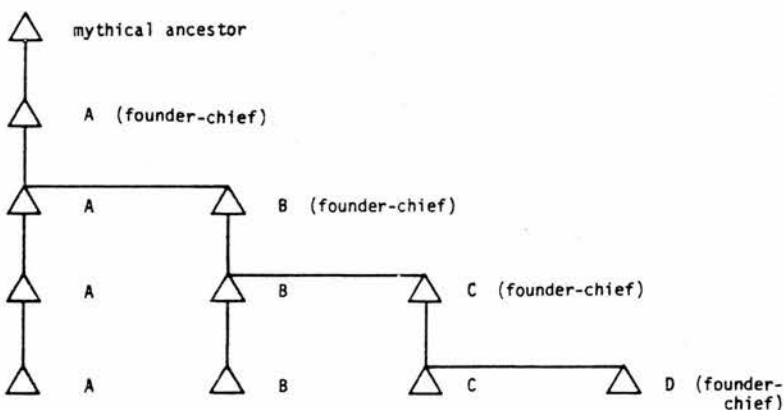
The 'inverted tree' form of (segmentary) genealogy given above (Figure VI:1, p.170) as characteristic of acephalous lineal society, while containing seniors and juniors, heads of strong lineages and client lineages, while providing a basis for rank nonetheless did not manifest social stratification which denies free access to the means of production by the socially inferior who thus become subordinate.

The point, then, is to show how the ranked but essentially egalitarian structure is transformed into another kinship structure in which a real hierarchy prevails that can in turn serve as the basis for the cleavage into rulers and ruled. Such a transformation can be represented as follows:

FIGURE VI:3

SCHEME OF RANKING OF CHIEFLY RAMAGE REFLECTING IN GENEALOGY

THE RANK AND PRECEDENCE OF THE VILLAGES (after Service 1975:80)



Triangles represent males in lines of descent and functioning as

Referring to Figure VI. :3, as lineages 'branch away' (ramify) from the direct line back to the mythical ancestor and venerated founder, other branches of the 'noble' line diminish in prestige and power. Then they just merge into commoner lines which are of short genealogical depth. "For the group to increase and include a greater number of lineages it is essential, if one is to respect the principle of identifying age with power, to project into the past the source of authority claimed by the living senior. This projection into the past then justifies the power of the senior over a group more or less proportional to the number of generations which separate the dead ancestor from the living senior" (Meillassoux 1978a:147).

#### 4. The ('Asiatic') Mode of Stratification by Conical Clans

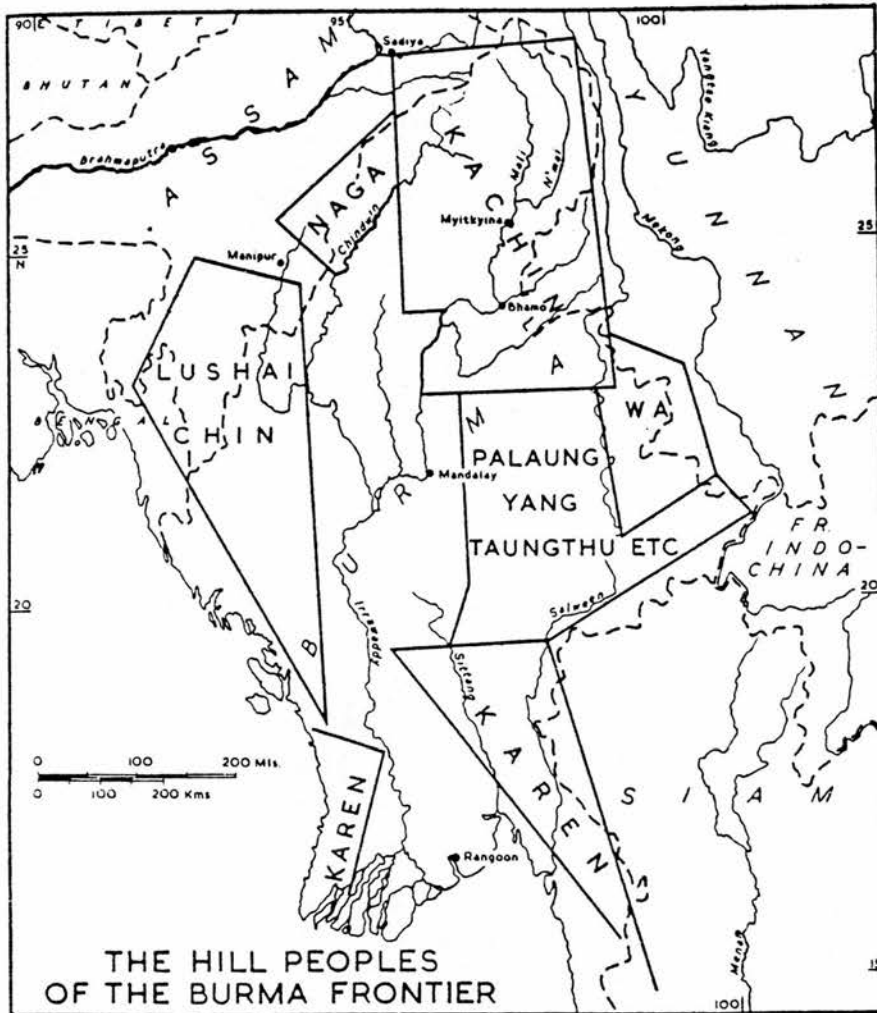
Just how stratification can arise directly from the ranking of lineages has been shown in the context of Southeast Asia by Jonathan Friedman, drawing especially upon Leach's (1954) classic study of Highland Burma. This deals with the political structures of the 300,000 people of the Kachin Hills area, thinly but unevenly scattered over an area of some 50,000 sq. miles between Assam and Yunnan (see Map XIV overleaf), who are culturally disparate but politically interlinked through common ritual practices and a kinship system under which "all Kachins recognise the existence of an elaborate system of patrilineal clanship elaborately segmented. The lineages of this clan system ramify throughout the Kachin Hills Area and override all frontiers of language and local custom" (ibid., p.57). Leach himself observes (ibid., p.159) that what makes the Kachin particularly interesting "is that they have a society which is simultaneously segmentary and class stratified".

The Kachin are swidden horticulturalists of the monsoon upland rainforest (where it has not been degenerated from climax) and their principle crop is dry rice, supplemented by humped cattle, chickens and pigs, with buffalo meat available at major sacrifices.



MAP XIV

THE HILL PEOPLES OF THE BURMA FRONTIER<sup>2</sup>



It is the growing of rice by swidden methods (called locally **taungya** = **ladang**), not any ethnic criteria that distinguishes the Kachin from the Shan paddy cultivators of the valley floors, where buffalo are employed for ploughing and harrowing (Leach op. cit., p.32). Kachin adopting Shan settlement and cultivation practice 'become' Shan and Buddhist, and Kachin society in the hills oscillates between a more or less hierarchical order in its periodic variation between the **gumsa** and **gumlao** condition. Broadly **gumsa**

2. Taken from Leach (1954:19).

ideology represents society as a largescale feudal state (Leach op. cit., p.50) under a prince or chief, though between gumsa and gumlao the mode of production does not change; which is why, for the Kachin, those political processes are reversible (where the ecology remains intact). Shan society, by contrast, is a stable hierarchy with permanent 'princes' (saohpa) ruling over tenants (ibid., p.288 ). Nonetheless in the Highlands the terrain suitable for Shan-type systems is severely limited, being confined to river valleys and basins. Only the large sustainable surpluses paddy makes available allows the emergence of permanently stratified Shan society, which is accordingly ecologically constrained (ibid., p.40). Naturally such areas are permanently and relatively densely settled centering upon a Shan township adjacent to irrigated rice lands (ibid., p.35).

A Kachin village, by contrast, may contain any number of households from one upwards (ibid., p.114) with a usual range between 10 and 20 households and those 'villages' in turn agglomerate into (or are sub-divisions of) a 'village cluster', (mare). Each village has a hereditary 'headman' from the lineage said to 'own' the land of the village, for "land title is vested in lineages rather than individuals" (ibid., pp.68-9), but most villages contain members of half a dozen or more lineages (idem). Village sites may move about on their ridges and the land under cultivation shifts each year but the territory 'owned' by a village in which its reserves are (of 10 to 20 times the area presently being worked), is permanently held (ibid., p.115). Usually the village is named after the lineage owning it, and this lineage is the principal one of the village, its headman ipso facto head of the principal lineage (ibid., p.116). But though land is corporatively held, it is worked by the component households:

Usually, in any one year, the members of a village combine to clear a single area of jungle, though sometimes it is only a section of a village group that combines to make a clearing. Once felling, burning and fencing [and sowing,

see below] is completed, communal activity ceases. Within the total clearing (**yin wa**) each household cultivates its own independent plot (**yi**) and there is no communal ownership of produce. (Leach op. cit., p.116).

However the head of the senior village in a cluster, the **duwa** or chief, if politically independent, is entitled to have certain work done on his rice plot without incurring any reciprocal obligation and in some cases is entitled even to tribute of one or two baskets of paddy per household per year (ibid., p.121). Such chiefs are called 'thigh-eating' since they are entitled also to claim from all persons not of their own lineage, a hind leg of every four-footed animal within their territory killed either in sacrifice or by hunting (ibid., p.121). The economic significance of this prerogative of receiving 'thighs' is not great (p.155); what seems to be of greater significance is that both **gumsa** and **gumlao** chiefs are entitled to summon labour to perform free services on their own behalf, most significantly perhaps, having the field hut built and the field sown as a right, not as part of the usual reciprocity of obligation such as applies between villagers when assistance is rendered in house-building or sowing (ibid., p.135). Nonetheless, "Within any one domain there is no substantial difference in standard of living between the aristocrats and the commoners - members of both classes eat the same food, wear the same clothes, practise the same skills" (ibid., p.162). As for the third class in Kachin society, "Master and slave live in the same house under almost the same conditions" (idem), with the exceptions to be examined below.

"Monsoon **taungya** does not normally produce a crop surplus to the immediate requirements of the cultivator" (ibid., p.232) and a politically influential **gumsa** chief must be able to dispose of real economic resources (ibid., p.233), which under the above circumstances must be derived either from trade, such as the jade mines, from levies on caravans from China or by tribute from the surplus producing Shans (ibid., p.237). Conversely, in the

deforested area where grassland **taungya** obtains and where accordingly productivity is less and the hill-dwellers dependent upon the valley-dwelling Shans for at least part of their rice supply, all political organisation is of the **gumsa** type (ibid., p.235). Not all forest cultivators are **gumlao** by any means, but the potential at least, exploited by some, there exists. By contrast, whether Shans politically dominate hill-dwelling Kachin in the grassland areas or vice versa, "the isolated hill community which repudiates all links and interdependence with neighbouring valley communities is not really a practical proposition" (idem).

But what is pre-eminently exchanged between lineage units is not so much foodstuffs or labour, as women, means of reproduction. The women are exchanged not bilaterally between two lineages in a reciprocal way, but in a pattern called 'generalised exchange', by which lineage A gives to B which gives to C that gives to D, which in turn supplies A with wives. All Kachin (like other societies of the area) are thus connected into exchanging loops, which are themselves interlinked by changes in lineage membership and shifting alliances through time. The loops are consequently only relatively closed.

Kinship in those societies is the dominant relation of production not only because genealogy is the very basis of the lineage, and the minimal lineage (**htingaw**) of from one to ten household heads is corporative, but also because women are the predominant means of societal interrelation. This means 'alienating' lineage women's productive and reproductive capacities to another lineage, and conferring this 'ultimate good' upon another lineage calls forth prestige as an implicit counter-prestation upon the conferring lineage. This latter is called the **mayu** lineage, while the receiving lineage, which thus becomes inferior being in the debt of the donor, is called the **dama** lineage. Hence "the crucial distinguishing principle of modern Kachin social structure is the **mayu-dama** marriage system" (Leach op. cit., p.249) and these are fundamentally relations of inequality. Therefore "a **gumlao** community

which adheres to **mayu-dama** marriage rules rather easily slip back into practices of a **gumsa** type" (Leach op. cit., p.211).

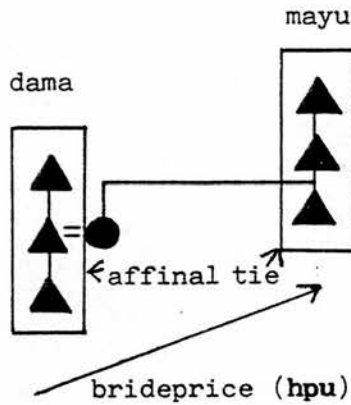
It may however seem contradictory that in a system of generalised exchange, where

A → B → C → N → A                    it should eventuate as:

A > B > C > N > A    where > = is superior to,

or, as Leach (1966b:121) illustrates it:

FIGURE VI:4  
'ORDINARY JINGHPAW' SYSTEM



Technically what is a system of matrilateral cross cousin marriage (a bar on marriage with the father's sister's daughter) and at least a preference for marriage with the actual or classificatory mother's-brother's daughter (MBD), i.e. an exogamous patrilineage, may not give wives to its wife-giving lineages (**mayu**) nor may it take wives from its wife-taking lineages (**dama**) (ibid., p.116); it "is thus a correlate of a system of patrilineal lineages rigged into a class hierarchy (Leach 1954:256).

However, the exchanges are neither synchronous nor certain and the symmetry of exchanges is only a tendency over time, not an

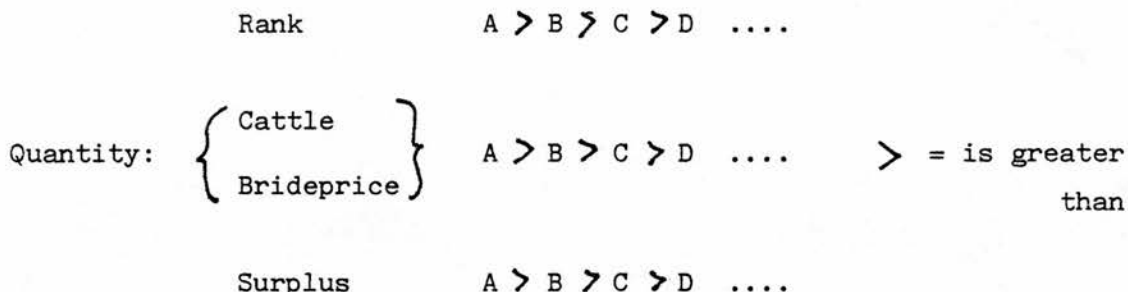
institution of instantaneous or balanced prestation. Thus lineages which have recently given women are at that point superior in prestige to those upon whom they have recently conferred the woman; all things being equal, that is. But it is not only prestige which flows in exchange for women: "A fixed quantity of wealth or labour circulates from lineage to lineage in exchange for women" according to Friedman (1979:36); especially *hpaga*, prestige goods permitting the possibility "of a valuation of women, of an alliance, or of a lineage itself, all expressed in the variation of the brideprice" (Friedman 1975:170).

Wealth in food, principally buffalo, rice and rice-beer, is shared in feasting the allied lineages and celebrating the local *Nats* (spirits) (*idem*). This in turn confers prestige upon the feast-givers,<sup>3</sup> who, next time they have a marriageable woman can require a higher brideprice for her higher 'worth'. Conversely a prestigious lineage preferentially attracts available women (*ibid.*, p.171) who, of course, add to the productive labour force (and future supply of daughters), so enabling greater feasts to be held adding further to the pre-eminence of that prestigious lineage. While others go into debt trying to keep up, a few lineages emerge that can well afford to play the prestige/production/distribution game, especially since debtor lineages tend to have to work for their superiors to meet their obligations, and so boost the surpluses available to the successful for feasting and boosting brideprice and so forth in a positive feedback system.

The combination of accumulation processes, the production of surpluses, their transformation into control of cattle and the consolidation of rank positions by means of the wife-giver/wife-taker relationship produces an ordered set of lineages. (Friedman 1979:39).

3. "Prestige is first acquired by an individual by lavishness in fulfilling ritual obligations. This prestige is then converted into recognised status by validating retrospectively the rank of the individual's lineage. This last is largely a matter of manipulating the genealogical tradition." (Leach 1954:164).

This is illustrated as follows:



There is not, however, one linear ordered set, but a number of "more or less closed circles of allies capable of paying a similar brideprice, i.e. a **spiral of ranking**" (Friedman 1975:171, my emphasis). Friedman (1974:454) has outlined the flows involved in the emergence of this ranking as in Figure VI:5 overleaf. He calls it the 'Political Economy of the Minimal Segment' and it, 'the motor of the system', is a combination of marriage alliance and feasts:

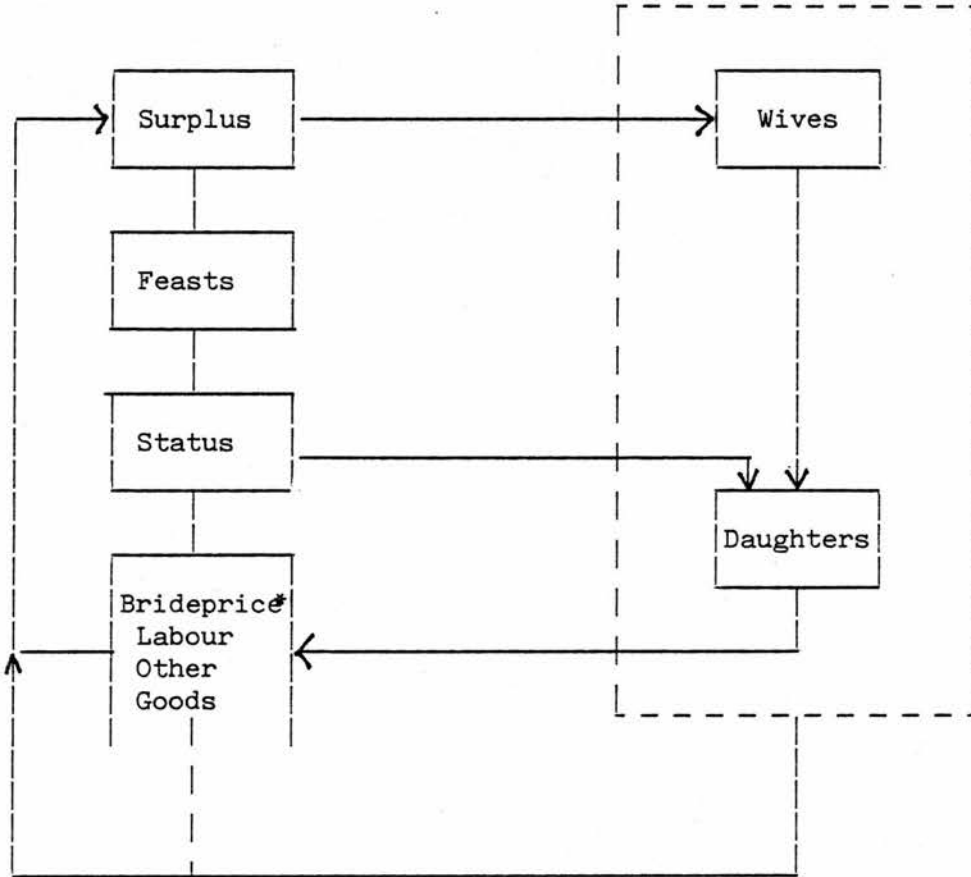
Community feasts are religious feasts whose dual function is the distribution of surplus/accumulation of prestige and the propitiation of higher spirits in order to increase the wealth and prosperity of the entire group. We might best characterise this as a religion of productivity in which the real work process is inverted in its immediate appearance. Surplus is represented not as the product of surplus labour, but as the 'work of the gods'. (Friedman 1975:172).

Feasts are transformed into prestige which as social standing means a higher brideprice for women of elevated position, particularly since male hypogamy (marrying upward in status) is a requirement for men if they are not to lose rank.

The amount of a girl's brideprice varies according to the rank status of the patrilineage to which she belongs. If her father, her father's father, and her father's father's father have each in turn married women of higher class than

FIGURE VI:5

THE POLITICAL ECONOMY OF THE MINIMAL SEGMENT \*



\* Though this term has for some decades been replaced by 'bridewealth' it is the term applied by Friedman; and Leach 1966b: 119) insists that it is strictly accurate in the case of 'Ordinary Jinghpaw' marriage:

In this case the bridewealth transactions can correctly be described as a 'brideprice'; ownership of the physical person of the bride and all rights that adhere to her are transferred in exchange for the goods of the marriage payment. In this situation, as Professor Gluckman has predicted, divorce is impossible.

4. Taken from Friedman (1974:454).



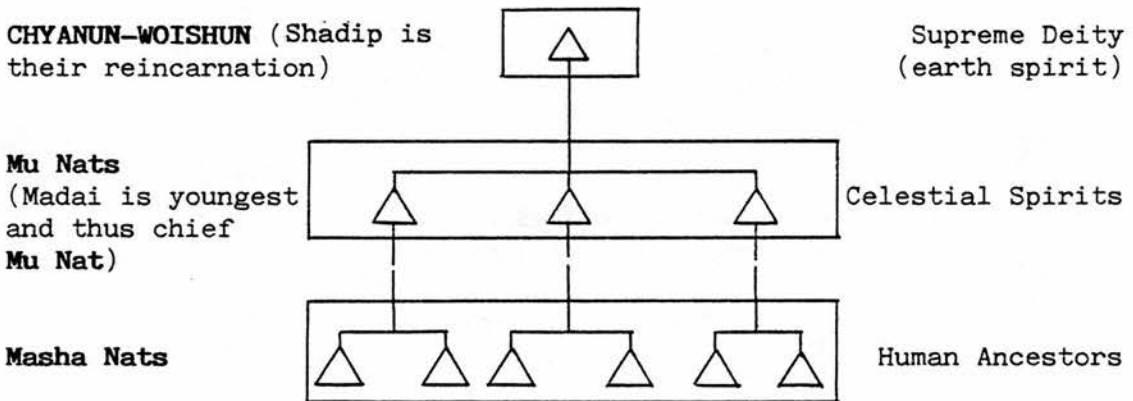
themselves, then the girl may be able to claim a brideprice which is higher than that to which her patrilineage would otherwise be entitled to. (Leach 1966:116).

If what we have just been dealing with is the political economy of the minimal segment, what we now have to explain is what can be called the ideological economy or political ideology of that segment, the minimal patrilineage. As such it projects its (lineage) relations of production and reproduction out into time and space; that is, into the cosmos perceived as earth and sky. Thus we have the segmentary structure extended 'back' and 'up' from the (spiritised) ancestors of the lineage, through the celestial spirits, to the supreme spirit and bisexual progenitor-progenitrix of everything, **CHYANUN-WOISHUN**, in a structure looking like this:

FIGURE VI:6

THE HIERARCHY OF NATS (SPIRITS)

(adapted from Friedman 1979:41)



"Conceptually Kachin spirits (**nats**) are", Leach (1954:173) observes, "'magnificent non-natural men'. They simply extend the human class hierarchy to a higher level and are continuous with it".

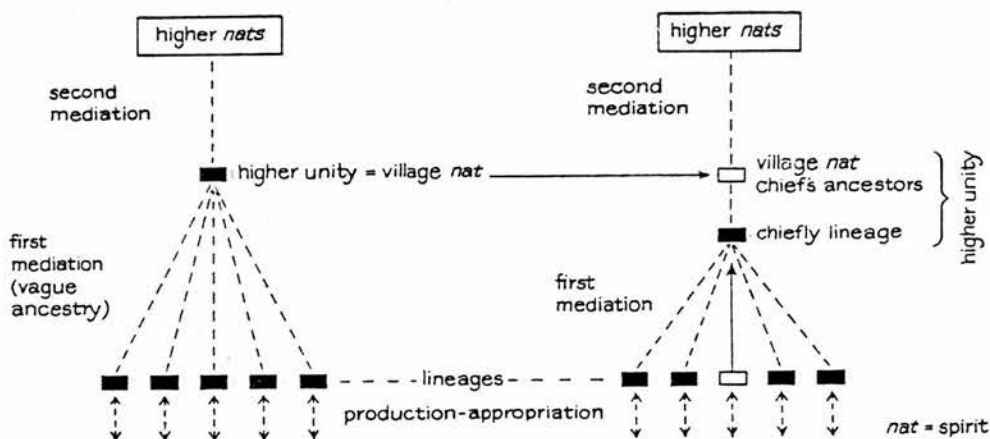
What is crucial is that for all groups the sources of power, fertility and security have to be approached through the lower levels of ancestor spirits and celestial spirits. But some groups'

ancestors are lower than others, and thus farther from the source of Power, as manifested in their lack of efficacy in providing the wherewithall to feast the village and obtain prestige. Distance from the central power is, as it were, demonstrated by differential ability in tapping it; success breeds success and success is an index of blessing.

"The earth *nat* [ *ga nat* ] who controls production (fertility) is usually approached by the community as a whole through the village priests. The single most important transformation that occurs in the process of hierarchicalisation is the monopolisation of the village spirit by a particular local lineage" (Friedman 1979:41). The village spirit (*nat*), it should be realised, initially 'belongs' to nobody, not even the priests, because it belongs to everybody in its representation of the village community; or, in the etic view, the earth and sky *Nats* 'manifest' the collective existence of the village in its environment. This is the condition indicated on the left of Figure VI:7 below.

FIGURE VI:7

GUMSA INCORPORATION OF VILLAGE NATS<sup>5</sup>



5. Taken from Friedman (1979:44).

On the right of Figure VI:7 however, the chief's ancestors have become identified with the village spirits:

local spirits who control all lands belonging to the community. The celestial spirits are now ranked by age following earthly rules of succession and the chiefly lineage can now be traced back to the chief celestial deity to whom it is affinally related. Since the chief is genealogically and thus sociologically closer to the forces that control the well-being of the group he is entitled to special privileges. (Friedman 1979:41).

This has been achieved as a result of success in feasting the village and in sacrificing animals to the spirits on the collectivity's behalf, thus assuring the blessing of the spirits on village activities in this 'religion of productivity'.<sup>6</sup> "The right to sacrifice to Madai and hence to hold a *manau* (feast) is a special prerequisite of the chief. Other rich and influential men do sometimes hold *manau* but in order to do so they must first purchase permission from the chief by means of an appropriate exchange of gifts" (Leach 1954:119). As success is thought to ensure success, that lineage best, that is engaging in the best distributions, comes permanently to take on the job of representing the village to the *Nats*.<sup>7</sup> This is materially manifested in the village shrine for both the territorial spirit (*mung nat*) and the celestial spirit (*madai nat*) being taken into the eminent lineage's compound, there to be the lineage's 'own' ancestral shrine (Friedman 1975:174). Indeed Leach (1954:113) shows the physical incorporation of the *madai nat* shrine into the chief's household under *gumsa*, and remarks that then "The chief's house is more than

6. Cf. Kirsch (1973:11-13) for whom the pursuit of such blessings are the mainsprings of action not only amongst the Kachin but throughout 'upland S.E. Asia' in which the various peoples "can be viewed as sharing a single generalised culture" (*ibid.*, p.36), despite a certain structural variability, which latter will be taken up shortly.

7. Kirsch (*op. cit.*, p.26) suggests that "We might characterise 'autocratic' [i.e. *gumsa*-type] societies as these in which ritual advantages have 'piled-up' or been 'captured' by individuals (or by lineage segments)".

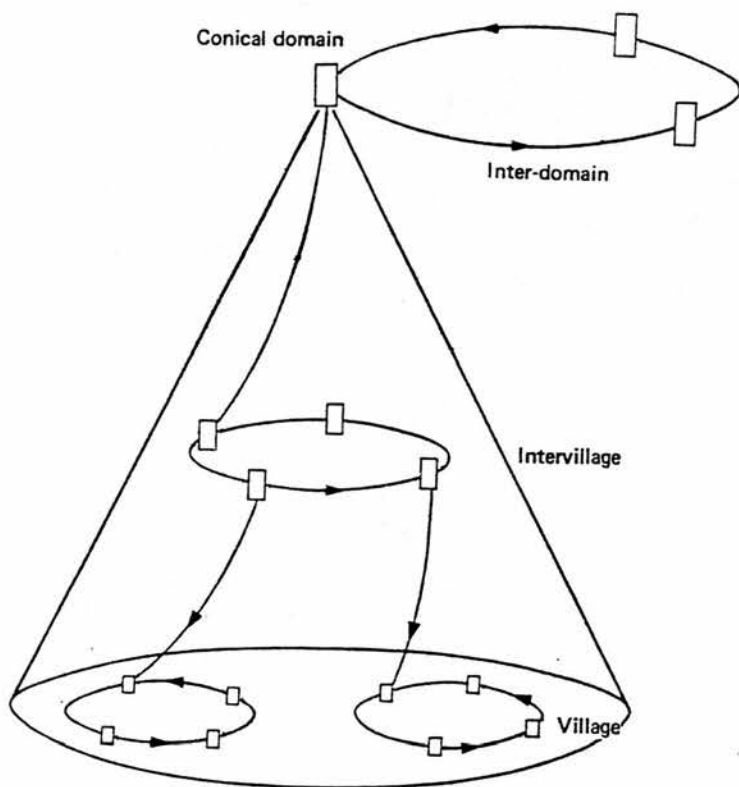
a dwelling house, more than a palace, it is also a kind of temple to the **Madai nat**".

"Thus the chief", as he has become in his role as head of the 'chief' lineage, "becomes the mediator between the community and the forces of nature which provide for its prosperity. He is able to do this because his lineage has become the territorial or community lineage", as Friedman (1979:41) expresses it. Now the chief not only represents the community and is thus 'responsible' for it, but in a way, since duties imply rights, he can be said to 'own' it. Since he is now in a superordinate position, he has relations of equality, that is, 'horizontal' relations only with similarly elevated lineages in adjacent territories. This because relative and mutable affinal ranking has been converted into absolute social age with respect to a fixed common ancestor (Friedman 1975:175). It is this last transformation, which Friedman maintains, is decisive, "in that it determines the specific form of the **gumsa** (hierarchic) domain. In the emergence of the chiefdom the **Mayu/dama** relation is RE-presented simultaneously as an elder/younger relation between lineage ancestors (**idem**). Since we are speaking of social age and ultimogeniture prevails among Kachin, this makes YoS (youngest son) senior and the rulers of a domain (**mung**) modelled on the properly territorial Shan-type domain.

The interdomain structure looks as in Figure VI:8 overleaf, where the lineages at the apex exchange women and prestige while securing alliances; the intermediate levels ('aristocrats') confer women on lower lineages thus obligating and subordinating them. However, by receiving women only from their peers in other domains, pre-eminent lineages can engage in balanced exchanges which do not obligate them in any way to inferiors, thus securely distancing themselves from inferior lineages.

In his seminal work on the conical clan (originally 1935) entitled the Principles of Clanship in Human Society, Paul Kirchhoff ([1959]1968:267) described this process as follows: Whereas the

FIGURE VI:8  
GUMSA DOMAIN: STRUCTURE AND MARRIAGE RELATIONS<sup>8</sup>



egalitarian clan (that Kirchhoff calls the 'unilineal-egalitarian') "divided the tribe into a number of solid blocks with clear cut boundary lines each homogeneous within", the other "results in a type of society which may be linked to a cone, the whole tribe being one such cone, with the legendary ancestor at its top- but within it are a larger or smaller number of similar cones, the top of each coinciding with or being connected with the top of the whole cone. The bases of these cones, representing the circles of living members of the various clans at a given moment, overlap here and there."

This situation has arisen from a few lineages of formerly

8. Taken from Friedman (1975:177).

equivalent lineages, through mechanisms similar to those we have seen, moving their lineage closer, as it were, to the common tribal ancestor and thus to the supreme deities. They then appear to represent in a **living lineage** an axial or senior lineage from which all others, their 'inferiors' are 'descended'. All in fact are **minimal lineages**, but some have been converted by ranking into minor, fewer into major, and one perhaps into the 'maximal' lineage from whom the whole clan or even tribe appear to descend. As Kirchhoff (op. cit., p.266) remarks "it is precisely the **nearness** of relationship to the common ancestor of the group which matters". And in turn, for the other lineages, nearness to those who are nearest is what matters. Kirchhoff continues, "The first of the two principles of clanship results in a group the members of which are of absolutely equal standing, as far as this standing is determined by membership in the group (leaving aside the question of age)" (idem). In contrast to this elementary type based on simple and parallel (coeval) descent, the conical principle according to Kirchhoff (idem) "results in a group in which every single member, except brothers and sisters, has a different standing: the concept of the **degree of relationship** leads to different **degrees of membership** in the clan. In other words, some are members to a higher degree than others".

In other words for the very lowly their very status as members of society is threatened, and from this we may readily see how members who fall down upon or out of certain social relationships, say through debt (or indeed by capture) become non-members and over time reduced to the level of things. They become as a consequence the objects, not the subjects of society, no longer the bearers of statuses and offices but slaves; further their offspring can become fixed in this position by ascription, that is, by a specification appropriate to their position in the **altered** set of social relations to which they belong.<sup>9</sup>

9. The same social-psychology is here at work as that of which we have seen the effects in subordination obtaining from the earliest periods of agriculture on the Mesopotamian alluvium.

The debtor relation is particularly important in eroding status amongst the Kachin, and simultaneously heightening exploitation, since **equal** obligation (obtaining from the formerly egalitarian clan) under conditions of unequal access to resources, works to the advantage of those in the process of accumulation. The latter can readily discharge their end of the 'social contract' (e.g. feasts, offerings, funeral and marriage payments) and so attract further resources by being 'creditworthy'. However, for those producing only around subsistence levels, maintaining social status is a burden that could well be crushing as their margins are tenuous (Kirchhoff op. cit., p.270; cf. Salisbury 1966:124).

This process is accentuated by an established Kachin chief, for instance, being entitled to tribute and corvee labour due to his position as descendent and representative of the community spirit upon whose largesse community wellbeing depends.

The **masha nat** of a 'thigh-eating chief' are of a special category. The house of such a chief contains two shrines, one devoted to the chief's own ancestors, the other to the **mu nat** Madai, who is now **mayu** to the chief's ancestors ... The chief is chief because he represents the 'youngest son line', he is the **uma**. The chief therefore can trace his lineage back to the founder ancestor of his chiefly line, the **uma nat**, who is **dama** to Madai. Hence, ritually speaking, the status of the 'thigh-eating chief' as owner of a domain rests on the fact that he alone can make offerings to the **uma nat** of his lineage. Through the **uma nat** he can approach Madai. Through Madai he can approach Shadip. Shadip controls the fortunes and fertility of all things. Hence the prosperity of the domain depends upon the proper ritual observances of the chief. Hence the chief is entitled to the ritual tribute of thighs (**magyi**) which he receives from his adherents. (Leach 1954:176).

And a chief confirms his rank by redistributing a part of his 'income' in the great **manao** feasts. But this is in large measure a redistribution from his dependents to the community at large, in

contrast to the 'big-man' principle where a following of fellow producers must be built up from those one cannot compel but must propel: "Any ambitious man who can gather a following can launch a societal career" (Sahlins 1968:165). A big-man's position depends on his ceaseless activity in distribution to outsiders while his personal faction must 'eat his glory'. Pushed too far, his following deserts and a new or established rival takes over his role 'pushing production' and distributing it 'outwards' (ibid., p.176). While a Kachin **gumsa** chief's position is more institutionalised, his following can still desert him by leaving his domain for another, something the Shan peasants are unable to do given the scarcity of irrigable land in upland Burma (Leach 1954:255). Kachins can also have the means to undertake **gumlao** egalitarian revolts against overbearing chiefs or to repudiate excessive social indebtedness.

In the light of what was said of the relation between debt and status, it is logical that with the Kachin slaves belong to the chief or village headman, although an aristocrat may often possess several (ibid., p.160). Treated as permanent children, or permanent debtors (idem), to whose brideprice their owners are entitled, their possessors are able to appropriate all the production of slaves living in the household, called 'internal slaves' (**tinung mayam**). Those living externally (**ngong mayam**) in their own houses pay heavy tribute, such as every alternate calf born. 'Internals' are treated as very inferior family members in permanent dependence, while the 'externals' are regarded as commoners of particularly low degree (Friedman 1979:182-3).

What is particularly interesting is that the Kachin slaves are not in the position of chattel slavery, as they were for instance in Greece or Rome, "the first genuine slave societies in history" (Finley[1973] 1975:71), that is, they have not been reduced to a purely object status, but are assimilated to the lowest grades of social membership, which is to the lowest grades of kinship ranking. Indeed the contradiction of being subordinate **within** kinship relations, rather than being a totally statusless outsider has been



caught by Kirchhoff (op. cit., p.269) who remarks: "In the cone-shaped clan on the contrary, everything that strengthens the clan strengthens, above all, its core and correspondingly whatever any member contributes to the wellbeing of the clan as a whole benefits above all, the **aristoi**".

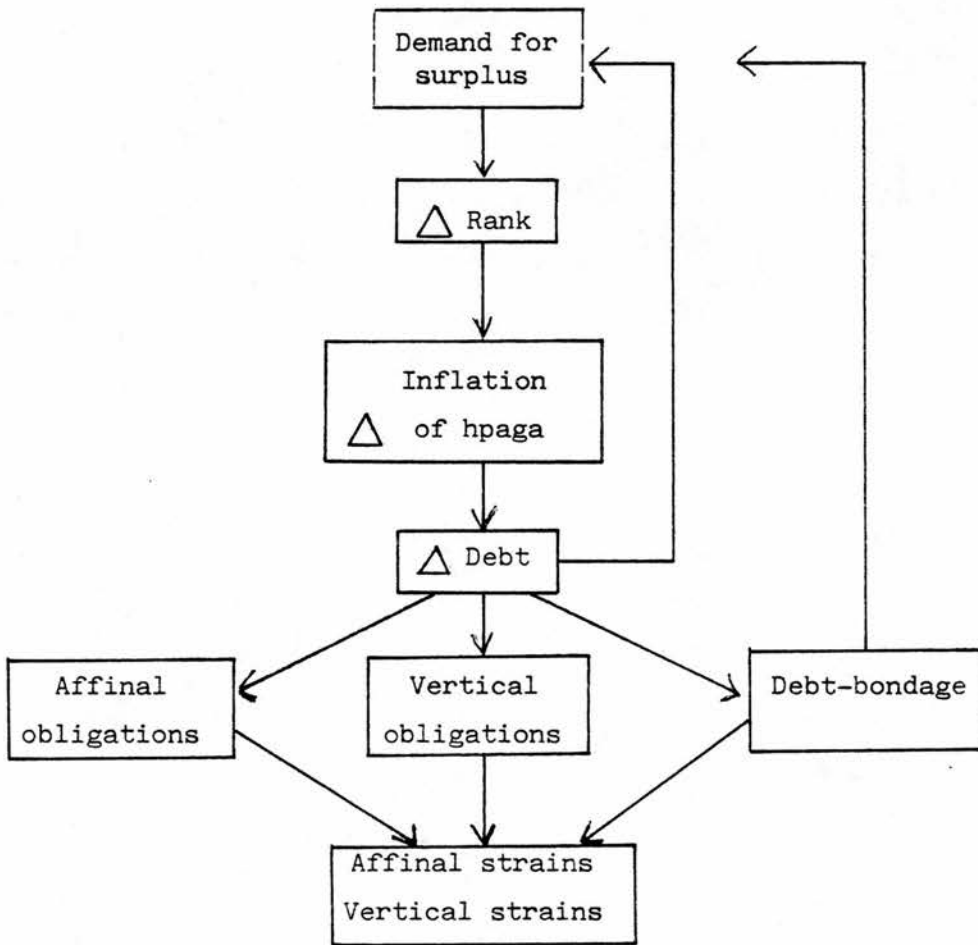
In order to accumulate prestige and surplus, aristocrats must collect debts and people; in the process the houses of chiefs can grow to 100 yards in length (Leach 1954:108), including within them a **Madai Nat** shrine room as we have seen. Nonetheless, as indicated at the outset, the productivity of swidden agriculture depends on any area being worked only one year in twenty if the forest is to remain intact. As a very minimum a ratio of 1:12 years clearing/fallow will permit secondary forest regeneration where rainfall is insufficient (as it is in the Triangle<sup>10</sup> where it ranges from 75 to 150 inches per annum). Nonetheless the 'dozen year cycle' is a step down to a lower plateau of productivity. Here intensification is degenerative, so extensification is required, though chiefs do try to 'circumscribe' their population in a given territory. But as ranking, surpluses and people concentrate the population must expand outwards (historically westwards) to keep the density within that which dry-rice swiddening can support, a process achieved not consciously but by the outbreak of **gumlao** revolts before permanently damaging levels of extraction are reached (Friedman 1979:186). The build-up of contradictions, particularly indebtedness, brought about by increasing pressure for production and concomitant inflation of all 'social values' is outlined by Friedman (1975:184) as the 'Internal Expansion of the Gumsa Domain and its Contradictions' (see Figure VI :9 overleaf).

Rupture of **gumsa** stratification comes when the chief (**duwa**) acting increasingly as landlord over tenants, increasingly fails to fulfil his obligations to kinsmen. Leach (1954:203) states that:

The overlord extorts services from his subordinate  
without obligations of reciprocity. Kinship

10. The area north of Myitkyina shown on Map XVI, p.176

FIGURE VI:9  
INTERNAL EXPANSION OF THE GUMSA DOMAIN AND ITS CONTRADICTIONS<sup>11</sup>

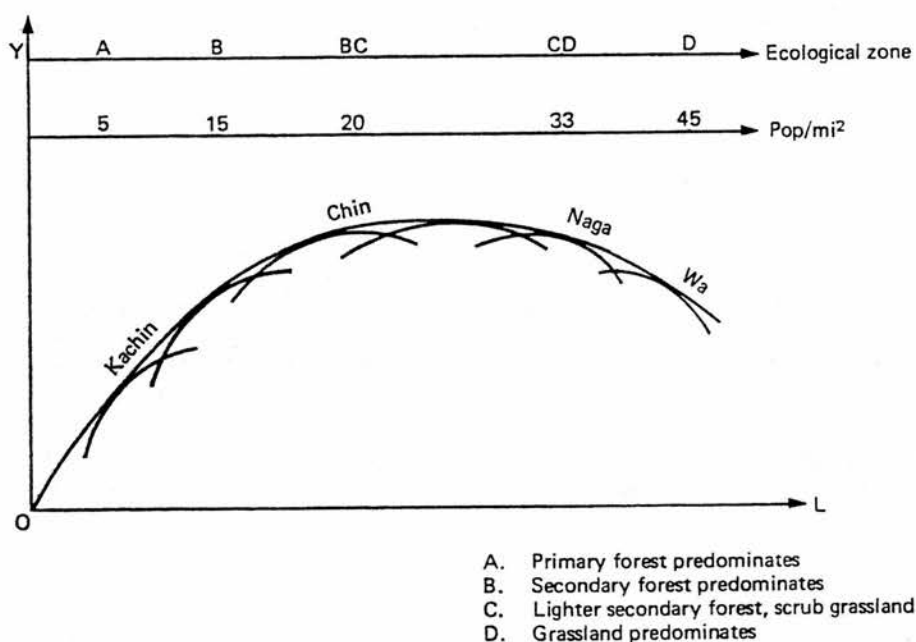


implies a symmetrical relationship; a **mayu-dama** (affinal) or **hpu-nau** (lineage brother) relationship between a chief and his follower may imply one-sided obligations from the follower towards his chief, but it also implies that the chief has obligations towards his follower. The weakness of the **gumsa** system is that the successful chief is tempted to repudiate links of kinship with his followers and to treat them as if they were bond slaves (**mayam**). It is this situation which, from a **gumlao** point of view, is held to justify revolt.

11. Taken from Friedman (1975:184).

With their continued dispersal and political checks the Kachin are alone in the region in having achieved an overall settlement density (c. 10 per square mile) that permits the gumsa/gumlao cycle to replicate itself for its environmental conditions are intact (Friedman 1979:186). While neighbouring tribes also experience a kind of 'short cycle' of oscillating political relationships, they do so against a 'long cycle' of deteriorated (deforested) environment, increased population density and endemic warfare. Friedman (1975:188) shows the short cycles for the different tribes inset tangentially to the envelope of an overall production function, since productive technique is similar for all the tribes:

FIGURE VI:10  
THE LONG CYCLE OF DECLINING PRODUCTIVITY<sup>12</sup>



As the trajectory curve indicates, production can be intensified in swiddens beyond the level of exploitation characteristic of the Kachin. But in so doing the ecology is

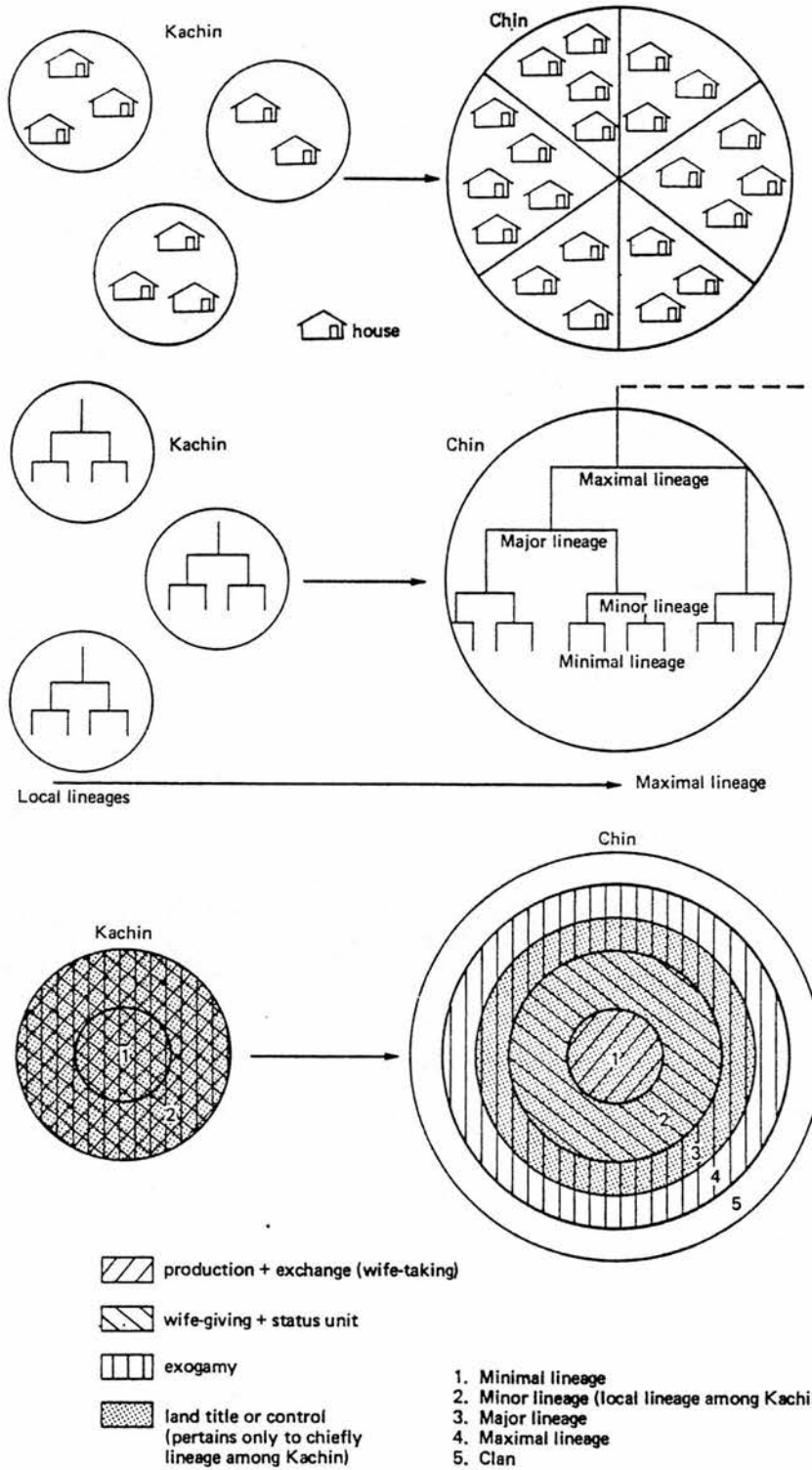
12. Taken from Friedman (1975:188).

permanently damaged, being changed from Primary Forest to mere grassland and with it social relations alter too, along with both culture and diet. By the time the densities of the Wa (c.45/mile<sup>2</sup>) are reached, settlements have reached as many as 700 houses, and are defended by heavy ramparts, for "War is a daily condition of life and famines are frequent" (Friedman 1975:193). Having reduced the terrain to mere grassland without a trace of forest, the Wa, with their institutionalised headhunting and cult of denial, or rather negation, centred upon the **tevo**, supposed descendent of the sacred founder, have attained a "political equality founded on the ritual negation of everything (by way of consumption patterns) that led the society to destroy its own conditions of production" (idem).

The Chin on the other hand, whose density is nearest that of the Kachin, have of necessity (outlined initially) "a rather intricate agricultural adaptation including elaborate cycles of crop rotation (which) has been able to develop on the basis of land-title accumulation" (ibid., p.190). A small number of dominant lineages have been able to engross most or all of a village's land because land was divided up into heritable titles. The land became parcellised in fixed titles because, due to political circumscription, the system could no longer expand. And "as there is no longer any continuity between local spirits and the higher supernatural powers, there can be no position equivalent to a **gumsa** chief, direct descendant of the territorial deity" (ibid., p.189). Instead ferocious competition between big-men accumulating land-titles and throwing potlach type 'feasts of merit' for prestige, makes for an ever-shifting rather than stable-oscillatory type of polity, for the political superstructure, no longer has its former coherence.

As suggested above, topological transformations follow demographic shifts, reflected in a greater lineage depth for the Chin and settlement clustering. This is illustrated overleaf (Figure VI:11).

**FIGURE VI:11**  
**TOPOLOGICAL TRANSFORMATION KACHIN-CHIN<sup>13</sup>**



13. Taken from Friedman (1975:191).

By the time (or rather place) that Naga densities have been reached, with the production curve turning downward, the clan has begun to counter the political independence of the minimal exchange unit, making internal differentiation more difficult (Friedman 1975:190). With the great shortage of land its allocation has become a communal responsibility, a direct concern of clan elders, while all land not in use reverts immediately to the clan as a whole. Uneven density between groups of Naga does allow of some oscillation between a village chieftaincy and clan hegemony, that is, can allow of a partial recrudescence of 'local lineage political economy', where and only where some territorial expansion can be had, as indeed with the expulsion of the Ao Naga by the Sema and Lhota Naga (ibid., p.192).

Even so, as density continues to grow, wars become more frequent and their results more deceiving for the internal economies of the groups involved. In most areas hereditary chiefs are entirely replaced by big-men or by clan elders. Individuals can still gain prestige through feasts of merit, but it is impossible to convert this into lineage rank because such feasts are isolated from the alliance network and the ancestral hierarchy. Furthermore labour productivity is too low to permit the acceleration of surplus necessary to interlineage competition. Among the majority of Naga groups big-men have prestige but little power. Among the Ao in particular, political functions are all transferred to the village council of elders. Here competition leads only to a kind of unstable and negative egalitarianism. (Idem).

The instability and negative egalitarianism are a consequence of a mismatch between demography and techno-environment in this area of hill-swiddening. The established relations of production were predicated upon an expanding system (Friedman & Rowlands 1977b: 213); indeed in geo-historical terms, upon an open frontier, necessary for elasticity of settlement, even if not for any absolute dispersal of population. When territory became circumscribed, and at least in certain directions, closed, an

unchanged system of swiddening proceeded to increasing degrees of intensification to support heightening population densities without the necessary revolution in the relations of production that would have instituted a new mode of production with new tools, crops and techniques. Since they persisted with the old in only minimal adaptation, the result was the degradation of the ecological basis, caught in a downward spiral, and for the Naga and Wa in particular, a concomittant degradation in the security and quality of life.

Such a transformation did occur, however, on the valley floors and riverine plains where the irrigated rice regime became standard. There, where annual surpluses could be guaranteed at a given high level, even at the cost of sustained high labour inputs, the Shan states emerged. The (vertical) relation with the supernatural at the expense of (horizontal) relations with other lineages were accentuated by the chiefly lineage to the extent of virtually breaking its 'earthly' connection with the others. Absolute genealogical distance at the apex of the conical clan is decisive in producing the ruler of a territorial state; his pre-eminent position no longer depending on his own generosity in feasting or as a wife giver. Indeed such is now the king's elevation above society from which he draws tribute, that the donors are privileged if he receives wives from them, for this is his due as the link between heaven and earth (cf. Leach 1954:218).

From his 'due' as ultimate 'owner' of the land, in that the land would be 'useless' without his ministrations on behalf of its village possessors (i.e. producers), the king (as he now is) becomes able to sustain a large and ramified court. Indeed with production likely to rise to political demands, and facilitated by the wider polity, higher absolute state consumption can for a time be masked by growing relative productivity. The burdens of state would of course be felt when state consumption absorbs a higher fraction of stagnant or declining production, at which points revolts are a possibility.

From the courtiers, royal kinsmen and dependents, develop Ministers who have functions precisely in 'administration', that is in the state structure itself, while some have a putative role in the administration of material production. As production continues at the village level 'automatically' as it were, such a role can only be in the overseeing of the levying of taxes or tribute. However by participating in a division of labour nomatter how construed, those courtiers/ministers can function as a state bureaucracy without any necessary kinship with the royal lineage, depending only upon appointment by the divinised king as he has become in the Shang and Chou states of archaic China. They in turn appoint their own 'departmental' functionaries, often no doubt from the lower nobility, and the state bureaucracy is formed.

The Chou kings called themselves the 'Son of Heaven' and justified their conquest on the grounds that they had received the 'Mandate of Heaven'. The chief ceremonial activity of the kings centred around their ancestor 'Heaven', while each community conducted sacrifices to the life-giving soil. Later dynasties continued these ancient rituals up until the twentieth century, and a round alter of Heaven and a square alter of Earth, both imposing structures, still stand in Peking. (Fairbank, Reischauer & Craig 1973:32).

Paradoxically, but dialectically, where kingship was not an outgrowth of the lineage political system and did not therefore bear intrinsic cosmological legitimacy, such had to be created and secured by a role in the development of the real conditions of production, in which process transcendental justification is gained also. This was the case for the Malagasy kingdom of the Merina which, extending itself over most of Madagascar as a 'conquest state', is particularly interesting and is examined next.



### 5: Stratification by Kindred Localisation

Where rulership is not a 'natural' outgrowth of kinship relations, but was in the first instance a product of forceful imposition, it had nonetheless to secure itself both by assuming a crucial role in reproduction (ritual) and by taking initiatives in the actual advance of production (Bloch 1977:309-311).

Inland and upland Madagascar was peopled by villages practising rice cultivation by irrigation in valley floors and on swamp margins on the plains. Those cultivators, who came to form the populace of the Merina state and that of the Betsileo, formed "discrete groups of cultivators living around one or several linked rice valleys. They would probably live in several small villages. These people would be both co-owners and cultivators of the valley and they would also form a descent group (**deme**)" (ibid., p.307).

Though the villagers have an ideology of descent from named founders (Bloch 1975d:208), descent is not lineal but bilateral and "since one marries kinsmen it is not surprising to find that there is no term whatsoever that can be translated as affines, or kinsmen but excluding affines" (ibid., p.209). Consequently, kinsmen are neighbours are affines (idem).

Irrigable land was scarce, village sites permanent and prized, and hence the **deme** a virtually endogamous corporate group "governed [by] themselves for day to day matters in assemblies led by elders whose status was based on acknowledged wisdom and age rather than any overt form of power. These acted in village assemblies as orators and were the agents of consensus decisions" (idem).

But overt power was certainly present in the existence of robber-chiefs located in nearby hilltop redoubts exacting tribute from the villagers, particularly at harvest. Those 'states' of palpable protection rackets scarcely extended to a radius of more than 15 kilometres from the stronghold, and since any bunch of

brigands could 'take to the hills' like this, power was always unstable and hotly contested (Bloch 1977:308). Those were the 'pre take-off states'.

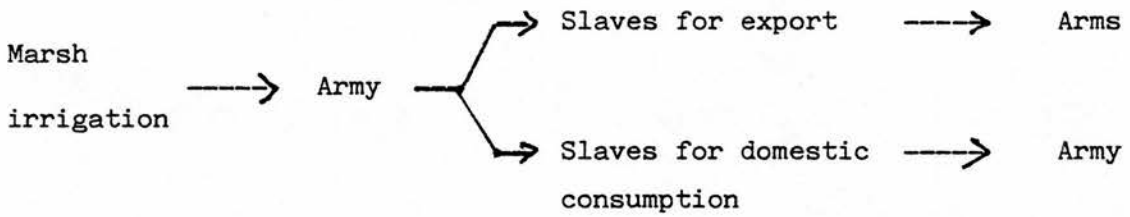
Where a state was militarily superior in regard to its neighbours, as several were among both Merina and Betsileo (ibid., pp.310-311) it could break from the competition of other pre-take-off states by moving from its hilltop(s) to the plain. This on condition it could secure the much larger revenue to be had from extensive lowland marsh paddy, if and only if it mobilised for the reclamation work necessary. To drain excess water from coastal marsh the level of the river bed had to be raised and this required the gathering of a concentrated labour force to erect drainage dykes (ibid., p.310). This became 'state land' while valley land remained village property paying taxes.

"The rice fields produced by the draining of marshes was administered completely differently from the *deme* territory. In large parts their product went directly to the king or if attributed to individuals they were heavily taxable both in kind and in labour" (ibid., p.311). Much of this income went to pay for a standing army which undertook campaigns to secure slaves who would in turn swell the royal labour force, so expanding revenues. Obviously such a system had to be expansionary, and most take-off states foundered on the imperative of sustained military conquest as they united others against them. Except, that is, for the Merina state that eventually encompassed most of Madagascar and bequeathed its present capital, Antananarivo, amidst extensive reclaimed land.

The prerequisite for sustained Merina expansion was its superiority in western arms allowing it to 'break through' the outer limits of the expansionary cycle (ibid., pp.313-314). European weapons were exchanged for slaves in, and further fuelling, an expansionary internal process diagrammed in Figure VI:12 overleaf.

FIGURE VI :12

THE EXPANSIONARY EXPLOITATION PROCESS<sup>14</sup>



The Merina state's expansion was not checked and it came to control the whole of Madagascar by the end of the nineteenth century. It deployed itself across the whole social fabric too, from "the creation of officers to look after dykes", through the creation of a truly administrative capital (rather than simply a redoubt) to the implication of the role of the king himself in the recreation of all the conditions of reproduction, even in those valley **demes** whose terraced irrigation "continued to operate largely independently although controlled more closely by the rulers" (Bloch 1977:309).

In the process the relations of power were rendered opaque, in the first instance through the system of ranking. Here, that which is really a gulf between a small population of rulers and the rest, appears in the form of a fine and continuous gradation of **ranks**, as Bloch (ibid., p.317) states: "The ruling group in all these kingdoms is tiny yet the rank of **andriana** for the Merina extends to the total free population of wide areas of the kingdom". **Andriana** is a term which not only relates to several aristocratic **demes**, but is also the word for ruler.

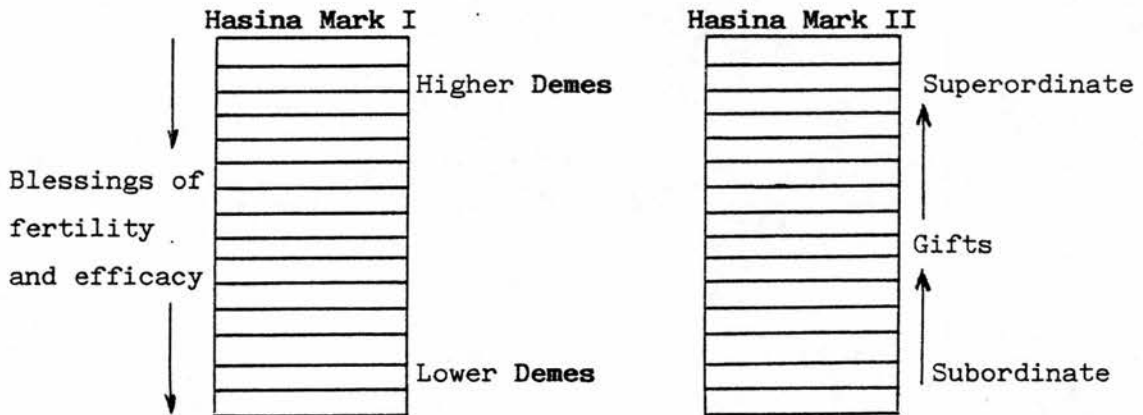
Those higher **demes** and rulers are thought to possess an indispensable mystic essence called '**hasina**', and indeed it forms the very real 'essence' of royalty (ibid., p.318). **Hasina** means 'power', and its range extends from 'holy' and sainthood to vigour,

14. Taken from Bloch (1977:314).

fertility, efficacy (Bloch 1977:318). "Hasina is linked with the mystical power of nature especially the power of reproduction, both in its human aspect and in its aspect in relation to crops. In its human aspect the possession of **hasina** by the rulers and the **demes** is what ensures the passing on of life from generation to generation and the transcendence of death which can be seen as the kernel of Malagasy thought" (idem).

**Hasina** is an innate 'value' which "is the essence of royalty and the essence of superiority of one person over another through 'virtue' in the old sense" (idem). Crucially, however, while **Hasina** is a **state** of superiors, something intrinsic to their superordinate position, it is an **action** of inferiors. So that blessings of **Hasina** might be given from above, actual currency must be supplied from below. Bloch (ibid., p.321) illustrates this exchange as follows:

FIGURE VI:13  
EXCHANGE OF GOODS FOR BLESSINGS



This is the sort of exchange that must take place if juniors are to secure the blessing of elders (ibid., p.320). **Hasina** is something inherited and it cannot be made; indeed rulers must 'drink' the **Hasina** of their predecessors to ensure their own, so it can be transferred under the appropriate circumstances (idem). This is most clearly seen in the New Year rituals of the 'Royal Bath' at the culmination of which "as the king comes out of his

bath he utters the phrase: 'Ho **masina anie**', 'that I may be **masina**', and accompanying this, both immediately preceding and following the bath, he is given **hasina** mark II by the other high ranking members of his entourage: a gesture repeated throughout the kingdom by those of lesser rank giving to those of higher rank, repeated inside every family by sons giving **hasina** to their fathers, younger brothers giving **hasina** to their older brothers etc." (Bloch 1977: 327).

In these and other rituals and prestations social rank has been represented as differential potency, not socially created but naturally given. "The message is that political power is an aspect of a mystical power distributed throughout the population in differing degrees. This power is not primarily political but an aspect of nature" (idem). Similarly, among the Lozi, "the king-elect gets kingship from God, from his ancestors, and from the land (nature)" (Gluckman[1951]1959:47). Here too, as amongst the Merina, there is also a cult of royal graves (ibid., p.55) which serve as centres of mystical power (ibid., p.29).

It was observed above that Merina descent was non-unilineal, since what mattered was rights in a fixed village farming permanently irrigated land. The marriage pattern was thus one of generalised exchange within a small endogamous group in a "deme situation where affinity is played down and where unbridgable barriers are established between insiders and outsiders" (Bloch 1975d:219).

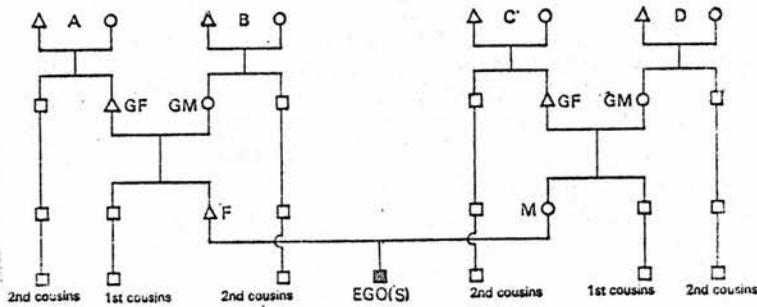
A similar situation for analogous ecological reasons holds within the Lozi of the kingdom of Barotse in northwestern Rhodesia. The Lozi farm the floodplain of the Upper Zambesi which extends for about 120 miles and reaches about 25 miles at the plain's widest point (Gluckman op. cit., p.1). The map overleaf, showing the special nature of the terrain is taken from Ian Hodder's (1981:69) ethno-archaeological investigation of the Lozi area.



In addition to fishing, fowling and grazing, the Lozi cultivate different types of garden to raise sorghum, maize and rootcrops (Gluckman op. cit., p.11). Lozi productive resources are tied to villages and used in perpetuity (idem). Most importantly, the number of village sites is limited by the number of mounds on the floodplain that will enable dwellings to stand above the floodwaters. Nonetheless, at the height of the floods villagers move to alternate sites on the margin of the floodplain and the edge of the bush where other crops are grown, particularly cassava, and from which honey and beeswax are gathered. Most importantly cattle move from the plain in the wet season to their owners on the margins.

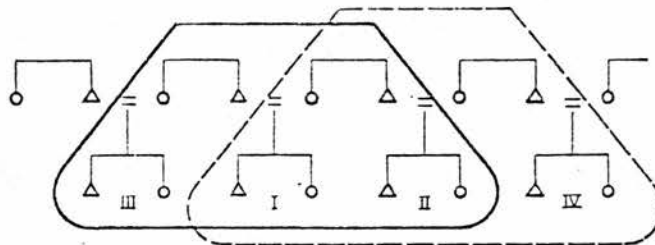
Lozi villages are strong corporative groups with a long and distinct history. Indeed they constitute the only kinship-based corporate groups, since kinship ties, as in all kindred systems, as unique to each individual, being shared only by his or her siblings. "Because of its lack of discreteness a kindred cannot be a corporate group" (Murdock 1968:240). And because rights to residence and farmland can be claimed through either parent (and one goes where one is wanted and there is space) no descent 'group' in the formal sense can be formed (Freeman 1968:260). The descent 'group' of *ego* is fundamentally optative, depending as it does upon those cousins, for example, whom he chooses to activate for a certain project (ibid., p.266). This is manifestly an *ego*-focussed in contrast to an ancestor-focussed system of kin reckoning, a system as it were rather of ascent than descent, for *ego* reckons up any (of the four) stocks from himself to work 'out' to second cousinship in the example illustrated below (from Fox 1967:165) where the stocks are labelled A, B, C and D:

FIGURE VI:14  
COGNATIC DESCENT



The groups of kindreds so formed, unique to every set of siblings, and therefore overlapping between sets, is illustrated here (Figure VI:15) with the solid line representing I's kindred, the dotted line II's, and so forth although others are not shown for simplicity.

FIGURE VI:15  
KINDREDS 15



Lozi family villages are inhabited by groups of cognates related to the headmen and to each other in a variable pattern. Almost all the inhabitants of such a village are kindred, with their wives, and in the past serfs, who were adopted as kinsmen, though with lesser rights. (Gluckman op. cit., p.64).

Villages hold land from the king, and the village headman, who

15. Taken from Fox (1967:165).



can be of any of the kindred that can hold the village together, is responsible for land allocation when it reverts to the collectivity in the absence of direct heirs (Gluckman op. cit., p.64). The village headman thus owes his position to his kin and his own personality, not to appointment from above. Nonetheless:

the village occupies a critical position in two sets of relations. It is the basic unit below the state, of the political structure as it exists territorially: in land-holding and in the headman's responsibility for his followers (who can decamp) the state consists of villages. Secondly, it is the one set of kindred which acts as a group, and as such, with other villages in a system of villages, is one of the knots which shape the network of kinship ties. Membership of a village involves political allegiance to the headman; it is also a kinship and domestic organisation in which the people make their living and spend most of their time, and where it is proper for a man to die (ibid., p.69).

So what is particularly important in regard to the Lozi, and in considering the Merina and Betsileo too, is that in the web of kinship no corporate unilinear group of kinsfolk is distinguished. "The kindred then is a purely **personal** group. It is easy to see that such a group cannot perform the same functions as a descent group" (Fox op. cit., p.166). Yet Fox does go on to suggest that the flexibility thus conferred, fitting individuals to no prescriptive residence pattern, does facilitate the adaptation of demography to ecology in restricted environments (ibid., p.153).

What is corporate for the Lozi is the village unit of residence and cooperation. "The Lozi, except for the royal family, trace their descent genealogically for only three or four generations from adults" (Gluckman op. cit., p.73). Further, and in regard to the eponymous ancestor at the apex of the lineal clan, "only royal people close to ruling kings can trace their descent from Mboo, the founder of the Lozi kingdom, son of God and His daughter. This agnatic line is the core of the whole nation's

history" (Gluckman op. cit., p.75). Genealogical depth for commoners, to whom Lozi royalty are still related, is provided by village continuity and aboriginal 'descent names' which though locally focussed are neither corporate nor units of exogamy (idem).

Bilateralism or kindred organisation in which "all ego's cognates up to a certain degree are recognised as having some duties towards him and some claims on him" (Fox op. cit., p.167, my emphasis) as amongst the Lozi and Merina/Betsileo, seems, as Gluckman (op. cit.) suggests, a function of "their modes of residence and production", with lineality important only to the location and continuity of rulers.

Yet while royal genealogies serve as the organising 'lines' of the state, with the state serving to integrate the essentially autonomous villages, as far as the Lozi are concerned (and less so amongst the Merina), we still do not find a ruling class fully severed from the commoners in kinship relations and style of life. The Lozi king is obliged to provide the means of livelihood for every adult commoner (ibid., p.66). King and commoner, serf and master, live at roughly the same standard of consumption. For "the Lozi's goods were primarily consumable goods" and of those "a man could only consume a limited quantity" (ibid., p.13). Crucially, those primary goods forming the bulk of all production and the stuff of subsistence "were not storable in the tropical climate of a land of pests and had to be used at once, except for a few ornaments, dugouts, tools and cattle" (idem). This holds even for that eminently moveable good, livestock, for "as grazing was limited, men with large herds distributed their cattle" (idem).

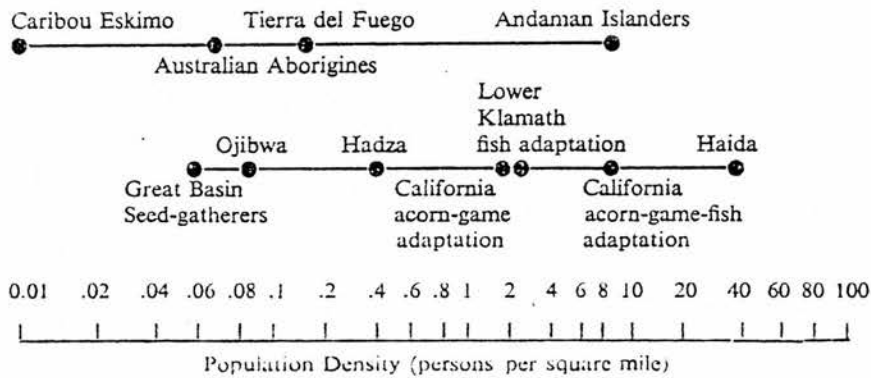
The technical and environmental possibility of storage is thus of crucial moment, for it determines the possibility of a **disposable** surplus, in contrast to the **passive**, merely latent surplus that hunter-gatherers rely upon in their under or selective exploitation of their extant resources (O'Shea 1981:168; Harner 1975:127-8). In this regard we can see, as for instance in the

Trobriand case, how 'active' resources are the prerequisite of a developing polity. Moreover, "This strategy of over-production coupled with storage is the cornerstone of sedentary life" (O'Shea op. cit., p.171).

**6: Potential Surplus and Political Mobilisation**

Alain Testart (1982:523-536) has recently systematised and extended our understanding that not all hunter-gatherers are either mobile or living in thinly and evenly spread populations. Some indeed, of whom the best known are those of the American Northwest coast, live in permanent villages with population concentrations rivalling those of agriculturalists. Hassan (1975:29) provides this convenient graphic index:

**FIGURE VI:16**  
**POPULATION DENSITY OF SOME HUNTING-GATHERING POPULATIONS**



When we compare the 'California acorn-game-fish' adaptation (and northward) with the densities given by Friedman (1979:220) of a range from 5 to 45 persons per square mile for the upland rice horticulturalists in South Asia, we observe not only equivalent levels, but that those for the Pacific Coast are sustainable without environmental degradation. Here we are dealing with the well-known prolixity of this coast's marine resources, particularly

in salmon and in mammals.

Testart's explanation of double-figure population density for those hunter-gatherers is that "where some natural food resources are **bountiful** but **seasonal** [as are, of course, anadromous fish or tree nuts] they can be gathered en masse while available and **stored on a large scale** once transformed through appropriate food preservation techniques, thus becoming a staple food year-round (op. cit., p.523; his emphasis). This he calls the 'storing economy' and to it the same social considerations apply as to agriculturalists, particularly the necessity of sedentarism, though of course the resources preserved and stored have been 'caught' and not 'raised'. But the order of social complexity is similar, while the 'production' for settled foragers comes in extensive processing and storage.

Thus with the Haida, Kwakiutl and Ainu, we find a particularly strong example of Woodburn's (1980:98) 'delayed return' economy in which, in contrast to one of immediate consumption "a sedentary way of life seems always to involve a measure of property accumulation and storage and some division of fixed resources among the members of the community". For it to be worthwhile 'investing' in a future return, not only physical facilities like storage bins are required; "the existence of delay imposes basic organisational requirements for a set of ordered, differentiated, jurally defined relationships through which crucial goods and services will be transmitted in a specified and regulated manner" (ibid., pp.97-8). In other words there must also be 'socio-structural' facilities, as they might be called.

Delayed return economies "include mainly peoples that are primarily fishermen or plant gatherers and incidentally Arctic sea hunters, but not peoples who are, first of all, land hunters" (Testart op. cit., p.528). The intensive storage economy is largely confined to mid-latitude foragers of marine resources (idem) since the game in the tropics is either not markedly seasonal or too

sparse to make the considerable labour of preservation worthwhile in those difficult conditions. In desert environments of the tropics, again, the only seasonality is of dry/wet periods; while with a low diversity, low occurrence index of flora, and with water the limiting factor both socially and nutritionally, food resources are best 'passively stored' in the ground and consumed by scheduling (Barnard 1979:141).

Where collective food stores do occur they must be managed and this in the hands of people of rank provides a means of exploitation, for being 'superior' they are not subject to the same collective sanctions as would be brought to bear on a consumer.

People who are important because of their religious status or their kinship ties will assume the management of the stores, control their utilisation by members of the community, preside over their redistribution, orient their use in accordance with their own interests or those of their own group, and justify both the share they appropriate of the communal stores and their poor contribution to it in terms of the importance of their function. (Testart op. cit., p.527).

A function which, as we saw in the case of Southeast Asia, became largely one of 'communication' with the forces (ancestors, spirits, etc.), permitting or promoting production rather than engagement in physical production itself. Likewise Pacific Coast chiefs are also 'high priests', responsible for the rites and prayers necessary to sustain production.

In his discussion of 'Slavery, Surplus and Stratification on the Northwest Coast', E.E. Ruyle (1973:610) observes that not only did chiefs control food supplies, especially in times of dearth, along with prestige goods, but on the basis of such 'capital' were able to add slaves to their own labour force. Indeed slaves were the only labour force the chiefs could guarantee, for their own kinsmen and followers could desert in the face of a chief's lack

magnanimity, and in any event, they would not do his drudgery for him (Ruyle op. cit., pp.611-13).

These remarks illustrate two institutions that are frequently misunderstood, the potlach and slavery. Feasts and potlaches, in addition to validating a chief's claim to titles and associated economic privileges, served to attract and hold a free labour force to enable the chief to exploit the productive resources he owned. Slaves formed an important captive labour force, since, unlike commoners 'the slave cannot leave the masters service' (Sproat 1868:95). (Ruyle op. cit., p.615).

And in analogue of the generosity/debt feasts seen amongst the Kachin, while "the entire group contributed to the potlach, the distribution of wealth was according to rank" (ibid., p.616), something Salisbury (1966:122) also observed during Tolai distributions.

This example again demonstrates how distribution/redistribution for one part of the population can be mere alienation/exploitation for others. And taken with the other instances it shows that the prerequisite of any system of stratification (defined as differential access to, and use of, productive resources), is the basic ability to sustain a surplus over the immediate consumption requirements of the direct producers. Without such resources (and note too the higher population levels that such a buffer against Liebig's Law provides), there is little to administer!

This is brought out in the controlled comparison of seven societies of similar ethno-historical background undertaken by Leonard Mason (1968:299-329) and entitled 'Suprafamilial Authority and Economic Process in Micronesia'. He compared seven atolls, which are attenuated coral-reef platforms surrounding a salt-water lagoon, listed by land-surface and lagoon area in the following table:

**TABLE VI:1**  
**LAND AND LAGOON AREAS OF SELECTED MICRONESIAN ATOLLS<sup>16</sup>**

<i>Atoll</i>	<i>Total Land Area</i> (sq. mi.)	<i>Lagoon Area</i> (sq. mi.)
Onotoa	5.21	21.00
Arno	5.00	130.77
Ulithi	1.80	183.14
Lukunor	1.09	21.25
Ifaluk	0.57	0.94
Kapingamarangi	0.52	22.01
Mokil	0.48	2.61

"All atoll islands are low and rarely rise higher than twenty or thirty feet above high tide level. Shore areas have poor soil, lack fresh ground water, and are constantly exposed to salty spray" (Mason op. cit., p.301). The populations, whose density is generally inversely proportional to land area, combine gardening with tree-cropping of coconuts and breadfruit or pandanus, plus lagoon and open-sea fishing. Fish are the major source of protein, while taro and the aroid cyrtosperma are the major starch sources and famine foods (ibid., p.302). The point is that both land area and fresh water are highly circumscribed and so must be used to the limits sustainable by the techno environment: "As an environmental type, the seven atolls are limited by small land area, soil deficiencies, poverty of plant species, a dearth of plant fauna and geographic isolation" (ibid., p.322).

Despite this, or perhaps because of it, each population exploits their atoll to the maximum sustainable. Nonetheless some atolls are better favoured ecologically, being more extensive and in a better position for rainfall or a worse position for typhoons. This is a region marked by strong trade winds.

The favoured atolls are able to sustain a higher surplus over subsistence requirements and Mason's thesis is that those are precisely the ones which develop suprafamilial authority in the

16. Taken from Mason (1968:301).

form of ranking and emergent chieftaincy. In all the atolls, the unit of production is the family, so hierarchy is largely confined to the disposition of surplus rather than its creation (Mason op. cit., p.327). The relative advantages of certain atolls are listed in the following table:

**TABLE VI:2**  
**POPULATION DENSITY IN SELECTED MICRONESIAN ATOLLS**<sup>17</sup>

<i>Atoll</i>	<i>Total Land Area</i> (sq. mi.)	<i>Population</i>	<i>Density</i> (persons/sq. mi.)
Onotoa	5.21	1,491	286.1
Arno	5.00	1,068	213.6
Uliithi	1.80	421	233.9
Lukunor	1.09	804	737.6
Ifaluk	0.57	220	372.9
Kapingamarangi	0.52	540	1,038.5
Mokil	0.48	355	739.6

From Table VI:2 we see that Arno is the best provided, enjoying heavy rainfall, large surface area, no drought, a large lagoon and not too frequent typhoons. In contrast Onota has only light rainfall, and while possessing an extensive land surface experiences a lot of drought, has only a moderate sized lagoon, but no typhoons. As a consequence "chieftainship is elaborated most in the very culture best supported by economic abundance [Arno], and the one least endowed by Nature is the only group in the series without chiefs" (ibid., p.328), and indeed without any of the other characteristics of ranking. In Figure VI:17 the atolls are arranged in a matrix by cultural features identified with supra-familial authority.

The least favoured are the Onotoan who 'cannot support the luxury of a chiefly superstructure' but who are, instead, guided by a council of elders. Also significant is that, where chieftaincy does exist, it derives either from the chief's role as intermediary with heavenly beings whose patronage ensures the productivity of

17. Taken from Mason (1968:302).



FIGURE VI:17  
CULTURAL FACTORS IDENTIFIED WITH SUPRAFAMILIAL AUTHORITY<sup>18</sup>

Features	Arno	Uliithi	Lukunor	Ifaiuk	Kapinga	Mokil	Onotoa
Distinguished by class	X	-	-	-	-	-	-
Applies force to orders	X	-	-	-	-	-	-
Displays rank insignia	X	X	-	-	-	-	-
Restricted from working	X	X	X	-	-	-	-
Accorded unusual respect	X	X	X	X	-	-	-
Receives first fruits	X	X <sup>b</sup>	X	-	-	X	-
Initiates communal work	X	X <sup>c</sup>	X	X	X	-	-
Directs communal sharing	X	X <sup>c</sup>	X	X	X	X	X <sup>c</sup>

\* Paramount chief, unless otherwise indicated.  
<sup>b</sup> Land district chief, not political district chiefs.  
<sup>c</sup> Council of elders.

the land, or from a traditional relationship as representative of the first settlers of the island (Mason op. cit., p.327). Indeed the two aspects may well be connected, as with Trobriand chiefs (Malinowski, Young ed. 1979:145).

### 7: Inter-Annual Variability, Storage and the State

A case particularly relevant to the Mesopotamian experience it so closely parallels (Gelb 1972:3) is that of the 'palatial' or state economies of Crete and part of mainland Greece during the Minoan/Mycenean period in the second millenium BC. From it we can see that 'population pressure' is not necessarily the consequence of the growth in human numbers against a fixed ecological or technological set of limits, but can rather be the outcome of the very variability of that ecological basis.

In the early chapters the variability of rainfall around the

18. Taken from Mason (1968:328).

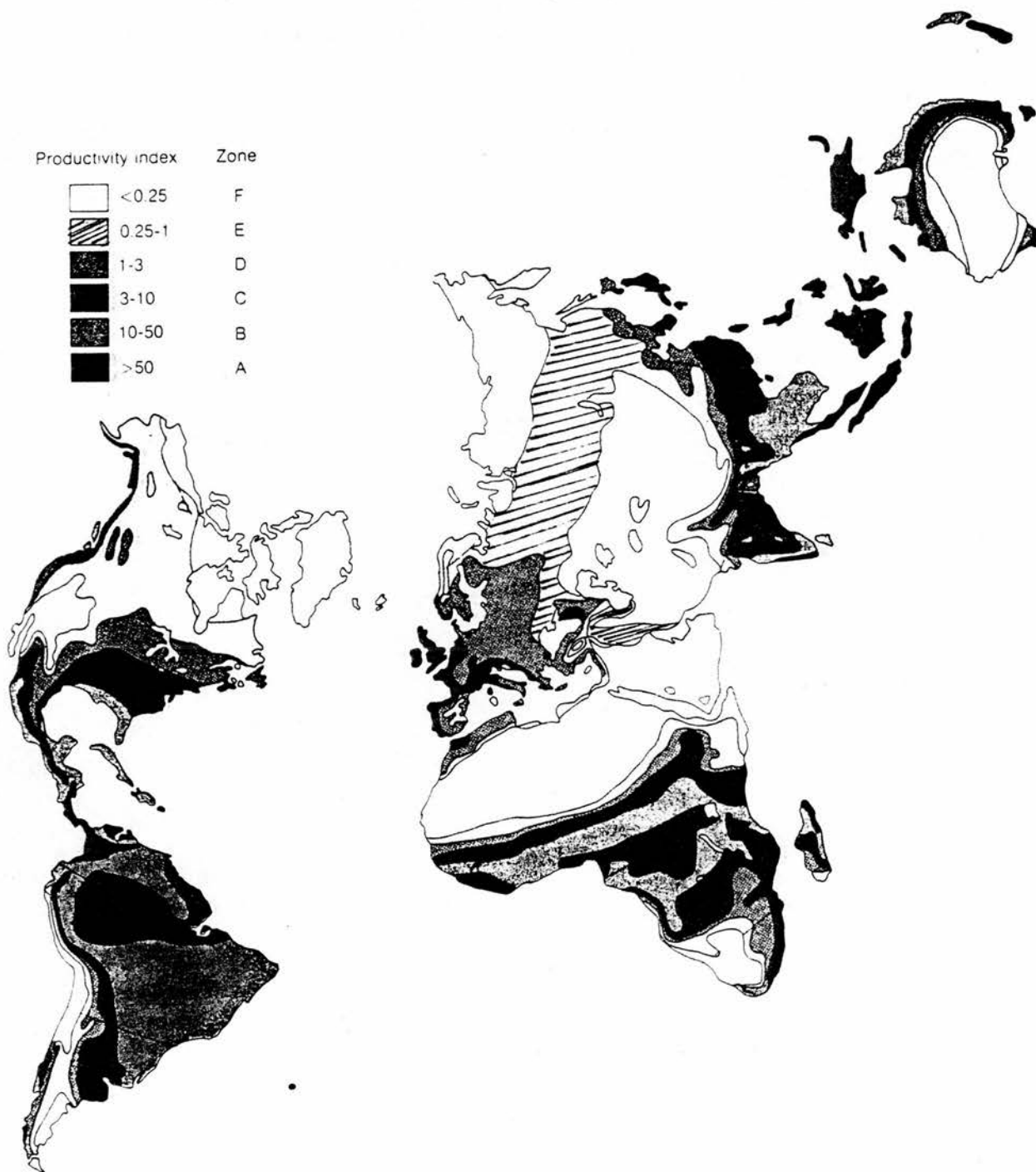
piedmont zone of the Zagrosian Arc was stressed. So too was the variability in flow of the rivers involved in the irrigation indispensable to any agriculture on the alluvium proper, that is, in Sumer and Akkad. And this variability is twofold, both seasonal and lateral or topological, with marsh and desert occurring side by side on the plains together with actually shifting watercourses in which the rate of flow fluctuates seasonally and annually. Adams (1981:6) provides the following tabulation of the approximate monthly flow of the Euphrates and the total area which could be irrigated if the entire river contents were diverted to this purpose. The period is that of the winter growing season.

TABLE VI:3  
IRRIGATION POTENTIAL OF THE EUPHRATES

<u>Month</u>	<u>Flow in Cumecs</u> (m <sup>3</sup> /second)	<u>Area</u> (km <sup>2</sup> )
October	350	6,048
November	450	7,776
December	600	10,368
January	700	12,096
February	800	13,824
March	1,200	20,736
April	2,100	36,288

It was noted above that areas of low environmental productivity are those with the lowest diversity of species (Ricklefs 1979:687) and consequently, with dense or bunched stands of relatively few species becoming available at the same season, are best utilised by some form of storage. The productivity of the world by region is indicated overleaf (Map XVI). The low inherent productivity of the Mediterranean basin and sub-Mediterranean Mesopotamia can be seen by its location at the low end of the scale (zones D, E and F).

MAP XVI  
PRODUCTIVITY REGIONS OF THE WORLD <sup>19</sup>



19. Taken from Haggett (1972:34); zones refer to potential plant growth estimated from climatic elements.

But probably more important is the zone's marked seasonality. By plotting 31 foraging societies' dependence upon storage as indexed by Murdock & Morrow (1970) against Effective Temperature, a geographers' measure of growing conditions, Binford (1980:16) found "a clear curvilinear relationship between increased dependence upon storage and decreasing E.T. values, measuring decreases in lengths of growing season. It is notable that storage is practical only among hunters and gatherers in environments with E.T. values of less than 15 (i.e. in environments with growing seasons less than about 200 days)."

In Greece and Crete from the seventh millenium BC onwards the strategies of diversification of resources cultivated or foraged employed storage, human mobility (seasonal or transhumant) and exchange as a buffer against poor harvests. Of the Greek mainland Halstead (1981b:196) observes that the regional differences in the potential of these strategies accounts best for the observed dichotomy between village-sized settlements in the more fertile lowlands, contrasting with hamlets of no more than half a dozen families in the more marginal areas.

By the third millenium settlements become larger, more nucleated and regularly extend over one hectare, reducing the diversity of non-cultivated resources that can be called upon, and so requiring an agricultural and pastoral surplus to act as reserves for poor years. "The basic effect of living in larger communities is, for any given system of food procurement, to necessitate either expansion of the area exploited or intensification" (ibid., p.197). As early as the fourth millenium Knossos, an early foundation in a well-watered part of Central Crete, extended over 5 hectares (idem). Knossos is, not surprisingly, a pre-eminent locus of the storage, or as it was later to become, 'palatial' economy. By the end of the third millenium there existed at Knossos the vaulted 'Hypogeum', a large underground chamber with a capacity of 600 cubic metres which could have contained as much as 400 tons of grain, enough to supply a

year's food for 1500 to 2000 people if entirely dependent upon it (ibid., p.198). Some 100,000 sheep were under the palace's direct management (Chadwick 1972:230).

Other parts of Greece not centrally organised, such as the Thessalian plains, a fertile area in the east of the mainland, but one of uniform topography, are postulated to rely instead upon exchange systems employing high value items like polychrome pottery, metal objects, skins and furs, to produce a counter-flow of subsistence items from areas not affected by plains exigencies in time of deficiency there (Halstead op. cit., p.198). This process envisaged by Halstead and O'Shea (1982:92-98) is similar to the hxaro exchange described above. However, whereas Bushman practices use the items exchanged to build up personal relations into a resilient network, the post-Neolithic exchanges taking place in Greece employ scarce goods, that is ones which are highly valued as a result of the labour embodied in them, as equivalent for the labour employed in the production of the food required from elsewhere in times of dearth.

But such valuables also served as tokens in what Halstead and O'Shea (op. cit.) term 'social-storage' systems such as the one centred upon Knossos. They consider such means of circulation to be instrumental both in the rise of social storage and in external relations beyond the society so organised. For such intercourse, Greece is uniquely well placed due to its indented coastline and plethora of islands that simultaneously provide diversity of topography with easy marine access. A complementary form of 'social storage' to that of central sites is represented by centrally controlled flocks of sheep, run on stubble, fallow and rough grazing unsuitable to arable, and slaughtered only in times of dearth (Halstead op. cit., pp.197-8). Meantime, however, such animals produce large quantities of fibre available for working into textiles of different qualities and themselves both highly storable and potentially very valuable in exchange. Indeed "the Knossos tablets show large groups of women engaged on textile

production at a number of principle towns" on Crete, as also at Pylos on the mainland (Chadwick 1976:79). Likewise another staple, olive oil, could be centrally stored and held in reserve for subsistence or employed in exchange, either in its basic or luxury form as perfumed oil (Halstead & O'Shea op. cit., p.97).

The 'palatial system of 'social storage' is thus congruent with what Polanyi ([1944]1957:47) termed 'redistribution', in which diverse resources were channelled into a social centre that, acting both as magazine and exchange, redistributed to localities ingathered items not otherwise available to them. Since, however, the chiefs or officials doing the distributing were far from disinterested, such a system readily turned from redistribution to the populace at large to one of distribution overwhelmingly in favour of the functionaries of the state. Under such conditions of 'upwards distribution' the system becomes one of 'mobilisation' of the labours of the multitude **still apparently engaged on behalf of the system as a whole**, and on the public face of which (ritual, ceremonial, etc.) more might now be spent, but where internally the flows of benefits are not reaching out from the centre to the society at large. "In practice", Godelier (1977:111) observes, "inequality is not created, is not justified ideologically, except through services rendered to a community". These are, of course, either real services, as in storage and transport, or cosmological ones, turning on meditation twixt gods and men. In either event, it seems that what was mobilised 'upward' was not balanced by benefits returned, for "It seems increasingly probable that the kingdom (of Knossos then ruling all of Crete) was overthrown by a revolt originating on the island itself" (Chadwick 1972:229). Similar causes produce similar effects, resulting in striking social-structural parallels between Mesopotamian and Minoan/Mycenean society.

Mycenean society manifested a remarkably similar tripartite system of landholding to that obtaining in Mesopotamia:

**Temenos:** King's estate and  
Chief Ministers' estates  
**Kekemena:** Public land  
**Ktimena:** 'Private land' of local nobles and 'yeomen'.  
(From Chadwick 1976, summarised in Bintliff 1982:108).

Keystone of the system was the **wanax**, 'king', whose 'ruling machines' the famous palaces were (cf. Graham [1962] 1979; Finley 1983:211). As centres of administration and redistribution, their scribes naturally kept accounts and these are the famous tablets of Linear A (non-Greek) and Linear B (early Greek) pre-Phoenician script (Chadwick 1976:xi-xii). This latter is, of course, the Mycenaean element in contrast to earlier Minoan culture of Crete. From Linear B script the structure of Mycenaean society has been reconstructed by L.R. Palmer as follows:

- (1) The **anax** or 'overlord' elected from a single royal family
- (2) The **lawagetás** or war leader chosen for a war or campaign
- (3) The **teléstai** or feudal barons who gave war service in return for land
- (4) The **hieréwes** or priests
- (5) The **damiówergoi** or workers including both free peasants and artisans
- (6) The **doúloi** or slaves. (Quoted in Hutchinson 1962:258).

Just like their Mesopotamian counterparts, the Mycenaean tablets are much concerned with the issue of rations to dependents (Chadwick 1976:79-83). Strikingly similar social categories receive rations from the Mycenaean palace as from the Mesopotamian palace and temple; centrally, women and their children engaged in the production of woollen and linen textiles. While Chadwick (ibid., p.151) remarks on "A curious fact about the textile industry at Knossos [being] the degree of centralised control ... The women in these various establishments received their rations from the royal stores and this indicates that they were not free workers, but regular employees, very likely slaves" of some description; Gelb (1972:10) observes that the Mesopotamian temples functioned as "a

collecting centre for all these unwanted and rejected individuals ... widows, orphans, old people, especially old women, sterile and childless women, cripples, especially blind and deaf persons, beggars and vagabonds, prostitutes, bastards, foundlings, and the ex-voto (**arua**) personnel". These people had to work for their sustenance, they did not receive charity and the most economically important and appropriate task they could undertake was the production of textiles. Mesopotamian temples were thus simultaneously workshops and workhouses (ibid., p.12) employing similarly displaced social categories as formed the early textile workers of the industrial revolution (Perkin 1969:129).

Those parallels surely reinforce Fortes' contention that there are indeed "regularities of usage and conduct in social relations and ... general characteristics that transcend particular times, places and bodies of custom" (Fortes 1970:271). It is just such general tendencies that social anthropology aims to elucidate.

One of those has been the suggestion that the connection of the economy, specifically surplus production, with the politics of leadership and hence rulership, is not fortuitous but systematic. Leeds work (1969:378-94) neatly underscores this argument by demonstrating the converse: that dispersed resources demanding dispersed acquisition without concentration or storage eventuates in an absence of leadership. The Yaruro occupy diverse terrain along the river courses of the south-central Venezuelan llanos. They employ swiddening of the typical tropical forest type, raising rootcrops and maize, together with bananas, sugercane and pineapples, plus several varieties of squashes and pumpkins. This supplies from 60-70% of the total annual food supply (ibid., p.380), while pig-herding, fishing and hunting (deer and capybara) supply all the protein and the rest of the calories. The diversity and non-seasonality of resources are important here, despite there being a wet and dry season. Sufficient moisture exists at all times of this equatorial regime for there to be two corn harvests, while "temperature, sun, soil and water-table conditions are such that



plants will grow all the year round, supplying a steady flow of vegetable foods to the people" (ibid., p.384). Inter-annual variability exists here as elsewhere, not least in game and manioc supplies. Yet the Yaruro are buffered not by stores but by the 'extensive reserves' dispersed in their environment, against which their density, never exceeding 1 person per square mile, does not press (ibid., p.387).

While, then, the climatic regime is seasonal, a sufficient diversity of resources is available to provision the Yaruro without there ever being a 'dead' or 'hunger' season requiring the carry-over of stocks. Thus what Leeds (ibid., p.389) calls "the steady presence of food" is available 'live', as it were, all about. There are indeed 'surpluses' to be had in this regime, as when large pigs or deer are killed, but it is all consumed in distribution over a few days. Likewise there are fish 'stored' by their omnipresence in the rivers, and manioc in the ground, but none of this requires or would benefit from any central storage or allocation. Neither, given the simple technology and diversity of environment, is labour cooperation necessary, even in swiddening, where only a couple of men might cooperate though they do not have to (Leeds op. cit., p.338). Dispersed resources are harvested by dispersal of the harvesters performing tasks conveniently done by one person, while "some **must** be done by one person only, since the tasks and techniques themselves do not permit two or more persons to operate jointly" (ibid., p.383). There is no specialised knowledge and no true specialists in Yaruro society (ibid., p.390) and no role for a superordinate leader. When one attempted to set himself up as other than a 'discussion leader', he was assassinated (ibid., p.379).

Inter-annual variability is thus an intensification of annual variability or seasonality. Binford (1980:15) encapsulates this in the observation that "given an equatorial environment in which species may exhibit patterns of differential production over an annual cycle, but the interdigitation of differing schedules among

species ensures that there will be continuously available foods, a foraging strategy ['mapping on'] works very well. In temperate and still colder settings, such continuously available food is reduced as a function of decreases in the growing season."

Inter-annual variability, 'social' storage, leadership and subsequently social stratification, do then seem to be systematically related. Indeed from the correspondence of there being two parallel instances of that relationship: Mesopotamia and Minoan/Mycenean Greece, with many converse instances, such as that encapsulated by the Yaruro (and of which the Gbaya of Cameroon are another example; Burnham 1979:185-202), it now seems justified to speak of a **causative** relationship, a 'general tendency or law' in Fortes' phrase, the dynamic of which this chapter has been an attempt to specify.

## CHAPTER VII

### MODELLING SOCIETIES: MODES OF PRODUCTION

So far we have been using the concept 'mode of production' to speak not only of the organisation of production of disparate societies, but also of the social relations thereby engendered. The usual expression for this latter meaning is 'relations of production', however rarely is the specific relationship made explicit and worse, the **exact** specification of mode and relations (and indeed 'means') of production has never to my knowledge been given a formal model.<sup>1</sup> Instead we all think we know what the concepts mean 'near enough' with the consequence that everyone uses the terms rather differently, and therefore intend something quite different. "I know what I mean" is not an argument.

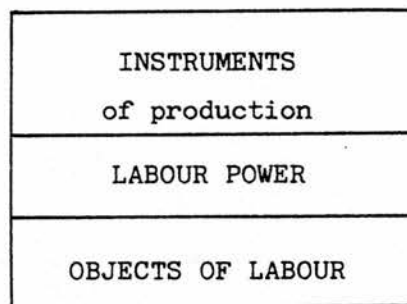
"A mode of subsistence *per se* is not a 'mode of production'. The latter includes not only the means for making a living but also the relationships involved: who owns these means, how is production organised, who controls the product and how is it distributed, and who consumes what part of it?" (Leacock & Lee 1982b:7). The reference of the concept 'mode of production' thus ranges from the specifics of the tools and processes employed in production, to the area of final consumption, posing the question as to what is produced, how is it produced, by and for whom?

If we take as our point of departure the actual labour process of how work is done, then we are dealing with instruments of

1. Godelier (1977:168, 174), Friedman & Rowlands (1977b:203) and Friedman (1974:445) provide diagrammatic outlines of relations of production or 'social formations' (Friedman *loc. cit.*). However the latter states that "there is nothing implied in [his] hierarchy other than a set of functional distinctions" (*ibid.*) and I take this to be the general usage, not being aware of other attempts to apply diagrammatic methods to develop an operational model.

production - tools, facilities, apparatus - acting upon an 'object of labour' - either previously produced raw materials or land and water directly - the two interacting only when set in motion by labour power. We thus commence with a 'core block' which can be presented as follows and which together constitute the **Forces of Production**:

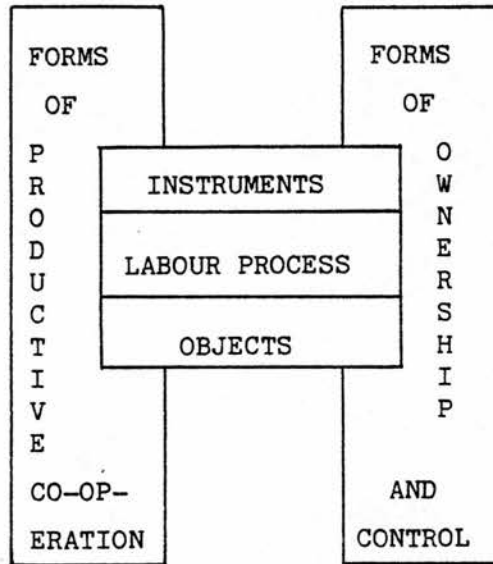
**FIGURE VII:1**  
**FORCES OF PRODUCTION**



In the societies we have considered above, we observe that the instruments of production, hoes, bows, etc., were usually individual possessions, while the land, and its plants and animals etc., were common property of the lineage, clan or village, often 'represented' by ancestors, territorial spirits, or indeed gods, as was the communal temple land in Mesopotamia.

So we observe a disjunction, on the one hand between the forms of ownership and control of the instruments and object of production; and on the other hand, we observe the discrete forms of productive collaboration, such as is necessitated in fishing with nets, which Terray confused with the (overall) mode of production itself. To our 'central core' we consequently must add two other categories as indicated in Figure VII:2 forming the **Relations of Production**:

FIGURE VII:2  
RELATIONS OF PRODUCTION



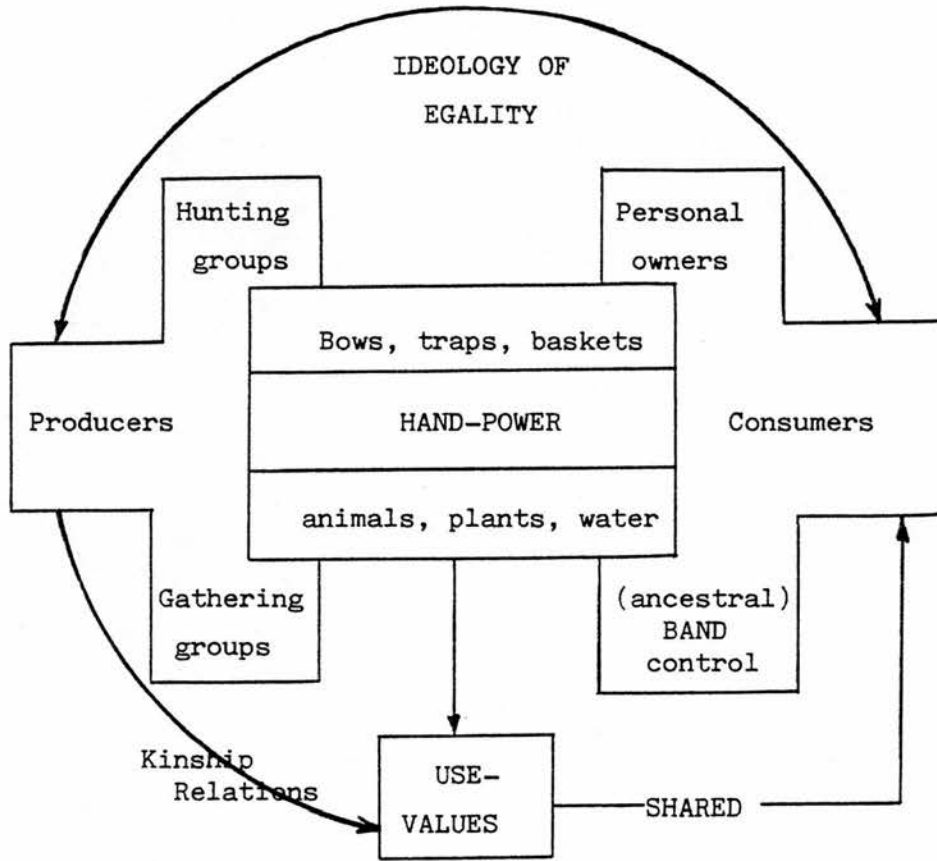
We now have in fact **technical** relations in production (left side) and social relations of the ownership of production (right side).

Finally, we need to specify the social categories that engage in the forms of productive association (and are thereby producers) at the 'input side' as it were.

Output of the means of production is of use-value, centrally means of subsistence, which accrues in the first instance to those who own the means of production or who control them.

Rather than extend our model abstractly we will here (in Figure VII:3 overleaf) show how it applies to the foraging Mode of Production. For such purposes I am, of course, assuming that there is a foraging mode of production, something upon which there is not necessarily general agreement.

FIGURE VII:3  
MODEL OF MODE OF PRODUCTION FOR FORAGING SOCIETIES



Here, as in acephalous segmentary ('tribal') societies like the Nuer or Dinka, producers and consumers are one and the same, since the conditions of production are vested in them severally and jointly by virtue of their association in a network of (discrete) descent relations, defining what Fortes (1969:123) calls the "domain of politico-jural relations" that provide rights to the exploitation of territory (Shaw 1978:43).

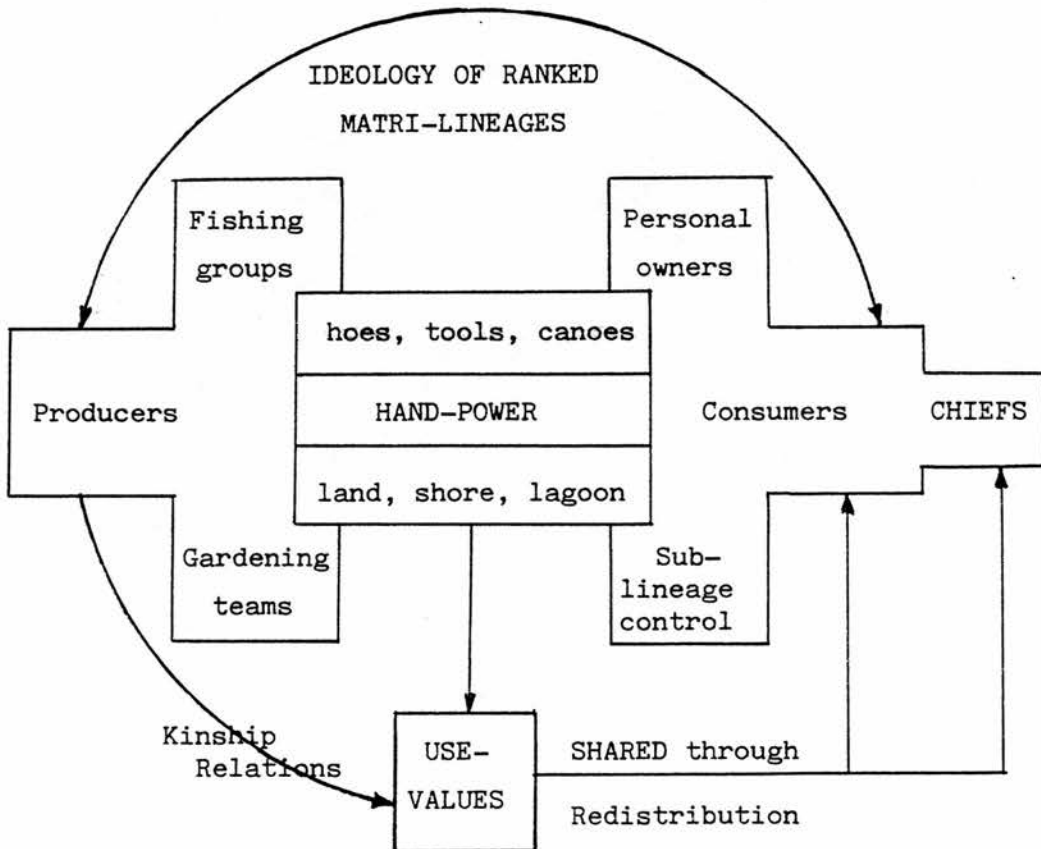
Since the social categories are related to their conditions of production by **the same** normative-jural relations as orders persons with regard to one another, we can say with Godelier (1978: 764) that "relations of kinship function as relations of production" in this mode, "and that they do so internally", that is, as constitutive of their very *raison d'être*. Those turn upon

"filiation as the nodal mechanism and crucial relationship of inter-generational continuity and social reproduction", for "filiation is the mechanism that insures the replacement - physically, socially and psychologically - of each generation by the next" (Fortes 1969 :256, 264).

Familial production and socio-familial reproduction are thus inextricably linked and so being, engender an ideology of equality reflecting common interests and participation (*ibid.*, pp.219-49; Bloch 1973:75-87).

If we consider the position of the Trobriand chief I outlined previously, we see him located at the centre of the kinship relations of production as the collective 'brother-in-law':

**FIGURE VII:4**  
**THE MODE OF PRODUCTION OF A CHIEFDOM**



Since the relations of kinship no longer serve simply to identify producers and consumers, but serve to redistribute between domestic units through matrilinear connection, we call those kinship relations 'redistributional'. Now too, while the ideology of equality continues to unite, to it is superadded the operation of rank, being the relative elevation of the head of the structural unit, the sub-clan and/or of the sub-clan itself: "Chieftainship is a combination of two institutions: rank and headmanship of a village community. Each village has its headman" (Malinowski, Young ed. 1979:45). And while the sub-clan is the unit to which rank attaches (ibid., p.43) "at the head of each village community stands the oldest male of the oldest lineage in the sub-clan of the highest rank" (idem).

This gives chiefs, even down at the level of headmen certain prerogatives, certain 'important economic monopolies' as Malinowski (ibid., p.51) calls them, which ensure that at least important headmen (minor chiefs) get a pre-eminent share of pigmeat, coconut and betelnut, quite apart from his location in the redistribution network of matrikin. Much of the chiefly revenues are however redistributed again (ibid., pp.38, 52), and while some of the income will certainly be consumed in and for the chief's establishment, his prerogatives are simply those of rank not class, and so the chiefly household is simply a privileged category of consumer.

Chiefs are entitled to extra revenues; they do not control (i.e. own) the means of production of the population at large. Those remain vested in the institutions of kinship.

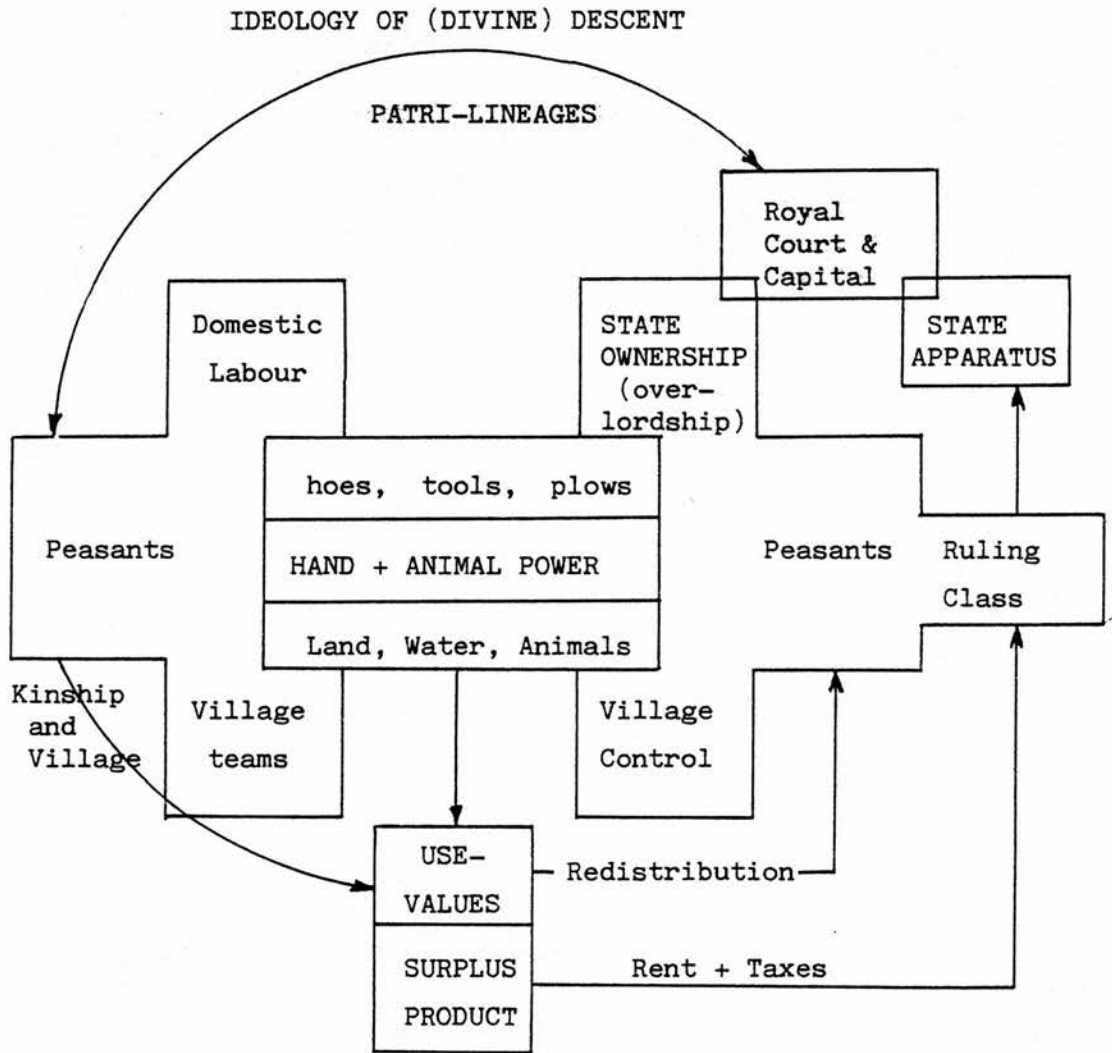
### The Asiatic Mode

Under the 'Asiatic Mode' illustrated overleaf (Figure VII:5)

a transition to a state society and to an



FIGURE VII:5  
THE ASIATIC MODE OF PRODUCTION



embryonic form of class exploitation has taken place without the development of private ownership of land.

Within this framework the surplus, formerly appropriated by the local communities, now goes in part to the representatives of the higher community. (Godelier 1978a:224).

embodied in divine Monarchy. Out of the court and courtiers, as is well known, develops a state bureaucracy to monitor and control the state's revenues received either in kind or in labour (corvée) concentrated upon the political infrastructure, such as royal

roads, ramparts and garrisons. While Godelier (1978b:767) quite rightly points to the "relations of domination and exploitation" in origin having presented themselves "as an exchange and (in particular) as an exchange of **services**", he necessarily qualifies this to be an exchange of the real means of life from the producers, against the perceived "invisible realities and forces controlling (in the thought of these societies) the reproduction of the universe and life" (idem).

In other words the role of ideology is quite indispensable to this as to the modes of production illustrated previously.

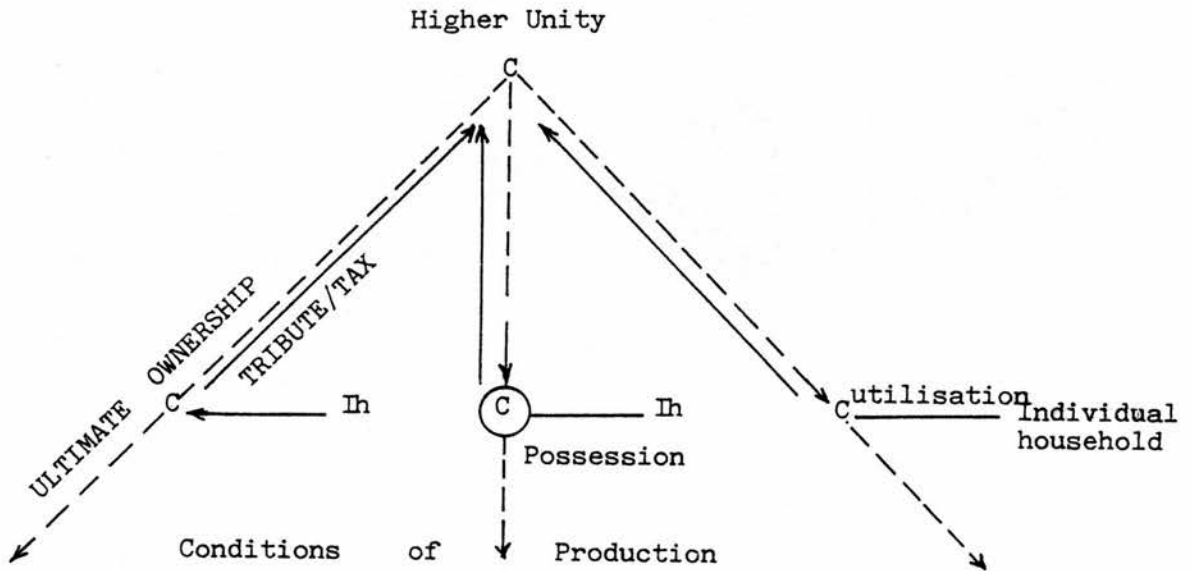
The **real appropriation** (of nature) through the labour process happens under these **presuppositions**, which are not themselves the product of labour, but appear as its natural or divine presuppositions. This form, with the same land-relation as its foundation, can realise itself in very different ways. For example, it is not in the least a contradiction to it that, as in most Asiatic landforms, the **comprehensive unity** standing above all these little communities appears as the higher **proprietor** or as the sole **proprietor**; the real communities hence only as **hereditary** possessors,

not outright owners, and so they must render tribute to the 'real' or 'true' proprietors (Marx 1973:472-3; his emphasis).

This is the realm of the conical clan become the conical, or rather pyramidal state illustrated in Figure VII:6 in regard to its juridico-ideological aspects (overleaf).

Here the individual household operates through the communal landholding village C (in Figure VII:6 overleaf), in exploitation ('appropriation') of the conditions of production. However at the apex of the system is a supreme community representing all the distinct village communities and which appears to be the ultimate title-holder above all communities, 'owning' them, its 'share' due

FIGURE VII:6  
RELATIONS OF OWNERSHIP IN THE PYRAMIDAL STATE <sup>2</sup>



in its role of guaranteeing all the individual communities their conditions of existence.

Since the Asiatic Mode of Production growing directly from clanship is neither logically nor historically bound to Asia (Godelier, for instance, having applied the concept most fruitfully to the Inca, 1977:63-69, 186-195), he calls for a more suitable appellation than that of 'Asiatic' (1978a:241).

The term proposed here in the light of the foregoing is **Village-State Mode of Production.**

The fundamental reason for this term replacing 'Asiatic' is that it represents a concept and not merely a geographical location or association. "Aside from its longevity in Asia there is nothing particularly Oriental about this original communal property" (Shaw 1978:126). The concept which replaces the term 'oriental' is that

2. Adapted after Godelier (1978a:223)

of a society where villages contain the bulk of the population and in which villages form the overwhelming units of productive association. In this mode cities are both exceptional and the locus of the ruling authorities of state, centring of course upon the royal capital, 'Pivot of the Four Quarters', and quite unproductive:

Cities proper here form alongside these villages only at exceptionally good points for external trade; or where the head of state and his satraps exchange their revenue (surplus product) for labour, spend it as labour-fund. (Marx 1973: 474).

This contrasts markedly with the city-state of Mesopotamia, for instance, which generally consisted of at least one city with associated towns and villages. Cities here were not islands in a sea of peasant villages.

And this is another point in favour of the term 'Village-State' replacing 'Asiatic'; it is commensurable and therefore contrastative with the long-established and conceptually explicit term 'City-State'.

Paradoxically, the initial form of, and basis for, the City-State as we have been instantiating it in Mesopotamia was itself "this naturally arisen clan community (ibid., p.472), which was also the basis of the Village-State mode. Underlying both was "the appearance of an aristocracy exercising State power and consolidating the bases of its class exploitation by appropriating a part of the produce of the communities (either in labour or in kind)", as Godelier (1978a:242) writes of the Asiatic Mode.

The seminal form in Sumer was, of course, the temple organisation which, uniting in itself cosmological and productive functions, facilitated the adaption of post-Neolithic settlers to the demanding ecology of the alluvium and its contiguous semi-arid extensions.

Postgate (1972:814) reminds us that temples formed "a sort of 'joint company' from whose capital the community which supports it is able to profit". With their reserves of food, grain and equipment temples would have been able to replace sudden losses or to bridge lean seasons and could themselves undertake long distance exchange. "In this way they functioned as 'emergency granaries' for the community, and if justly run, prevented profiteering at the expense of the peasant" (idem). As a cooperative society the temple could thus assist the peasants in retaining their independence, as well as acting corporately in its own interest as an institution administered by cultic and secular officials. Too often in the past the temple has been regarded as incorporating virtually all community life within its domain, something recently manifest in the question of 'bevel-rimmed' ration bowls, so called.

In a deft statistical re-examination of the evidence on those 'bevel-rimmed bowls' in the Uruk Period, Beale (1978:289-313) has neatly reversed the assumption that they were ration bowls in which temple dependents received their subsistence. Those poorly made friable bowls acquired their bevelled rims through being formed in moulds dug into the ground and fired at low temperature. G.A. Johnson (1973), following suggestions by Nissen (1970), supported the ration-bowl view with the postulate that bowls from his survey of Susa and Khuzistan clustered around three modal volumes: 0.9, 0.65 and 0.45 litres. Those, allocated standard rations to men, women and children for corvee labour, institutionally administered, on the lines of the ration system known from historic times (cf. Gelb 1965). Beale measured separately mould volumes, (levelled) inside volumes and heaped volumes and could find no significant distribution, with **every** bowl size between 0.4 and 0.95 litres being common (Beale op. cit., p.290). As there were no generally accepted size standards for bevelled rim bowls, despite geographical and stratigraphic tests, he concluded that "the variability is simply too great for one to accept a theory of standardised bowl capacities" (ibid., p.293). Also the bowls were generally too small to serve as ration containers when 75% of those

from Khuzistan would have been too small to hold even a woman's daily ration, and 23% would have been large enough to hold only an infant's ration. "These statistics imply that men would not have been involved at all in the centrally organised labour system, which seems very unlikely" (ibid., p.296).

Given the bowls' small but variable size, poor and ad-hoc construction and the fact that they are found **unbroken** and in great numbers at temples, shrines and administrative buildings, it seems much the most likely that they were in fact **offering bowls** by which comestibles were offered by the community to the institution and not vice versa. Given the vast numbers unearthed from Yahya in the East to the Amuq plain in the West which agree only in being crudely mould-made, we seem to have domestically made vessels fired in a household oven and offered to the temple with domestically produced contents. On other occasions the bowls were buried (also intact) domestically as votive offerings.

Beale (ibid., p.307) reminds us that as soon as we have textual evidence, we find the temples receiving almost every available type of food, grain, beer, bread, sheep, dates, fruit, vegetables, fish and so forth, offered frequently and in considerable quantities. Such offering ceremonies were often represented in Sumerian art, such as covers the famous metre high alabaster vase from proto-literate Uruk, illustrated by Frankfort (1956:26) and Seton Lloyd (1961:39). There too we find Inanna seated before the double reed bundles that always identify her and which served as the pictographic prototype of her cuneiform character in the historic period (Frankfort op. cit., p.27). Indeed as the acme of the ceremony, she is there presented with a large basket of fruit by someone Seton Lloyd (op. cit.) calls "the leader of the procession, probably a king", but who is probably the **En** at this date (c. 3,500-3,250 BC). Further, the very **En** sign itself Beale (op. cit., p.307, n.64) suggests might have originated as the pictographic representation of a stack of presentation bowls.

Control of this key aspect of the 'social-storage economy' was, as we have seen, the crucial step in the necessary "coincidence of community structures and of class structures" (Godelier 1978a:243).

Represented by the temple, then, was the original community organised in what Diakonoff called the 'communal sector' structured through the "extended patriarchal families or family communes" (1969c:179). And

Associated with this is the long-retained tendency to prevent irrevocable alienation of private [= communal, non-institutional] land and the periodic return of 'sold' land to the seller's clan. It is for precisely this reason that the first acquirers of **irrevocably** alienable land could in practice only be rulers and persons close to them. (Diakonoff 1976-7:86).

Thus under political and economic pressure a third sector emerged alongside the institutional (palace and temple) and communal sectors. This was the private sector which we will glimpse in the next chapter in its land-dealing and merchandise-trading relationships. Clearly it was formed by the alienation of land from the non-institutional sector, while those without land to work by 'participating in the common property' (ibid., p.55) became either clients of the institutions or the private estates. They were, of course, supplemented over time by 'displaced persons' from elsewhere, quite outside their 'own nome'. And on the lines of the contemporary impact of stratified society in contact with less stratified (e.g. Coombs, Dexter & Hiatt 1982:427-38), we can be sure that if incorporated into the more 'advanced' society, those from the lesser will be absorbed at the lowest levels, which mostly means dependent levels, even if they remain technically free.

"Full chattel slavery was derived from alien elements" (Gelb 1982:90), that is, from those with no kinship nexus that would confer upon them even residual civil or 'social status' in the

sense defined above, and which is the sense also applied to true slavery by Finley (1983a:75) in stressing the kinlessness of slaves even at an elementary level; "**quem patrem, qui servos est?**" ('What father [is there], when he is a slave?').

Merely dependent labour, by contrast, best known from the Helotes of Sparta, retained their own community structure and as such never needed to be replenished from without (idem).

"Slavery and serfdom are thus only further developments of the form of property resting on the clan system. They necessarily modify all of the latter's forms. They can do this least of all in the Asiatic form", where, Marx (1973:493) explains, all are subject to, or at the disposition of, a transcendent state. Elsewhere more economic and less political means of subjection prevailed, and there, as in late imperial Italy, a debt-racked peasantry coexisted with true chattel slaves manning imperial factories and mines (Finley op. cit., pp.77-79).

It was not, then, that the City-State in Sumeria evolved from Village-State society. Rather from similar structural requisites in communal society, ecological and political circumscription in Mesopotamia caused the early crystallisation of the city from towns and villages, with cities that had necessarily to remain productive. Further, the communal sector was not divorced from the **urbs** and in turn, due in part to that very contingency, a private sector arose from alienation. The divine status of kings, embodying in his person what, using White's (1959:310) term, we might call 'the State-Church', arrived only late in Mesopotamia (notably with Sulgi) and in a very attenuated form. This despite the central cultic roles of **ensis** and **lugals**; and there was, as we have seen, a separate corps of priests serving the communal temple.

The factors responsible for this City-State type of evolution in Mesopotamia seem to be three:

1. the advent of settlement on the alluvium was by farmers of



- similar culture, material and social. This fact was itself a 'dynamic' outcome of a dynamic demographic-ecologic situation.
2. There is no real hinterland to the alluvium. Instead there is, as it were, an open frontier (actually an open steppe) in which peoples and influence can run fully the length of the Zagrosian Arc, across and beyond it.
  3. Manifestly this was a 'competitive situation' which rising population levels could only accentuate. In conditions of at least latent conflict, settlements tended to nucleate and urbanise behind defensive walls. In so doing the cities would themselves have to remain productive, for although they continued to be at the centre of territory worked by lesser towns and villages, this was nonetheless insufficiently extensive for a situation to develop in which the 'capital' was simply a centre of unproductive consumption of revenues extracted from the countryside. While "life was centred on large cities,.. the cultivation of the fields in the region of a city was conducted from the city..." (Leemans 1982:246), just like in the towns and villages of the hinterland (ibid., p.248).

Nonetheless, the bulk of agricultural production appears to have been conducted under the control of officials on state land and, naturally, household heads in the communal/private sector.

The final diagram illustrates two sets of relations of production articulated through the control of the ruling class (Figure VII:7 overleaf). The left-hand set shows the State Sector, that of **ensial** estates (temple and palace); while the right-hand set shows that pertaining to the Communal/Private sector (cf. Ellis 1976:79-85).

But who were this ruling class? Our specification of a class at the outset as those with a shared **position** in the relations of production facilitates their identification. The Mesopotamian city-state was run by, and for the benefit of its citizens, its free

IDEOLOGY OF ORDER, HEGEMONY AND DEPENDENCE

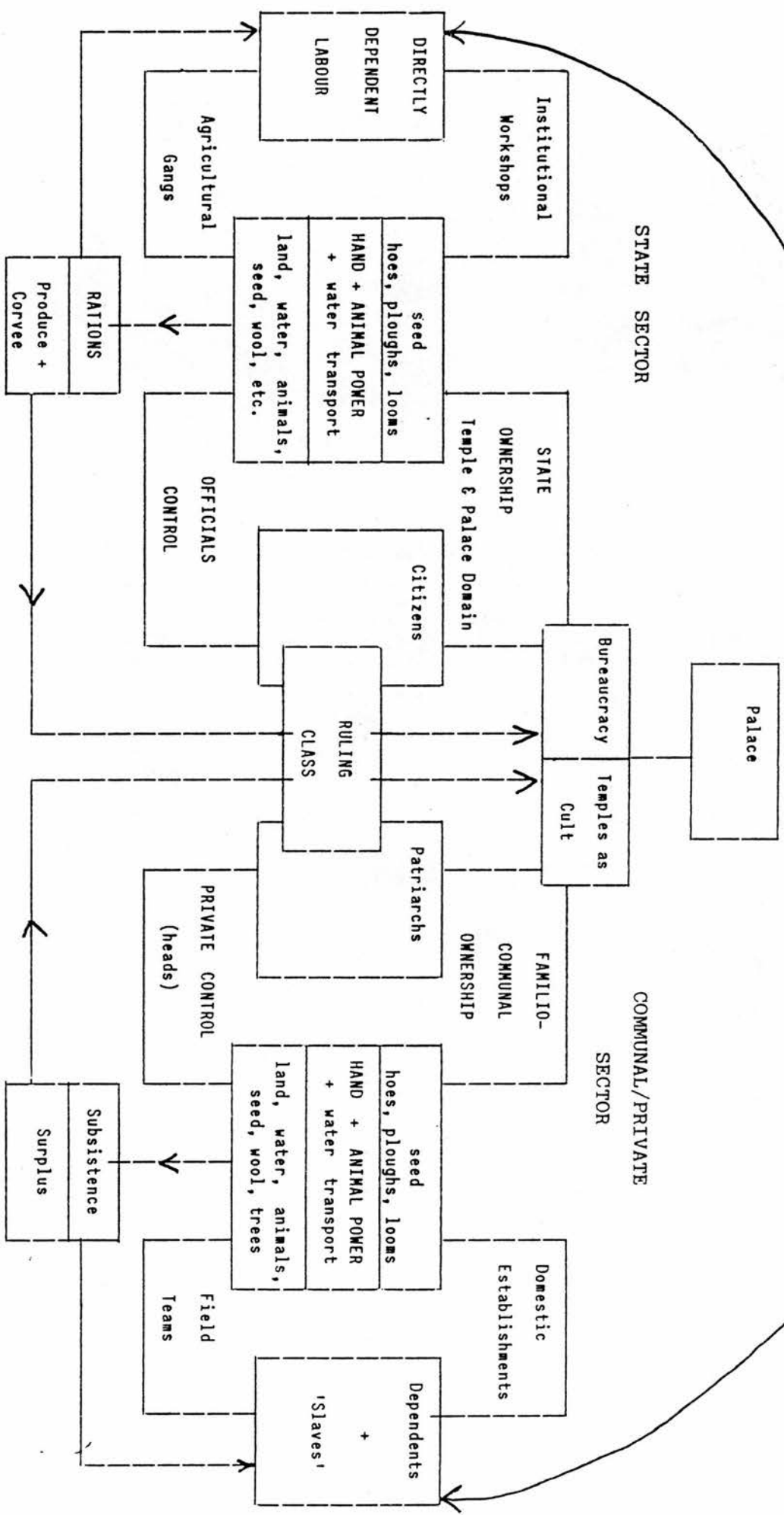


FIGURE VII:7

RELATIONS OF PRODUCTION, SUBORDINATION AND STRATIFICATION IN MESOPOTAMIA

members, those in control of their own lands whether in communal or private ownership. The heads of such 'free' or citizen households, whom we may for convenience call patriarchs, constituted the 'ruling class' whether they did the executive ruling or not, for it is they who were the major beneficiaries of the distribution of property and thus wealth secured by the state. They were quintessentially the 'Assembly Men'.

That the state had its own subservient labour providing its own revenues simply lightened the burden on the communal/private landholders, analogous to the Athenian state ownership of the silver mines of Laureion (Finley 1973:133-4). But the nature of the dependent labour employed in the two sectors varied, according to Diakonoff (1976-7:71), with "'genuine' (patriarchal) slaves, chiefly in the communal sector and helots exclusively in the state sector". While the latter seems to have been bound primarily by economic means rather than by means of force as the Spartan helots were (if only for reasons of the difficulty of supervision recognised by Diakonoff [ ibid., p.73 ]) and which demanded constant military readiness on the part of the Spartans - "the patriarchal slave", he says, "was a member, albeit without rights, of the family commune as a production group and was an organic component of it. It is precisely in this, above all, that he differs from the classical slave" (ibid., p.80). But he also differs too, in that he worked the land with, rather than instead of, his owners, albeit he worked harder and longer (Diakonoff op. cit., pp.77 and 79), and he/she was often "born in the house" and so was a (permanently) junior kinsman.

"Membership in the polis (which we may call citizenship) was inextricably bound up with possession of the land, the obligation of military service, and religion". Finley here (1983a:89) writes of the fundamental characteristic of membership of the Greek or Roman city (polis, urbs); however the description applies equally well to the Mesopotamian. In particular citizenship thus defined

was a pre-requisite to administrative, official or scribal office and "many of them could attain very high social status and in essence had a share in the income from the exploitation of the helots (and later also in the income from the taxation of the entire population)" (Diakonoff op. cit., p.71). The king could also of course confer office on dependents from his own 'household', é in Sumerian, **bitum** in Akkadian.

The military was organised on bureaucratic and also a militia basis (the **redu**) yet the benefits from office and war accrued to officers (Oppenheim 1977:117). The complement of the palace with which it overlapped, was the temple as a cult institution and thus focus of ideology. That ideology was one of Order, Hegemony and Dependence, that in brief can be called 'patriarchal'. Jacobsen (1976:180) summed it up in the words of the **Enuma Elish** as 'benefits and obedience':

When they gave Marduk the kingship  
they pronounced to him the formula  
of 'Benefits and Obedience':  
'From this day forward you shall be  
the provider for our sanctuaries,  
and whatever you order let us carry out'.

"In a similar sense, all kings' dependents, from slaves to the highest officials, are called slaves, just as the ruler himself is said to be a slave of his god or goddess" (Gelb 1982:88). For what is thereby generally denoted is "a socio-economic dependence of a lower-ranking individual and his household on a higher-ranking individual or his household" (idem).

It can most graphically be seen in the creation myth of Babylonia (**Enuma Elish**), where the lesser gods, tired of labour, rebel, and so mankind is instituted in their place to toil for the high gods. Here Marduk, Babylonian replacement for Enlil, declares:

Arteries I will knot  
and bring bone into being  
I will create Lullu, 'man' be his name,  
I will form Lullu, man.  
Let him be burdened with the toil of the gods,  
that they may freely breathe.  
(Jacobsen 1976:181, original emphasis).

The next chapter looks at empirical data describing the advent of the first true cities with their hinterlands, the earliest and most enduring locus of fully stratified society.

CHAPTER VIII

THE HEARTLAND OF CITIES

1: Ubaid to Uruk Periods

Recorded history commences at the end of the fourth millenium BC, a phase called the Uruk Period of Sumer, in a seemingly strange location right at the seaward fringe of the southern alluvium. There, in sight of each other, arise Ur, Eridu and Uruk, "not far above the Persian Gulf's retreating shoreline, under conditions starkly contrasting with those in the rainfall zone along the Zagros piedmont, where irrigation was much less important or even unnecessary" (Adams 1981:58). It is at first sight paradoxical that at the Gulf's edge, of all the parts of the Ubaidian province the first civilisation arose. The landscape (albeit rather poorer than in its pristine state) around the ruins of Eridu at Abu Shahrain as seen from its ziggurat by R. Campbell Thompson (1920:105), its first modern excavator, was described as follows:

From the **ziggurat** as far as the eye can see there is naught but awful solitude; you look down on sombre desert which encircles you for miles. Northwards lie the flat lands, yellow in April and unrelieved except for sparse arabesques of salt spreading like mares'-tails in a breezy sky, while afar, just visible as a little pimple in the mornings but blotted out in the afternoon haze, is the temple-tower of Muqaiyar. Towards the north-east, especially when the sun is setting, the sandstone ridge on the skyline is thrown into vivid relief as a white streak six miles away. Eastwards, not far from the mound, the grass has sprung up, marking the dry site of the winter lagoon which lies between you and the sandstone ridge; southwards towards Dafna and Qusair are the distant low sandstone hills circling round and completing a wide arc to westward. Between you and the sunset is a broad green tract of scrub and coarse grass

wherein lie the wells two miles away. Not a tree is in sight, and the only fuel is that provided by the little dry brushes.

It should be stressed that in this area of the first durable cities there is no long build up of sites in number and size, such as characterize northern sites like Abu Hureyra, mentioned above. On the contrary the first culture known in southern Mesopotamia, in what was to become Sumer proper, is the Eridu (Mellaart 1975:170-1): the first period of Ubaid. But from then on Mesopotamian history can be seen to manifest a fundamental continuity of economy and polity, stretching to the end of the Old Babylonian period in the middle of the second millenium BC. It did so, however, not under centralised rulership in the manner of a territorial state, but in a number of parallel and rival 'lines', one of which could make itself hegemonic for a period without ending the others. The course of Mesopotamian history was far from smooth, attended as it was by recurrent internecine warfare. But the polity of Greater Mesopotamia was adapted to those conditions, which, if failing to unite the cities of Sumer and Akkad other than transiently, generally provided enough sinew to keep enemies at bay, or even to take the initiative against outsiders as, for instance, in the campaigns to the Mediterranean of Sargonic times. Nonetheless, the millenial continuity of the system of Mesopotamian city states (a system which also obtained beyond the limits of Sumer and Akkad) was subject to external disruption and despoliation in times of relative decrepitude. Those periods of disruption, which are three in number, are shown with the zig-zag in the chronology overleaf (Figure VIII:1). But because power was dispersed among city-states of differing fortunes and was not centralised, though some could be overrun or disrupted, others could continue broadly as normal or even flourish, like Lagash under Gudea despite the Gutians. Sumer, Akkad, with Mesopotamia as a broader designation (to include,

FIGURE VIII:1  
PERIODISATION OF MESOPOTAMIAN HISTORY<sup>1</sup>

<u>Period</u>	<u>BC.</u>
Ubaid I = Eridu	5,500-4,800
Ubaid II = Hajji Muhammad	4,800-4,250
Ubaid III = Late	4,250-3,900
Ubaid IV = Terminal	3,900-3,500
Uruk Early	3,500-3,300
Uruk Late	3,300-3,100
Jemdet Nasr (Uruk III)	3,100-2,900
Early Dynastic I (EDI)	ca.2,900-2,700
Early Dynastic II	ca.2,700-2,600
Time of City-states	Early Dynastic III ca.2,600-2,310
	Lugalzagesi 2,335-2,310(25-year reign)
	Sargon of Akkad 2,310-2,273(37-yr reign)
	Rimrush, younger son of Sargon 2,272-2,263(9-yr reign)
Sargonic "Empire"	Manishtusu, elder son of Sargon 2,262-2,247(15-yr reign)
	Naram-Sin, son of Manishtusu 2,246-2,190(56-yr reign)
	Sharkalisharri, son of Naram-Sin 2,189-2,164(25-yr reign)
Gutians	Uruk-Lagash Period ca.2,160-2,120 (Gudea, Ur-Ningirsu, Pirigme, Nammahani terminated by:-
	Gudea ensi of Lagash 2,141-2,2122

1. Based largely on Westenholz (1979:124) and Brinkman (1977:335-337).



FIGURE VIII:1 (Cont'd):

<u>Period</u>		<u>BC.</u>
	Utuhegal, king of Uruk	2,122-2,114(7/8-yr reign)
Ur III	Ur-Nammu, king of Ur	2,114-2,096(18-yr reign)
or	Shulgi, son of Ur-Nammu	2,095-2,047(48-yr reign)
'Neo-Sumerian'	Amarsuen, son of Shulgi	2,046-2,037(9-yr reign)
Period	Shu-Shin, brother of Amarsuen	2,036-2,027(9-yr reign)
	Ibbi-Sin, son of Shu-Sin	2,026-2,001(25-yr reign)
	Isbi-Irra of Isin	2,017-1,985
Isin & Larsa	Naplanum of Larsa	2,025-2,005
Period*	Damiq-ilisu of Isin	1,816-1,794
	Rim-Sin of Larsa	1,822-1,763
First Dynasty** of Babylon (Old Babylonian) "Hammurapi Dynasty"	(1) Sumuabum	1,894-1,881
	(2) Hammurapi	1,792-1,750
	(3) Samsuditana	1,625-1,595
Kassites		

Key: Z: denotes disturbed period of fragmentary and shifting power(s).  
 \* beginning and ends only.  
 \*\* beginning, middle and end rulers only.

for example, Assyria), are terms for culture areas and are no more the indicators of a politically unified territory than Greece was in the city-state period (Speiser 1954:14; Hallo 1963b: 112-113).

The first severe dislocation occurred late in the third millenium and decisively brought to an end the Sargonic period after that dynasty had overextended the cities' capabilities by continual warfare. The so-called 'Sargonic Empire' was terminated by the irruptions of the Zagros Gutians, the 'snake and scorpion of the mountains' as the plain dwellers called them. Thereafter it was said 'who was king, who was not king?' such was the turmoil. Nonetheless Sumerian culture continued to flourish at Uruk and Lagash, especially the latter under Gudea (2141-2122 BC). Hence we can designate this the Uruk-Lagash Period (2160-2120 BC).

Continuity resumed with the Ur III or 'Neo-Sumerian' Period, after Utuhegal, king of Uruk had begun to roll-back the Gutians by 'setting his foot upon the neck' of their king, Tirigan. The Neo-Sumerian takes its name from the 'Sumerian Renaissance' encouraged by a state that developed central authority and coordination to a hitherto unattained degree. When the Ur III dynasty ended with Ibbi-Sin just at the turn of the second millenium, however, a period of instability and civil war followed. It is termed the Isin and Larsa Period after the two cities where continuity was best maintained, against what appears to have been serious problems with nomads and other non-settled elements, 'tribals', prominent among whom were the Amurru or Amorites.

Recovery was achieved under the growing power of the (Amorite) First Dynasty of Babylon (West Semitic intruders), well known to history from the name and works of Hammurapi (1792-1750 BC). Though non-Sumerian, this dynasty continued in the mainstream of Sumerian tradition with Amorite innovations. Its termination early in the sixteenth century BC was the beginning of the Kassite period,

intruders from the north, ushering in a dark age of few texts but seeming stability. This is thus a suitable place to end a historical account.

The sudden efflorescence of Mesopotamian city-state culture in an otherwise pristine and hostile environment is, it will be argued, a consequence of the lateral step-wise development resulting from the new synthesis of elements developed in different environments ('cross-fertilisation' above pp.115-6). In this case the prerequisites of the exploitation of the alluvium are competence in irrigation, along with the potentially high productivity of wheat and barley, sheep, goats and cattle. To this core many other crops, leguminous and arboreal, can be added, and protein boosted by fish from river and marsh.

At points in more favoured parts of the Zagrosian Arc individual towns had flourished much earlier: Jericho and Catal Huyuk in Anatolia being the best known. However those earliest experiments in concentrated living did not continue uninterrupted into historic times and were essentially harbingers (Mellaart 1972: 284). Instead, on a semi-arid plain broken only by marsh and dune arose a seminal city-centred civilisation<sup>2</sup> on an autochthonous basis, that lasted three millenia until absorbed into the classical Graeco-Roman world that it had indirectly helped to stimulate.

The location of Ur, Eridu and the other cities of Sumer proper, is in stark contrast to the piedmont Northwest of the plain where numerous small springs and alluvial fans offered attractive conditions for early, continuing and relatively dense settlement (Adams op. cit., p.55). By contrast, "the onset of settlement is first known from relatively small numbers of sites that trace out a gradient of declining density northward from the head of the Gulf. Over most of the region the sedentary communities were widely

2. Cf. Chapter VII for discussion of non city-centred civilisation and the next chapter for discussion of synoecism.

and fairly evenly dispersed " (Adams, op. cit., p.59).

In this first phase, commonly designated the Ubaid I or Eridu period, copious marsh resources were exploited in a sophisticated manner (Wright 1981:323), part of a 'broad-spectrum economy' that employed, for instance, canoes and nets for fishing (Lloyd & Safar 1948:118). Ubaid origins on the southern alluvium were thus almost certainly around the marshes and watercourses: needless to say, their domesticates were not locally derived.

Four sites of this phase are known: Eridu, 'Usaila, Ur and the type-site of Tell al-'Ubaid itself. Those small communities of only a hectare or so remain occupied into the next, Ubaid II or Hajji Muhammad phase. By this time they had roughly doubled their areas, and at Eridu itself there is already evidence of a "temple platform" in the 'temple sounding' undertaken by Fuad Safar (1950: 28). The same sites continue occupied into the Ubaid III phase, with the continuance also of the broad-spectrum economy. Remains of wild onager, hunted on the nearby alluvial desert, are found, along with domesticated cow, goats, sheep or gazelle (Flannery & Wright 1966:61-3). At nearby site EP-104 concentrations of freshwater molluscs show they were also used (Wright op. cit., p.323). By the Late and Terminal Ubaid periods boat models from Eridu show that sailing craft have been developed with marine fish being brought to the temple at Eridu as offerings. From Eridu wheat, six-row barley and dates have been identified and cattle herding is assumed to continue (idem). Those are the elements of farming known from later texts and they are all present by the end of the fifth millenium BC (idem). By Late Ubaid times not only are we dealing with a variety of large and small settlements served by canals 3-5kms long that it would be "within the abilities of extended kin groups to build and maintain" (ibid, p.324); but Eridu itself has grown to around 12 hectares, while Ur has reached 10 hectares (ibid., p.325).

Eridu's earlier settlement mound "now forms the nucleus of a

broad platform on which was a temple on a raised terrace" (Wright op. cit., p.325). This terrace was shared by some substantial buildings of a residential character which, when contrasted with more modest habitations nearby and coupled with differences in burial practices, suggests the advent of some degree of social stratification in this, still Proto-Literate Period. Nonetheless, by this Late Ubaid phase it is unlikely, according to Wright (idem) "that southern Sumer as a whole contained more than 2,500 to 4,000 persons, or about 20 persons per square kilometre of enclave, far fewer than were later supported with a similar technology". But the succeeding Early Uruk Period, the time of the first city-states, was not the outcome of linear growth in settlement size and density. Rather, with the abandonment of many small settlements and the great expansion of Eridu, we see political rather than demographic forces at work. Consequently Wright (idem) estimates the population of the area to be no more than from 6,200-10,000 at this time. Thus it seems that population in the south has not so much expanded as been redistributed.

In contrast, by the Early-Middle Uruk phase, the Nippur-Adab Environs in the northern area, with some 360 hectares of settlement to the 170 of Uruk environs, had double the population at 36,000 persons (Adams op. cit., p.69). These are calculated on the standard of 125 persons per hectare of actual site area; or about 100 persons per hectare if calculated only from measurement of minimum size of rectangles enclosing sites instead of the more usual circular or ovoid estimates of area. For an area (Nippur-Adab) virtually devoid of permanent settlement in the Late Ubaid period, "this was an extraordinary rapid, massive process of growth at the very outset of the Uruk Period" (idem). Illustrative of relative movement is Table VIII:1overleaf. Adams' survey uncovered something close to a remarkable tenfold increase in the population of the Nippur-Adab region of the central Euphrates floodplain in just a couple of centuries. He surmises (ibid., p.70) that, supplementing vigorous indigenous growth of the settled agriculturalists, there must have been either extensive immigration

**TABLE VIII:1**  
**GROSS REGIONAL TRENDS IN URUK PERIOD SETTLEMENT<sup>3</sup>**

	Uruk Environs	Nippur-Adab Environs (North of WS-004)
<b>Early-Middle</b>		
<b>Uruk period</b>		
Total recorded settlement	173.1 ha	362.0 ha
Percentage of total in sites of 5 hectares or less	24.7	35.0
<b>Late Uruk</b>		
<b>period</b>		
Total recorded settlement	382.5 ha	200.6 ha
Percentage of total in sites of 5 hectares or less	34.8	24.6

into the area, or a conversion of the semi-sedentary population into settled agriculturalists, or more probably, a combination of the two. However later in this same phase, that is, during the Late Uruk Period, the weight of population shift is reversed, for the population of the Uruk region doubles while that in the north falls by almost half, leading Adams (op. cit., p.70) to conclude that tens of thousands of the inhabitants of small villages abandoned their homes and actually moved southward.

3. Taken from Adams (1981:70).

Changes in settlement sizes in the two regions between the Early-Middle and the Late Uruk period are illustrated in Figure VIII:2 overleaf. What the diagrams and the population movements reflect is an increasing hierarchy of settlement type. The city of Uruk, having grown from 70 hectares in the Early period to 100 hectares in the Late Uruk period, the largest single centre throughout the period, dominates centres half its size (the next largest in area), with another series of towns half again in size, right down to villages of only half a hectare.

This strongly suggests that by the Uruk Period at least the larger centres were already falling into place at certain steps or intervals that were disjunctively separated by distance, specialised function, and range of religious influence or administrative-political control. (Adams op. cit., p.72).

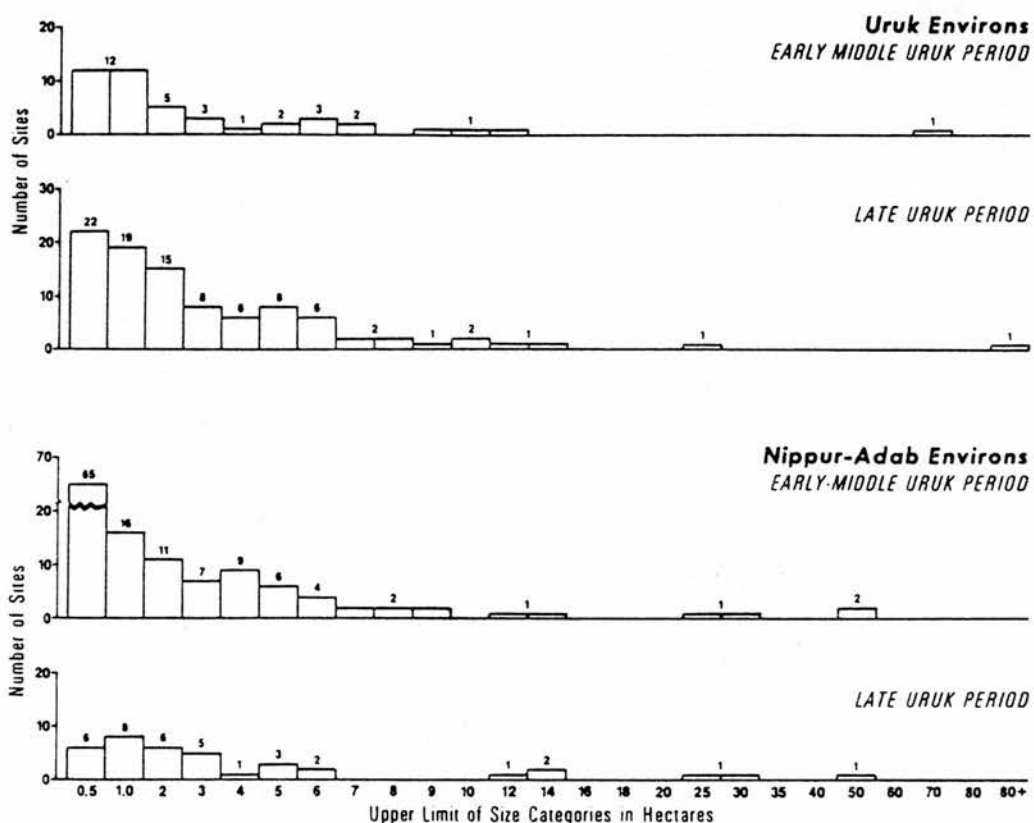
**TABLE VIII:2**  
**URBAN AND NONURBAN SETTLEMENT BY REGION**  
**IN SUCCESSIVE URUK SUBPERIODS <sup>4</sup>**

	10 Hectares or Less ("Villagers/ Townsmen")	More than 10 Hectares ("Urbanites")
<b>Early-Middle Uruk</b>		
Uruk area	53%	47%
Nippur-Adab area	54	46
<b>Late Uruk</b>		
Uruk area	61	39
Nippur-Adab area	30	70

From the above Table we can see that already in Uruk times about half the total population of Sumer can be classed as

4. Taken from Adams (1981:75).

FIGURE VIII:2  
DISTRIBUTION OF URUK SITE AREAS BY REGIONS AND SUBPERIODS<sup>5</sup>



'urban', showing geographically its position as the real 'heartland of cities': hence the title of Adams' (1981) work. Concomitantly, at least in the larger centres, most signally Uruk itself, "a highly significant segment of the population" must have been enabled to divorce itself from more than token or symbolic involvement in the processes of primary food production (Adams op. cit., p.80). From the quality and quantity of the artifacts recovered at village and town sites of all sizes in the Uruk period, it seems that what we are encountering are flourishing part-time specialisms in communities of a wide range of sizes (idem). However in the largest centres we encounter what seem to be full-time specialists, not least in the advent of scribes, whose

5. Taken from Adams (1981:71).



"formalised lists of gods, professions, geographic names, and classes of objects arranged in conceptual categories" exist in addition to the economic and administrative records that lie at the origins of writing (Gelb [1952]1963:62). Indeed the earliest known Sumerian characters, still pictographic at this stage, come from the 'Uruk IV' excavation stratum dated around 3,100 BC.

Thus opposing the formal administrative/information handling model of state formation propounded by Gregory Johnson & Henry Wright (e.g., 1975), under which the 'objective' necessity of the division of labour calls forth a 'managerial' elite to coordinate diverse activities and locations, Adams (op. cit., p.81) contends rather that

we are dealing instead with a much less simple, less stable mix of relationships between the centres and the peripheries. Among its features were: deities whose cults attracted pilgrimages and voluntary offerings; intervals of emergent, centralised, military based domination of subordinate centres that had been reduced to the status of clients, alternating with other intervals of fragile multi-centre coalition or local self-reliance; coercive extraction of rural resources alternating with more or less freely balanced exchange of subsistence products of the countryside for status symbols and certain limited but important categories of utilitarian goods that could not be produced locally.

Indeed, writing of his own excavations in the Deh Luran plain that attempted to analyse the import/export relations of the sub-region, Wright himself (1972:104) stated that the "area was drawn into a state long before it participated significantly in the transformed exchange network. The latter cannot explain the former." Quite so, but a cyberneticist approach, dealing only with the input and processing of 'information' which is then transmitted to a lower level as 'policy', seems for him to provide an 'organising principle' for state formation out of a functional hierarchy.

Yet at Eridu in Late Ubaid times, there is evidence of a temple to Enki (E-Apsu), god of the subterranean sweet waters

(Apsu). This is not only the first evidence of a building in Mesopotamia with an explicitly non-secular purpose, but one which could well have served as a focus of organisational authority quite other than utilitarian (Oates & Oates 1976b: 122-124). Indeed there is striking archaeological confirmation for cultural continuity at Eridu, regarded by the Sumerians as the first city and the city of magic sorcery, since Enki's source of power was utterance; though his name means 'lord earth'. All of which makes sense given Eridu's position between sea, marsh, fresh-water lagoon and flat alluvial plain. As the creation myth *Enuma Elish* relates:

A reed had not come forth, a tree had not been created.  
A house had not been made,  
A city had not been made,  
All the lands were sea,  
Then Eridu was made. (Heidel 1951:62).

Temples there developed continuously one upon the other, from a small shrine in Ubaid I times (4,900 BC; bottom grid, Figure VIII:4 overleaf), through the Ubaid 3 temple (4,100 BC; middle grid) to the Ubaid 4 temple at 3,800 BC (upper grid). Continuity of belief and use is seen in the constant relation of altar to offering table and what became standardised as the tripartite building plan (Lloyd 1978:41). The final Protoliterate temple at Eridu is illustrated below, by which time it had fully assumed the form of a ziggurat, a faced and often painted stepped pyramid of brick (the 'tower' of Babylon).

FIGURE VIII:3

THE PREHISTORIC TEMPLE AT ERIDU (Lloyd 1978:39)

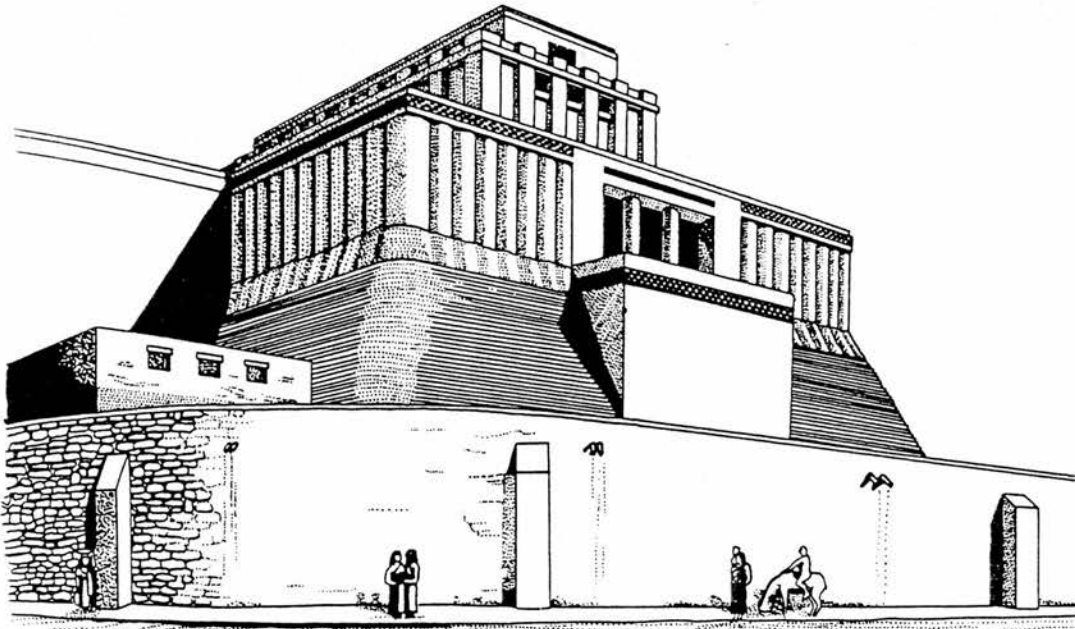
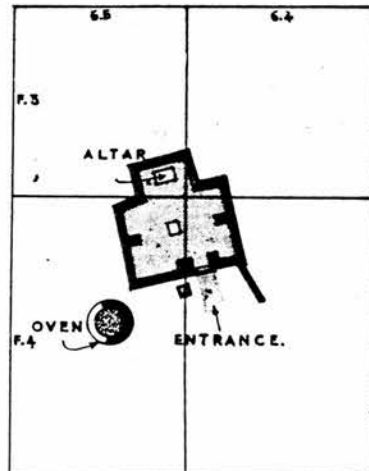
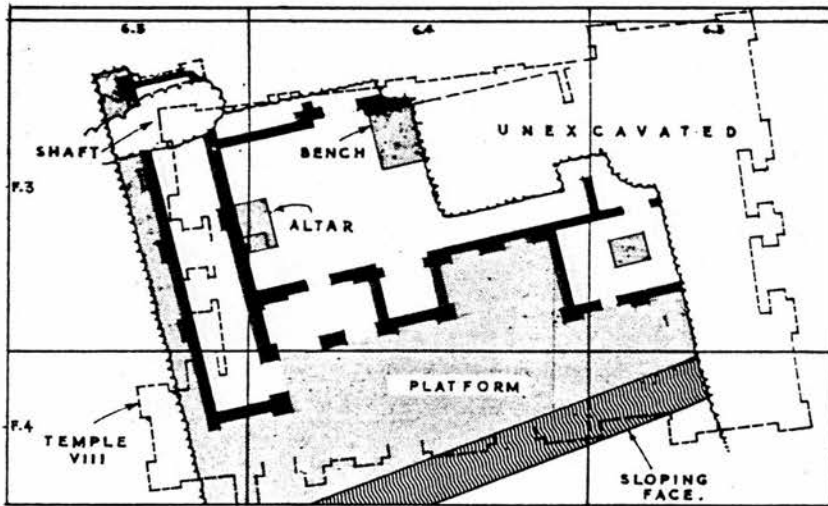
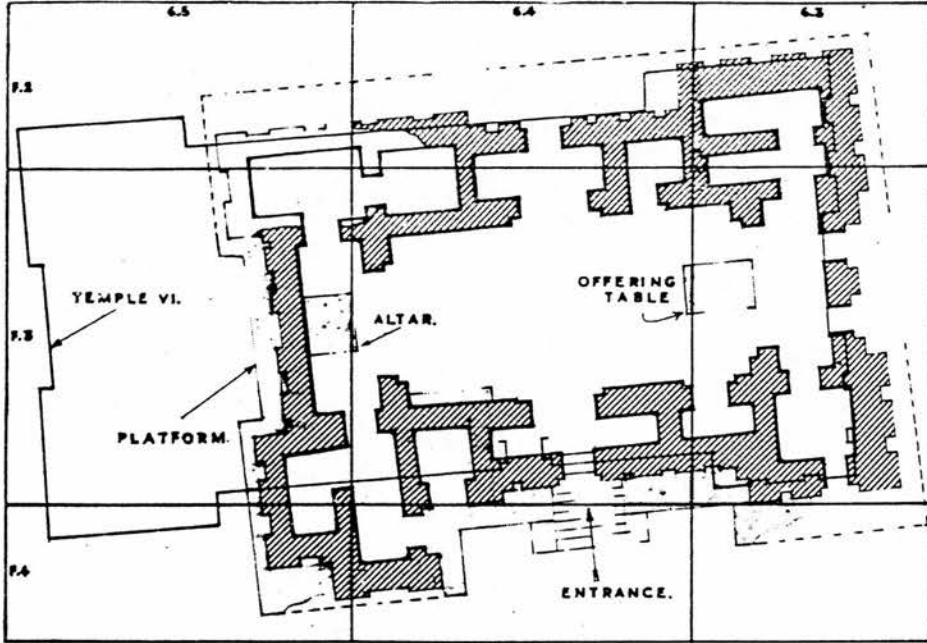


FIGURE VIII:4  
TEMPLE PLANS CHARACTERISTIC OF THE THREE MAIN PHASES  
RECOGNISED AT THE SOUNDING AT ERIDU<sup>6</sup>



10 Temple plans characteristic of the three main phases recognized in the sounding at Eridu: "Ubaid 4" (temple VII) (top), "Ubaid 3" (temple IX) (above) and "Ubaid 1" (temple XVI) (right), dated respectively to c. 3800, 4100 and 4900 B.C. Temple XVI is no more than a chapel, but already has a niche for the altar and offering-table

6. Taken from Lloyd 1978:42.

Contrasting theories of state formation were criticised in the last chapter. Here, before preceeding to examination of the Jemdet Nasr and Dynastic periods (c. 3,100 - 2,500 BC), it is sufficient to recall Fortes' and Evans-Pritchard's observations (1940:19) to the effect that "myths, dogmas, rituals, beliefs and activities ... endow the social system with mystical values which evoke acceptance of the social order that goes far beyond the obedience exacted by the secular sanction of force".

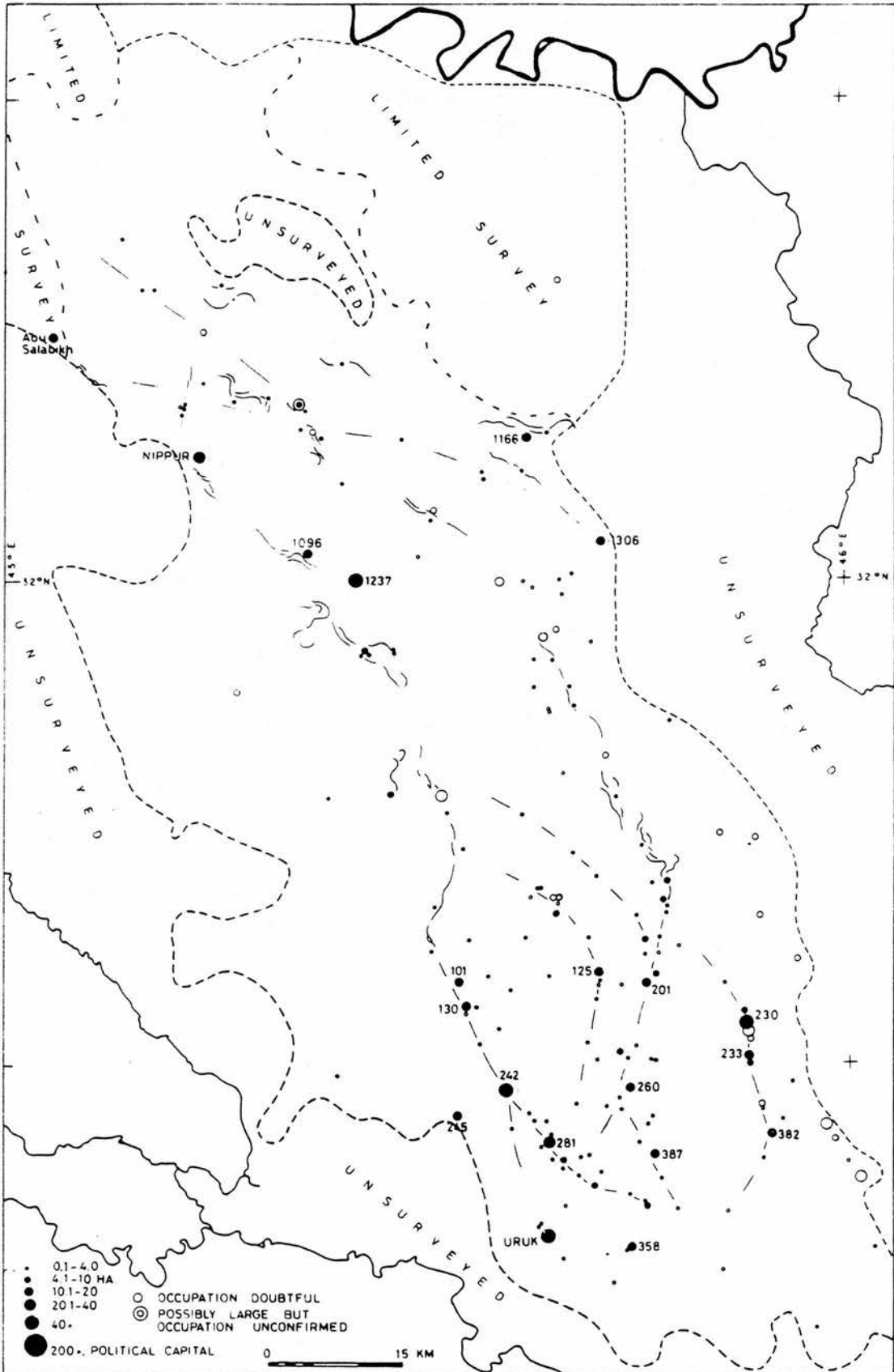
## 2: Jemdet Nasr to Dynastic Periods

While in the north there was no primate city of the rank of Uruk, but rather a number of medium sized competitors, as we move through the brief Jemdet Nasr period of the last century of the fourth millenium and the first of the third, the peak of relatively dispersed rural settlement in the Uruk environs passes (Adams op. cit., p.81) to be succeeded by further concentration of population within Uruk city itself (ibid.). The settlement pattern of the Jemdet Nasr period is illustrated overleaf (Map XVII).

By Early Dynastic times (EDI) Uruk covered no less than 400 hectares (1.56 square miles approx.) and had a population, estimated on the same basis as previously, of not less than 40-50,000. It is, then, scarcely surprising that at its core Uruk contains not one shrine of the cardinal gods in the Sumerian pantheon but two - Anu and Inanna - respectively, as sky and fecundity, the ultimate repositories of authority and reproduction. Again the disproportions can be seen in the distributions below (Figure VIII:5, p.261), where the single bar against the 400 hectare scale at the extreme right hand edge of the upper chart is, of course, Uruk itself. By this time, it can be observed, there is not even a city half its size in its region. Neither is there one half its size in the Nippur-Adab region to the north (lower chart) and yet Nippur was historically regarded as the 'navel' of Mesopotamia by the Sumerians and was for a millenia its cultic centre.

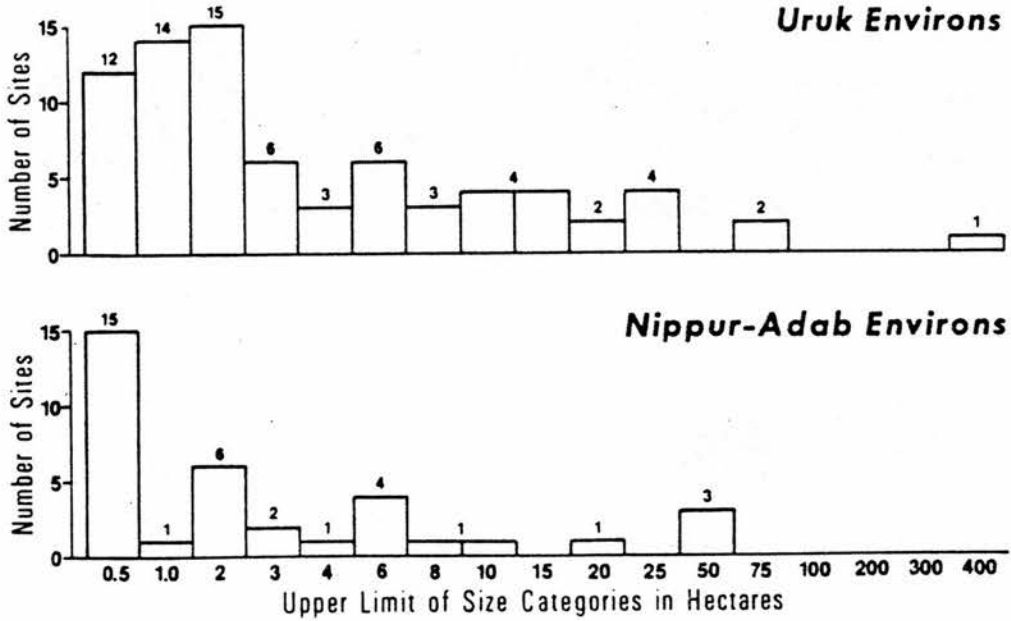
MAP XVII

JEMDET NASR PERIOD SETTLEMENT PATTERNS<sup>7</sup>



7. Taken from Adams (1981:83).

FIGURE VIII:5  
DISTRIBUTION OF EARLY DYNASTIC I SITE AREAS BY REGION<sup>8</sup>



Using contemporary ethnological data from Khuzistan, textual records from Early Dynastic Girsu and modern geographical theory, Adams (*op. cit.*, p.87) following Jacobsen 1958, computes the land necessary to support an adult annually, including the alternate-year fallowing system, at 1.5 hectares per person per year. "And on this basis in turn we can estimate that the intermittently cultivated ring around Uruk would have needed to extend outward from the city's centre for no less than 14 kilometres" (*idem*).

Now modern geographic theory (e.g., Chisholm 1970), based on comparison of agricultural societies, suggests that 14 km is far too wide a radius for daily work in the fields from a central point. Indeed Chisholm (*ibid.*, p.112) points out that by the time the average distance to cultivated land has become a mere 2.8 kms from the settlement, the average net product per hectare has already halved from what productivity would have been when distance

8. Taken from Adams (1981: 84).

to field was only 0.18 km. The former figure, then, corresponds to a distance between settlements of 8 km and the latter of 0.5 km. "Beyond about one kilometre", Chisholm concludes,

the costs of movement become sufficiently great to warrant some kind of response; at a distance of 3-4 kilometres the costs of cultivation necessitate a **radical** modification of the system of cultivation or settlement - for example the establishment of subsidiary settlements - though adjustments are apparent before this point is reached. If the distances involved are actually greater than this, then it is necessary to look for some very powerful constraining reason which prevents establishment of farmsteads nearer the land (op. cit., p.131; his emphasis).

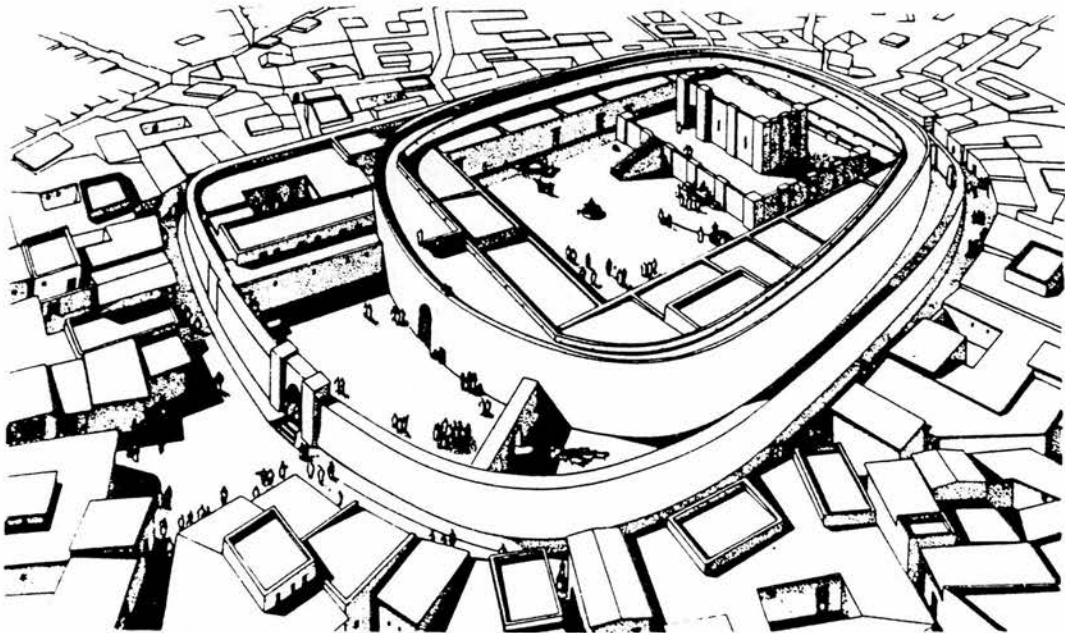
But as we have seen the peak of dispersed rural settlement occurred during the Jemdet Nasr period. Thereafter we observe a collapsing network of Early Dynastic I towns in the Uruk hinterland (Adams, op. cit., pp.88-89, 160-161). This is especially odd in the light of available evidence (e.g., Maekawa 1974) that agricultural land-use was extensive rather than intensive, with furrows spaced from 50 to 75 centimetres apart, individual seeds planted (and later drilled) over 3 cm apart within furrows (Adams, op. cit., p.87). Indeed the seeding rates were only one third of those currently prevailing in the region; nonetheless, there is evidence, discussed in the final chapter, that productivity was particularly high at this time. All of which leads Adams to suppose that "a considerable proportion of the lands around Uruk, or at any rate the entire outermost ring, out to a radius of about 20 km, was worked not by its own citizenry but by dependent labourers from the villages and steppeland beyond" (idem).

The nature of this dependency, which should not be taken to be antithetical to citizenship at this stage, is far from apparent. However, if later historical modes are applicable at this time, it may be a consequence of the formation of large temple and kinship based estates whose higher personnel at least are city-based; perhaps coupled with a 'taxation' for military defence and capital

works made upon non-estate villagers in addition to the voluntary offerings made to shrines and temples known in both historic and prehistoric periods. Certainly the pattern emerging from the ongoing excavations at Abu Salabikh (Postgate 1980a; 1982), ancient Eresh, 20 km southeast of Nippur tends to support such a construction. Dominating Eresh, a fairly small site, is an enormous temple complex dating from the Jemdet Nasr period and revealing in its copious texts all sorts of administrative activity additional to the cultic and cultural (Postgate 1982:54-59). Temples and, later, palaces tended to dominate the very core of cities, forming as it were, their nuclei. This can clearly be seen at Uruk (Figure VIII:7overleaf) in the protoliterate period, when perhaps as much as one third of the city's total area was taken up by temple and other public buildings (Lloyd op. cit., pp.48-49). Right at the centre are the precincts of the temple complexes of Anu and Inanna mentioned above (p.259), both of which acquired ziggurats. From Khafaje in the Diyala during the Early Dynastic period we have this reconstruction of what a temple precinct looked like and its scale.

FIGURE VIII:6

RECONSTRUCTION OF THE OVAL TEMPLE AT KHAFAJE,  
AS REBUILT IN THE EARLY DYNASTIC III PERIOD (c.2650-2350 BC)<sup>9</sup>



9. Taken from Lloyd (1978:95).



FIGURE VIII:7  
SITE PLAN OF URUK SHOWING THE ANU AND E-ANNA PRECINCTS<sup>10</sup>



In discussing the similarly organised 'palatial' (i.e. palace centred and administered) economy of Minoan Crete from the late third millenium to the early second millenium BC, Branigan (1970: 121-122) has suggested that the very process of nucleation of settlement heightens social inequalities. If there are those who "for varying reasons had been deprived of their inheritance, or rejected by their clan" (and there always are), then their socio-

10. Taken from Lloyd (1978:48). Note the Bit-Akitu, temple of the New Year Festival, outside the city-wall in the N.E.

political status is already impaired, and if contributions to the building/rebuilding of socially central institutions are required from all, then all those people have to contribute is their labour, a role in which they tend to become fixed. This because the localised relative overpopulation, caused by concentration around a particular site, exacerbates relative land scarcity, so freezing out permanently the formerly marginal. The important skewing effect of equal obligation with unequal resources was developed in Chapter VI. The consequences, however, are either to put the poorer party into a material, quasi-contractual indebtedness, or into the position of a permanent social junior, and thus in a position of inferiority or cadetship, or both the material and social apply together, in which case citizenship itself is lost as the obligations pertaining to membership of the political community can no longer be met from one's own resources. At a lower level of political organisation than protoliterate Sumeria, and despite a fiercely democratic ideology amongst the Tolai of New Britain, Salisbury (1966:122-126) speaks of the means employed in the development and maintenance of wealth there:

The rich men spend about eight times as much tabu (shell-money). Yet, although they spend over four times as much on luxury foods, this item is an insignificant part of their budgets, and is more than covered by their direct earnings. The major part of their financial activity involves the receipt of contributions from rich and poor, and the use of these sums to finance ceremonials, to invest in large capital equipment and in knowledge, and to accumulate for future matamatam [ceremonies in honour of dead ancestors].

And in a further striking analogue of the Mesopotamian complex there is a general taxation and the obligation upon everyone to undertake unpaid corvee labour (ibid., p.126).

The 'erin people' of Mesopotamia, who are called in Early Dynastic times 'sub-lugals', worked in groups and multiples of ten in alternate months for rations and wages, but always under institutional control (Maekawa 1976:16). These workers cultivated

fields, dug canals and were liable to military service at least as auxiliaries<sup>11</sup> (Maekawa op. cit., pp.18-19). They were not slaves, and being employed only half the year, during the growing season, had the status of institutional clients, a form of subordination seldom analysed, whose importance as an intermediate form of dependency in the early stages of stratification is seen in the gumsa-gumlao process discussed in Chapter VI

### 3: Subordination and Early Stratification

For Mesopotamia the study of subordination and superordination in the early historic period was pioneered by Soviet scholars, one of the first being V.V. Struve ([1933] 1969:20, 35) who thought that the tending of sheep and goats were "performed by a foreign population, probably unfree". However, Struve's basic characterisation of Sumerian (and Egyptian) society was of "a slave-owners' state" (ibid., p.21) whose early basis was rooted in fishing, which alone sufficed to yield "a sufficient surplus of produce to ensure the maintenance of slaves with a view to exploiting their labour" (idem). Those slaves, in Struve's view, were generally collectively owned, and indeed being such were quartered in special 'workhouses' barracks concentrated around the community gods' temples at the focus of Sumerian cities (ibid., p.25).

However Struve's is as much a 'hydraulic' as a 'tempelstadtslehre', for the major role of slaves, at least in later periods, he saw as producing the infrastructure of production, that is, the canals, ditches and earthworks, for in his view the needs of large-scale farming based on irrigation, which was organised throughout the area of entire territorial communities, formed the very

11. Gelb (1973:84) describes their ambiguous status as that of 'soldiers/workers' thus "indicating the double nature of their employment, as soldiers in time of war and as workers, mainly in agriculture in time of peace. This dual usage of the term *erin* is reflected in the use of the terms for their officers, as in the following sources: *sagana erin-na* 'general', *nu-banda* 'captain', and *ugula* 'sargeant' applied to the army...; *sagana*, *nu-banda*, and *ugula* for either soldiers or workers...; and *nu-banda* 'overseer' and *ugula* 'foreman' for workers". *Nu-banda*, 'captain' or 'overseer' was in charge of a 'century' of *erin*, each *i-dab<sub>5</sub>* (of ten members) led by a *ses-gal*, or foreman (Maekawa, op. cit., pp.16-17). *Erin* obviously functioned as the most mobile form of labour and army reserve.

precondition for collective ownership of slaves. The right of exercising power over slaves belonged to members (i.e. citizens) of the communities of Sumer and Egypt only collectively; and their collective possession of human instruments of production caused the citizens to maintain a communal form of state ownership of land (Struve, op. cit., p.22), by which Struve presumably means temple land. According to Struve (idem) the "pa-te-si", that is ensi as it is now rendered, managed the work of the slaves for construction and maintenance of the irrigation infrastructure, and also the work of freemen in the fields. He, too, was responsible for the collection of taxes. This administrative power made ensis into despots in both Sumeria and Egypt, a power rendered more absolute when 'the whole river valley' came under unified control (idem). While land was also individually owned by its citizen proprietors, according to Struve (ibid., p.33) a fundamental condition of its exploitation was the exploitation of slaves in the provision of common irrigation works, the consequence for stratification being that:

the peasant in an ancient Oriental society with a system of economy based on irrigation, was on the one hand, an immediate producer, in his capacity of a labourer in the field; but he was on the other hand, an exploiter, since he tilled land that could yield crops only with the help of an irrigation system constructed and maintained by the labour of captive slaves. Since the land which he cultivated owed its fertility to the irrigation system, he was in possession of an instrument of production which could not be entrusted to a slave, namely the land itself. (Idem).

Now 'unified control of the river valley' certainly marks the beginning of Egyptian history, but never applied in Mesopotamia in the millenia with which we are concerned. Further, the whole theory of the slave economy has come under withering attack from other Soviet scholars, most notably Professors Tyumenev and Diakonoff. In particular Tyumenev (1954, 1956) could find scant evidence for the separate existence for a class of slave other than some women employed in textiles and the domestic economy. Tyumenev ([1956]1969:

76) observed that during the Early Dynastic Period at least, the collective temple lands were not in fact cultivated by a special temple personnel, and so there was no place for slave labour gangs. Lands as well as draft animals and seeds, were turned over to community members for cultivation, and the temple got a share of the crop in return, collected by specially assigned **engars**.

By the time of Urukagina,<sup>12</sup> when temple estates had become ensial or royal domain, they were cultivated by gangs of labourers headed by special officials termed **sag-engar** (**sag-apin**); slave labour proper was not employed, Tyumenev argues (ibid., pp.80-1), and anyway, neither ensial nor temple estates involved the whole population at this period. Tyumenev estimates (idem) more than half (perhaps two-thirds) of all the able-bodied inhabitants of Lagas to have remained outside of those estates and to have remained united in rural communities, being recruited only for temporary labour service on irrigation and construction works. In Tyumenev's view it was through the abuse of corvee labour that had originally been the guarantee of the primacy of the community and the community's (subsequently the state's) ownership rights in the irrigated land (ibid., p.70) coupled with 'squeezing' by usurious officials, which meant that by the Ur III period both the estate labourers and free peasants were reduced to virtual slave status under intense exploitation, coordinated by the state. Thus 'slaves' by capture or purchase simply merged into a generally unfree population (ibid., pp.85-6).

With the collapse of Ur III state control and the onset of Hammurapic times, private cultivation and exploitation became predominant and more 'classical' (i.e. Romano-Greek) forms of private wealth and slavery are recognisable.

Reconsidering the extensive economic archives of Umma and

12. This is the long established reading for his name which still appears in histories. However it should now be rendered Uruinimgina (Mindlin, pers. comm. 1983).

Lagash in the IIIrd dynasty of Ur period, Struve (1948:148) nonetheless reiterated his "argument in favour of defining the royal estate at Umma as one based on a slave-owning type of economy". This however begs a number of questions, most notably: (a) on 'ownership'; (b) how representative royal estates were of the whole economy; and (c) the very definition of slavery.

Whereas a fraction of the working population, usually war captives, are indeed initially slaves (**arad** for males, **geme** for females; Gelb 1973:91-4), Sumerian has only one term, **geme**, for both female slaves and serfs; in the male case the term is **gurus**. Hence "in innumerable cases, **geme**, the largest category of what seem to be explicit references to slavery, is simply the counterpart of **gurus**" (Gelb 1982:92). **Gurus** (**etlum** in Akkadian) is literally a term for 'man' (in the sense of **vir**, not **homo**) and **geme** an equivalent general term for woman. In Gelb's opinion (**idem**), the term **geme**, referring specifically to (female) slave status, fits no more than about two percent of all texts. This despite the fact that the word **geme** occurs much more frequently than the equivalent male terms: **gurus**, **erin**, **arad**, or any other term pertaining to dependent labour. The terms **arad** and **sag** apply mostly to the conditions of (surviving) P.O.W.'s, which was one of bondage, before permanent allocation within the economy that brought with it improved status (Gelb 1973:91).

The point is that Mesopotamian society was characterised by a structure of subordinations which is neither that of classical slavery, nor feudalism, and in which full chattel slavery tended to be a transient condition of a minority derived from alien elements, as from Subarians in Old Babylonian times (Gelb 1982:90). A hierarchy of subordinations, material and ideological, obtained in which **ensis** and **lugals** appear as the slaves of the gods, their high officials are denoted as the slaves of their employers, and so forth right down to the few percent of true slaves in Mesopotamian society (**ibid.**, p.88). In a re-examination Struve ([1948]1969:170), while able to distinguish the formally free from the

formally subject, nonetheless goes on to summarise 'the structure of the exploited class for Late (i.e. Ur III) Sumerian society' as follows:

This class was composed of slaves: men, women and children. They were recruited from war captives, from men and women purchased abroad, from insolvent debtors; and lastly from among younger sons of the holders of small parcels of land. Besides the slaves, royal and temple estates exploited hired workmen who were recruited from the ranks of freemen who possessed nothing but a plot of ground attached to their house, and had to seek additional income in working for hire.

The fact that the "immediate producers (hired labourers and the **gurus** and carriers permanently working on the estate) were cruelly exploited by the ruling class" is neither a description of generalised slavery, nor yet does it tell us much about the nature of the ruling class and their sources of power. It is much more instructive as to the structure and evolution of Sumerian society that, in her study of commercial Sippar as late as the 19th-16th centuries BC, Rivkah Harris (1975:332) could find that "the slave population of Mesopotamia was always small and insignificant in relation to the free population"; a conclusion earlier arrived at by Oppenheim ([1964]1977:76), by Leemans (1968:181), by Gelb (1972; 1982) and by I.M. Diakonoff (1972:46). The last mentioned agree in finding that male prisoners of war were often brained on the spot, their corpses 'piled up in heaps' as the likes of Rimus boasted (2284-2275 BC). Only female slaves were used in any number in the state economies due to the difficulty of controlling adult male labourers. Instead individuals, mostly women and children were incorporated into private households under 'patriarchal ties of the family' (Diakonoff op. cit.) on the well-known acephalous pattern. Some surviving male prisoners of war were however settled as state colonists in parts of Mesopotamia donated to the service of temples or employed as groups of **erin** alongside the regular **gurus** agricultural labour force (Gelb 1973:94-96). Gelb (ibid., p.83) characterises both **gurus** and **erin** as 'semi-free', rather like

serfs, but stresses the foreign, non-Mesopotamian origins of the latter, most to the east of the Tigris, in contrast to native **gurus**.

The absence of widespread slavery may seem paradoxical given the existence of the state in some form from Uruk times onward, but such 'anomalous' data keeps us from forming preconceptions about Mesopotamian society, which is seminal, against later and different societies to which we might like the formative material to conform. Finley (1983a:67), in his rigorous treatment of classical 'chattel' slavery which has come to colour all subsequent discussion of dependent labour, first points out that slavery as a mode of production is of late Graeco-Roman advent. It is predicated on three preconditions of which it is the 'unavailability of an alternative, internal labour supply' which concerns us here. In Mesopotamia, and for that matter in Egypt, India and China (in their formative millenia), this certainly did not apply, many types of subordinate labour short of slavery obtained. In the earliest Sumerian records we encounter **sub-lugals**, later **erin** folk (which can best perhaps be recorded as 'the able-bodied') numbering around five thousand in Lagash by Ur III times, "a considerable proportion of the whole population of Lagash of Ur III" (Maekawa op. cit., p.16). And even in Early Dynastic times the **sub-lugal** formed the core of a stratum called **lu-kur-dab-ba** (ibid., p.43). Later there are different terms for different categories of subordinates; **gurus**, **arad** and **geme** having already been mentioned. Finley's other two preconditions are for specifically private ownership of land with sufficient concentration to call for a permanent work-force, coupled with a sufficient development of commodity production, that is, production intended for the market. It will be argued subsequently that in Mesopotamia neither of those two further preconditions obtained. Indeed, in the light of modern research it is what Gelb (1976 :204) calls the 'productive slavery' of the Graeco-Roman period that seems anomalous in the ancient world (idem).



Diakonoff (1956)<sup>13</sup> also based his analysis upon textual sources from Lagash in the third millennium BC, specifically those of the ED III period, a corpus described by Adams (1981:134) as by far the richest and most informative in regard to economic and social questions yet available. Working from documents giving numbers of the female slave population as a known but varying fraction of total (dependent and free) temple personnel, Diakonoff (op. cit., p.176) reckons that it is possible to estimate roughly the total area of temple estates, assuming that the population of the temple of <sup>d</sup>B a-U was probably some 10% of the total temple population of Lagash, which had a score of temples. "Supposing that the number of personnel was roughly proportional to the estate area, it can be considered that the area of all temple lands amounted to 500-600 sq. km, thus constituting from a quarter to a half of the total area of the Lagas state" (idem). Those figures refer to the 'state cluster' or 'nome' in Diakonoff's terms, not to the city area alone; and to that area constituting Lagash state prior to the loss of over half of its territory at the end of Urukagina's reign.

The rest of the territory was divided between 'community' land, "in the hereditary possession of patriarchal extended families" (ibid., p.177), and aristocratic/royal estates, the latter growing historically with the alienation of the former, while the king (ensi, later lugal) after the Early Dynastic period progressively gained control of the temple estates. From being a community resource and reserve, they became royal domain.

But temple land itself was not of one type and, even when under royal control, its working was far from uniform. Diakonoff (ibid., p.176) distinguishes three types of land-working of temple domain:

13. Like the contributions of Struve and Tyumenev mentioned above, this is contained in a collection made under the editorship of Diakonoff (Moscow, 1969) and entitled: Ancient Mesopotamia - Socio-Economic History.

Temple land in Lagas at the end of the Early Dynastic Period was divided into three categories: 1) **nig-en-(n)a** land reserved for the maintenance of the temple; 2) **gan-kur**, land divided into non-hereditary and interchangeable, strictly individual parcels allotted for their service to men working on **nig-en-(n)a** land and to temple artisans and administrative personnel; 3) **gan-uru-lal** land allotted against a share in the crop to different persons (mostly members of the temple personnel as a supplement to what they got of **gan-kur** land).

There is no evidence that land of any of these categories could ever be bought or sold.

The land that could change hands lay in what Diakonoff was the first to call the 'private-communal' sector of 'patrilial' land, which was sometimes bought up (quite commonly at a nominal price) by important personages, mostly by functionaries in the community administration, kinsmen of the princes or by the ruling princes themselves. "The land was sold by the head of the family or by several of its members not in the capacity of proprietors of the land but in that of elected representatives (**lu-sa(g)-pa(d)**) of the family commune. As often as not, the sale was effected by a group of family representatives (brothers and other kinsmen)" (Diakonoff op. cit., p.176). Other family members participated as witnesses, thereby indicating consent, while in the case of largescale alienations, the whole patrilineage participated (ibid., p.177). In the case of really big tracts, the assent of the Popular Assembly of the rural community in question was required, or even of what Diakonoff calls the 'nome'. Such nomes, or cores, for instance the 'nome' of Uruk consisting of Kulab and Eanna, or the 'nome' of Lagash consisting of the separate settlements of Girsu, Lagas, Sirran, Guaba and others, were at the outset in Jemdet Nasr times 'closely linked rural communities', with temples at their centre, around which the city-states coalesced (ibid., p.187).

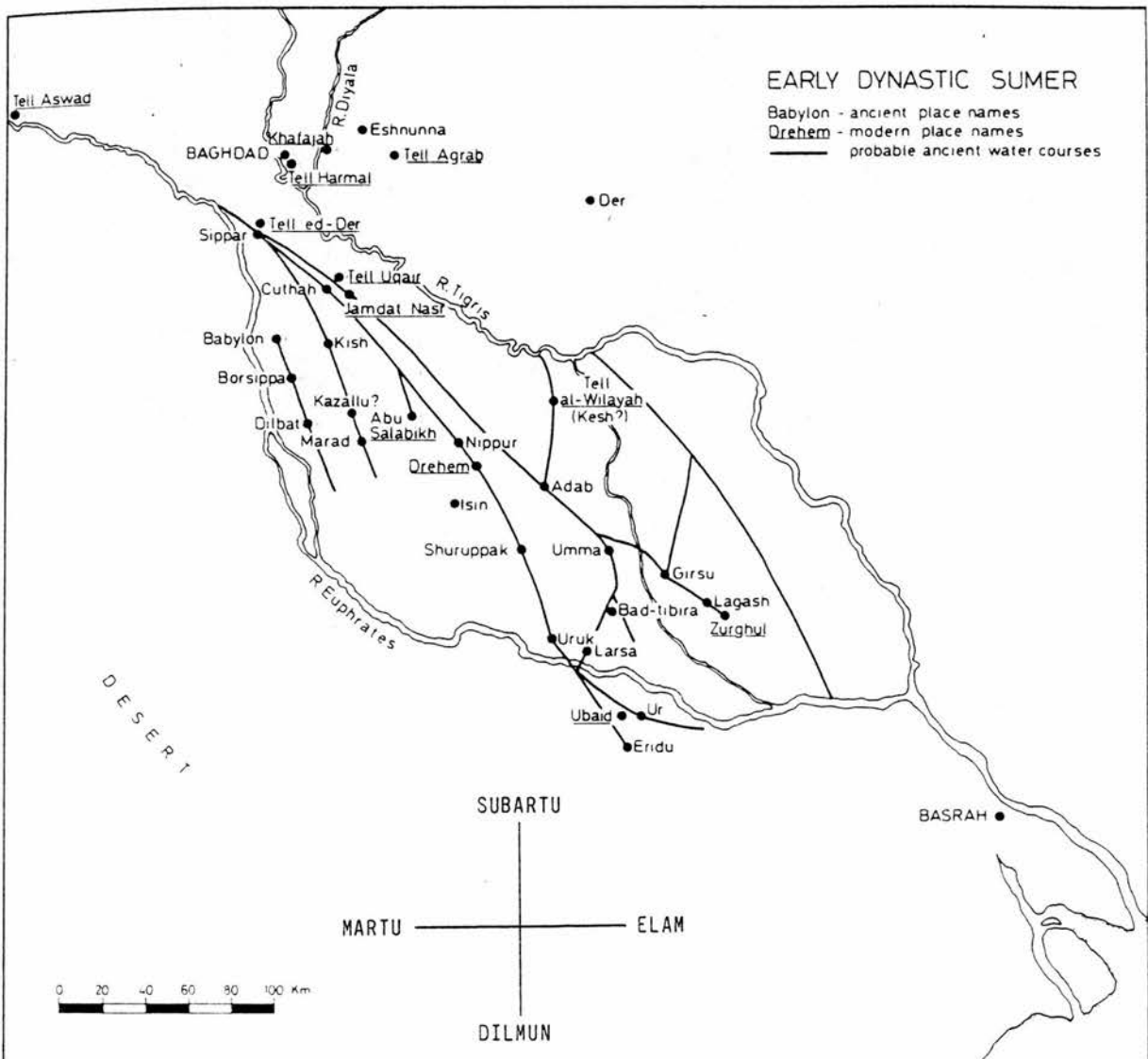
A similar view had previously been formed by Henri Frankfort (1956:64), who had been the excavator of several such temple sites; it was also the view formed by the great Assyriologist Thorkild Jacobsen (1946 1949:255). Similar considerations apply to Renfrew's

(1975:3-59) formulation of 'Early State Modules', which formate at the chiefdom level around "a central person, resident at a central place" (Renfrew 1977:100-1).

Nonetheless, Diakonoff cautions us not to expect direct continuity "of a tribal chieftain's function in the primitive community", but suggests instead (op. cit., p.181, note 10) that during the Early Dynastic wholly new leadership roles arose on the basis of the new urban institutions then emergent.

And it is to a detailed consideration of those that we now turn with this sketch of Early Dynastic Sumer in view (after Postgate 1982:49) with cardinal directions added.

MAP XVIII



South Iraq in the ED III period (c. 2400 B.C.) showing major cities and reconstructed water-courses.

## CHAPTER IX

### THE INSTITUTIONS OF URBANISM

Commenting on the "manifest continuities in monumental temple architecture at ancient Eridu as well as Uruk", Adams (1981:59) posits, from the Ubaid period onward, "fundamental cultural continuity within the major centres of settlement (as) beyond question". As the ritual and organisational centre of the original communities, the temples were a special institution in and of the community, not only symbolising its unity and its relationship to the cosmos, but serving also as the central-place focus. In this sense, as we shall shortly see, the temple supplanted whatever chiefly symbolic or redistributive functions there may have been (though criticised elsewhere), and thus serves as an institutional barrier to any direct continuity of overall social leadership from a putative tribal condition to an urban one. Anticipating the argument, we can say that the cities of Mesopotamia did not form around a chiefly residence or government centre, as so many did, for instance in Africa. The processes involved are quite different in kind not in degree alone. The Neolithic of the Near East was on such a broad front technically, socially and geographically, that, like the Industrial Revolution, it developed both a momentum and a settlement pattern of its own, a distinctiveness heightened by the exigencies of the alluvium.

Stated summarily, agriculture, especially field monoculture, is inherently a risky undertaking (Rindos 1984:xvi), all the more so in an arid zone where there are not many natural resources to which a dense population can turn in crisis (Colson 1979:22). The artificiality and potential fragility of this situation posed unique problems in social reproduction, met by temples as the community reserve and means of coordination, as Diakonoff (1982:60) observes:

Since the produce of temple land was regarded as the grain reserve fund of the community as a whole, it was probably worked by all community members jointly, before, gradually, this task was assigned to specialised groups of the population. During the second quarter of the 3rd millenium BC., people ruined by war, by natural calamities, or forces to flee from their homes in consequence of strife with their kinsmen, moved to neighbouring communities where they came under the 'patronage' of stronger households, especially of the temple economies, but probably also of the 'houses' of the rulers and nobility. This seems to have been a result of growing property stratification. There is a possibility that the territorial communities themselves detailed special work teams to work for the temples. Also the custom of transferring invalids and sick people to the temples as votive gifts is attested for the different periods of Sumerian history.\* Thus by the 25th-24th centuries B.C. a permanent temple labour force had emerged.

Had the temple not be both a central and a multiplex institution, it is most unlikely that leadership could have emerged from it. It can also be ventured that the emergence of politico-military leadership in the hands of the **lugal** was in a way a counterweight to the earlier economic and ideological power of temples. At least "control over the temple estates and their personnel gave the ruler (**ensi** or **lugal**) independent military power" (Diakonoff op. cit., p.66). Such unique configurations made the Sumerian the first, and for a long time the only, truly urban civilisation, in contrast to merely royal capitals or administrative centres set amongst, and quite parasitic upon, a sea of peasants and pastoralists. Kings, as we shall see, certainly develop in the city-states of Sumeria; but they were the creations of those cities, the urban centres did not crystallise around them.

By urban, I mean a population sufficiently numerous and nucleated that the social relations of production mutate to express the principle of synoecism itself (which is interdependence arising

\* 'The Arua Institution'; Gelb (1972), is discussed in detail below.

from a dense proximity), the emergent expression of which is the crystallisation of government. In turn, government manifests itself as the state through administration based on writing, plus institutional building representing the institutionalisation of ideological, economic and armed force.

It is not coincidental, then, that the first form of the city, or for that matter the state, takes the form of the city-state.

Temples had the role of catalysts in the formation of cities on the alluvium. To be sure there were cultic centres elsewhere, and the ethnographic record, partly surveyed below, has many accounts of social stores and institutions of economic coordination. It is, however, the unique fusion of the three roles in one singular institution that was catalytic. Time and place are of course, all important, and in temples we see the integration of a great variety of post-Neolithic practices that included the long-distance trade required to import materials, especially metals, wood and minerals, in which the alluvium was almost entirely deficient, exporting textiles and other manufactures in exchange (ibid., p.63).

## 1: Self-Government and Monarchy

Diakonoff ([1956]1969), in common with Jacobsen (1976:83-91) and Frankfort ([1948]1978:215-223), speaks of the *nomes* as communities administered by organs of 'self-government'. Those organs consisted of the Popular Assembly and the Council of Elders<sup>1</sup> and they survived the advent of monarchy, albeit in subordinate roles, well into the middle of the second millenium (Jankowska 1969:60; R. Harris 1976). According to Diakonoff, "The free community members were organised in extended patriarchal families or family communes, these again forming part of patriarchal clans and rural communities united in *nomes*, or city states, the latter being the primary cells within which the state was created" (op. cit., p.183). Patriarchy, however, is a form of authority which, while conformable with and even derivable from certain types of social organisation, technically specifies none. Provisionally we can give anthropological meaning to what Diakonoff implies as follows: minimal patrilineages ('family communes') are the operational units of the patrilineal ('patriarchal') clans cited, that, not being corporately territorial were scattered in different rural communities which became grouped into (city) *nomes*.

Family communes (e, e-*duru*, *bitum*, *dimtu*) were usually linked together into hierarchic lineage groups, well-attested for the period of Akkade in Lower Mesopotamia of the third millenium BC., and for the typologically similar society of Arrapha in the second, but they existed in the Babylonian countryside all through the period in question. Several families together would form territorial communities (*uru*, *alum*) with their own collective bodies of self-government (Council of Elders, Popular Assemblage); the territorial communities in their turn, could be embraced by a hierarchical structure forming a city-state delimited by a river-valley or the area of irrigation of a main canal, and

1. The Council of Elders (*ab-(b)a-uru*, *AB+AS-uru*); the Assembly of all the able-bodied men (*gurus-uru* or *mes*). Both bodies together were called *unken* (lit.: "circle of the people"). Later they were also called by the Akkadian term *puhrum*. Note the term *gurus* in the context of 'men in general', a-propos the discussion of 'serfdom' and slavery above.

such a structure could again be tributary to a stronger city state. (Diakonoff 1972:44).

While ranked lineages are likely to have been seminal in the formative urban period, little evidence of their presence in cities survives into historical times. Nonetheless Adams (1982:11) argues cogently on ecologic-demographic grounds for their largely unrecorded, but crucially structural, presence in the countryside, well into the first millenium and beyond, given the 'civic' bias of the written record.

In Mesopotamian society we find overranking sets (nested sets) of authority that Diakonoff calls 'patriarchal'. It should in no way be conflated with any form of feudalism, since that, juridically at least, proceeds from the king downward through his lieges, whereas in the Mesopotamian 'patriarchal' mode it proceeds from the bottom up, with the monarch, as it were, the patriarch of patriarchs. The patriarch was, of course, necessarily the head of a household; the greater the household (minimal or minor lineage?) the more potent the patriarch. Pre-eminent patriarchs were Elders and they represented cities, major and minor, and ethnic groups even late in the first millenium BC; after not just the victory of the monarch but, indeed, of integrated empires (Diakonoff op. cit., p.44). This indicates just how fundamental such organisational structures really were. While king or emperor had concentrated in his hands the supreme political decisions, especially of war and peace, city and civil matters, indeed even the internal affairs of ethnic groups like Egyptians and Jews continued to be administered by their own elders and councils (Dandamayev 1982:38-41).

According to Dandamayev, "The assembly where the Elders functioned was called *puhru* (UKKIN/*pu-uh-ru*, *pu-hu-ru*, *pu-hur-ru*). In Babylonian texts of the 7th-4th centuries BC the following kinds of *puhru* are mentioned: *puhru sa mati* 'the assembly of the country', *puhru ummani* 'the assembly of the people', and assemblies of cities of Babylon, Kutha, Nippur, Sippar, Uruk, etc." (ibid., p.40). The



Popular Assemblies, then, consisted of all adult males (either as heads of households or capable of bearing arms), while the Council of Elders were composed of 'seniors' or heads of lineages (Jacobsen 1970a:370-372, n.12). Both together were termed **unkin**, literally, 'circle of the people', and later they were both known by the Akkadian term **puhrum** (Diakonoff [1956] 1969c:183).

As on earth, so it is in heaven, where recently Jacobsen (1976:86), in his major study of Sumerian religion, pointed out that

The highest authority in the Mesopotamian universe was the assembly of the gods. It met, when occasion arose, at Nippur in a corner of the forecourt of Ekur (Enlil's temple there) called Ub-su-ukinna; and before getting to business the gods would usually fortify themselves with food and drink. Presiding over the assembly was the god of heaven, An. The gods would bind themselves by oath to abide by the decisions the assembly might make; proposals were then placed before them and voted upon, each god indicating assent by saying: **heam**, so be it!

If this was the General Assembly of the gods, the Council of Elders was a special group of the most senior gods, the 'gods of the decrees', the **Annunaki**, who gave decisions of the Assembly their specific form. Then Enlil, 'Lord Storm', was the power in execution of those decrees (ibid., p.88), his the sort of power, as the warrior of heaven, that destroyed cities, the **lugal** of the assembly of the gods.

## 2: Genitor and Pater

If we should read patrilineal for patriarchal in the technical sense, the term patriarchal is certainly appropriate here in its traditional connotations. The kings emergent in the Early Dynastic period were called **Lugal** - 'big man' - not in the ethnologically well-known sense of Melanesian militants, but in reference to 'head of a household', 'lord', master of, for instance, a field, house or slave (Diakonoff op. cit., p.181). 'Lord' is the right

connotation too, in that the term **Lugal** was also widely employed in addressing deity, particularly the community's chief deity, although this does not happen in the most archaic texts (Diakonoff [1956] 1969c:181) because, as we shall see shortly, the term had not yet emerged.

Striking parallels in archaic Greece have been pointed by the classical scholar M.I. Finley ([1954]1962:96), when elucidating The World of Odysseus in the epics of Homer. The king - **basileus** - such as Odysseus was in Ithaca, was a war-leader and raider drawn from the ranks of the **aristoi**, whose socio-economic position derived from their headship of a patriarchal estate called an **oikos**. Here the king, necessarily head of a particularly powerful or affluent **oikos**, was simply **primus inter pares**, as indeed, we can see from the way the other aristocrats treated him both his presence and absence from Ithaca.

**Oikoi** were fundamentally self-sufficient and self-governing, so when the 'king' wanted to 'govern' the polity at large, that is, needed a public decision made, he called together an assembly, usually for dawn. Nor, unlike a European 'parlement', was summoning an assembly the sole prerogative of the king. "The one item on the agenda was the issue the summoner wanted discussed. Whoever felt moved to speak rose to do so, and while he talked he held the sceptre placed in his hand by the herald - in a quite literal sense a magic wand that rendered the speaker physically inviolate", since Greece, then as now, was a self-help society. The most wretched creature was not the slave but the **thes**, a free man, virtually an outcast, belonging to no **oikos**. "Custom gave the eldest the first opportunity to take the floor. Thereafter the sequence was determined by the course of the debate rather than by a fixed seniority system. And when there were no more speakers the meeting dissolved" (ibid., pp.92-3).

Here all had a right to be heard with the chief nobles serving the king as a council of elders (ibid., p.94). Deliberations of the

assembly were not binding on the king, but he had at least to pay attention, or he might try leading where none would follow. The **basileus**, like the early **lugal** had no institutional means of command; he had first to engage assent, since he could not compel it. And, again like the **lugal**, the basis of the **basileus**' social standing was patriarchal and economic; or rather, 'oikonomic' since estate-management of people and property in the **oikos** gave us our word for the getting of subsistence and wealth. Here we encounter the most basic meaning of 'patriarchal': a society consisting of households great and small whose common feature is the putative autarchy in economy and authority of each household. In this endeavour, and for a variety of reasons from the demographic to the political, some will inevitably fail and end up as subordinate components of household's grown larger and stronger by their adherence.

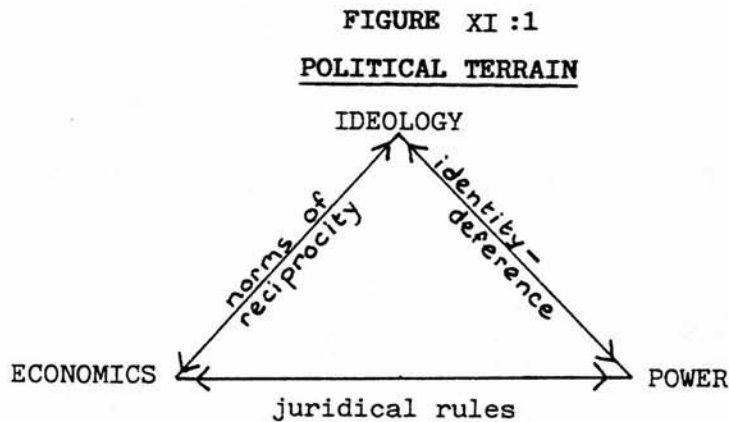
Appropriately for **gal** (as in '**lugal**'), Jacobsen (1970a:373n) has proposed "beside the translation 'seniors' for **gal** here suggested, a connotation 'head of a large household' might also be considered". While in Homeric Greece, where 'kinship thinking permeated everything' even community institutions were cast

in the image of the household and the family. The perfect symbol, of course, was the metaphor of the king as father (on Olympus, Zeus was called 'father of the gods', which, taken literally, he was of some but not of others). In certain of his functions - in the assembly, for example, or in offering sacrifices to the gods - the king in fact acted the patriarch. The Greek verb **anassein**, which means 'to be a lord', 'to rule', is used in the poems for both the king (**basileus**) and the head of an **oikos** with almost complete indifference. It is equally applicable to the gods; Zeus, for instance, 'rules' (**anassein**) over gods and men. (Finley op. cit., p.96).

The parallels with Mesopotamia, from which there is no continuity (Jacobsen 1976:17) could not be more striking: "At home", writes Jacobsen (ibid., p.81) of 'The Cosmos a Polity', "the more important gods were simply manorial lords administering their great

temple estates, seeing to it that plowing, sowing, and reaping were done at the right times, and keeping order in the towns and villages that belonged to the manor".

After all, as Finley (op. cit.) reminds us, to rule is to have power, whether over things or men, and the gods are personifications of power, in their case over nature and society. The way power (as acts of force) is transformed into, and reciprocally by, both ideology and economy can be represented as follows:



Politics is seen here as the area of contest and exchange between economic resources and applied power, acts of physical force more or less constrained by ideology. The political strata are, of course, those who have at their disposal some of the resources, either economic, ideological or military, required to gain entry to the field. The rest are of course the object of politics and not its subjects.

The political terrain as the realm of public affairs ('*res publica*') is not necessarily dependent upon or directed toward the state. I have defined politics as the pursuit of publically endorsed or enforced private or sectional ends, and so this encompasses caste promotion by a caste group or increased wealth, the reworking of genealogies in segmentary societies to find a place for cadet lineages, just as well as contests for government office or over the prerogatives of rulers.

Such a view of the constitution of a political field is extended and reinforced by Barth's (1969) seminal work on ethnic groups and boundaries, reinforced, amongst others, by Hodder's (1982) archaeological ethnography.

Implicit in much anthropological writing is the assumption that somehow, somewhere, a society developed its own culture in effective isolation, then, due to population growth or migration came into contact with another society similarly formed, with the two experiencing the mutual differences as a cultural or ethnic boundary between them. Barth (1981:188-9) has shown this not to be the case, indeed to be the opposite of the case, since "boundaries persist despite a flow of personnel across them. In other words, categorical ethnic distinctions do not depend on an absence of mobility, contact and information, but do entail social processes of exclusion and incorporation whereby discrete categories are maintained **despite** changing participation and membership in the course of individual life histories" (original emphasis).

Indeed Hodder (op. cit., pp.56-7) shows that people following the same mode of life and even speaking the same language erect and maintain symbolic lines of demarcation "especially in the border areas where there is greatest tension and competition, material culture of many forms (being used in those related Kenyan societies) to justify between-group negative-reciprocity and to support the social and economic dependencies within groups". This last observation is particularly important for the constitution of a political field by marking its boundaries culturally.

Barth (1961:31-3) in his ethnography of pastoral nomads in south Persia, points out how tribes are political, not cultural entities, maintained (and changed) because they assure certain economic-political rights to their members, essentially that enough grazing land will be made available for the flocks of each of the households. The 'ethnicity' of tribes and confederations, as manifested culturally by language and origins can thus be very

diverse, while the very ethnic designations used are both contingent and plastic. Hence "aggregational groups are classified ethnically with the political unit with which they are identified", such as 'Arab' tribes of diverse origin that are purely Persian speaking, "or the ethnic group of origin of their original core. The language spoken by the group may well be different from this" (Barth 1961:133).

Boundaries are, then, not historically given objective criteria of origin, for "ethnic groups are categories of ascription and identification by the actors themselves", selectively maintained (Barth 1981:199).

None of this should be a surprise to anthropology. No anthropologist regards moieties, lineages, clans or any such fundamental structural unit of society as being the result of the meeting or collision of separate entities which then united to form a common system. Correctly they are regarded as the 'organising principle' of the societies characterised by them; that is, as those elements of the system that assign to each component of the system their respective places. Cognitively for its members such structures form a framework by which the world is ordered. E. Marx (1978:61-2) writes of the Bedouin that "while he is capable of interpreting various aspects of his society in an entirely objective fashion, he possesses only one model, or conception, of his total society, namely that of a segmentary political organisation".

Consequently it is "the ethnic **boundary** that defines the group, not the cultural stuff that it encloses" (Barth 1981:204, his emphasis). Ethnicity then can be seen to be the ascription of ascriptions, or the status overranking all other statuses in the precise sense in which both terms are used in the chapter on Status to State. "In other words, regarded as a status, ethnic identity is superordinate to most other statuses, and defines the permissible constellation of statuses, or social personalities

which an individual with that identity may assume. In this respect ethnic identity is similar to sex and rank, in that it constrains the incumbent in all his activities, not only in some defined social situation" (*ibid.*, p.206). Effected by this meta-classification is then the closure of the social field to all but either the existing participants or to those who can join only on terms that do not disrupt the game being played.

This enables us to see ethnic identity for what it really is, a set of essentially arbitrary differentia marking out a social boundary that serves as a container for the 'rules of the game'; that is, for the whole mode of life involving the competition for and exchange of economic, ideologic and coercive resources, crystallising, if stable, a set of cultural values or value orientations (Horowitz 1972:105). Ethnic boundaries thus set the frontiers of what has been termed the political field.

Viewing such boundaries as essentially notional markers also explain the oft-remarked phenomenon of the ethnic plurality possible where established states exist.\* Since state boundaries are specifically territorial and military, then cultural and symbolic modes of interaction are not the definitive ones. Instead different ideological modes obtain (especially as public rhetoric) and the stratification mechanisms described in earlier chapters apply. Those beneath the elite would be citizens or subjects, whatever their origins, and only relative utility would be a consideration.

From this we have a possible explanation for the absence of any ethnic conflict to be observed between Sumerians and Akkadians (Jacobsen 1970:187-192; Cooper 1973:245-6). Where the state was in the process of formation or had already arisen on the alluvium prior to the influx of Akkadians, then only considerations of

\* For plurality in a native African state, see Gluckman (1951) and Hodder (1981) on Barotseland; for the Roman Republic and Empire, see Sherwin-White (1967).

stratification based on relative wealth and power would apply, as it was late in the third and early in the second millenium BC with the integration of Amorite nomads originally speaking a foreign language (Buccellati 1966:315, 356-7).

Thus Caplice (1973:526-7) in review of Kraus (1970) writes of "the recently discovered term by which the Sumerians designated themselves (*dumu.gi*<sub>7</sub>) mean(ing) in practice 'free citizen' and is opposed to 'slave' rather than to a non-Sumerian speaking population group or groups, nor (presuming that such groups were indeed felt as distinct) do we know the Sumerian term by which they may have been denominated before Ur III". Indeed of the Ur III period Buccellati (op. cit., p.324) notes that "we seem to lack the very word for 'foreigner'. At least the word which can be used to refer to foreigners, namely *lú kúr* (Akkadian *ahūm*, *ubāru* and *nakrum*) does not seem to be used anywhere to qualify specific persons in contrast to others who are considered natives. It is interesting to note that this is also true of later periods in Mesopotamian history: the clearest passage where *ahiūtum* means 'foreigners', as opposed to *aliūtum*, 'citizens (of *Aššur*)', is in a text coming not from Mesopotamia but Anatolia".



### 3: Lordship and En-ship

In Sumerian, **en** was the term for priests (Diakonoff 1969c:186), while in its meaning of 'lord' was used as a kingly epithet and compounded into the name of gods (Edzard 1974:146). Thus two pre-eminent gods are called **Enlil** (i.e., Lord Storm or 'force') and **Enki** Lord Earth (or lord of the sweet, i.e., fertilising waters), who, as **Ea** in early Semitic Akkadian, seems to correspond to the later Canaanite **Baal**, who as a sky god there has facets also of **Marduk** and **Enlil** (Gray 1964:30; and cf. also Robertson Smith 1907:104-8, where he calls the **Baalim** of Arabia 'Lords of Water and Givers of Fertility').

**Enlil** was powerful enough, in Sumerian creation (and destruction) myths such as **Atra-hasis**, to put the junior gods to work digging rivers and canals (Lambert & Millard 1969:8). **Enki's** power was even more fundamental:

The power in water that makes the soil produce was thought to be of a kind with the engendering power in male semen. Sumerian does not differentiate semen and water: one word (a) stands for both. It is therefore natural that **Enki** is the power to fecundate. Another connection between productivity and water is the 'birth water' which precedes and announces birth. (Jacobsen 1976:111).

It was as **En** also, that is as both priest and lord of the earth, that the king as **Dumuzi**,<sup>2</sup> god of increase (but specifically of tree-crops and flocks), undertook the **hieros gamos** with (someone representing) **Inanna**, goddess of fecundity (and specifically of the storehouse) in the New Year (**Akiti** festival. After all "The myths", Hallo & Simpson (1972:44) state, "list **en-ship** (that is, the high priesthood) first and well ahead of kingship among the norms of civilisation. In fact, the first inscriptionally attested royal title is not king (etymologically 'big man' in Sumerian) but lord

2. Originally a historical ruler, 'before the Flood' in the Kinglist, he is there called 'The divine Dumuzi, a shepherd, reigned over 103,000 years' (in **Bad-tibira**)

(etymologically 'high priest' in Sumerian)". **En** is recorded indeed from Jemdet Nasr times (Edzard 1974:143).

Deities, by contrast, were not referred to by the other term applied to rulers, **Ensi**. Diakonoff (op. cit., p.181) states:

**Ensi** of a city (or the god of the city god) denotes 'priest who lays the foundation (of temples and other buildings)'. The logogram for the term signifies 'overseer laying the foundation (of a building)'. In fact, all the most ancient inscriptions of Sumerian rulers are devoted to construction or reconstruction of temples and canals; military exploits begin to be mentioned much later, at first as a subordinate clause in building inscriptions.

Edzard (op. cit., pp.148-9) gives several examples, including (as late as the mid-24th century) Enentarzi of Lagash, who were **sanga** (heads) of temples before acceding to the throne.

First construction, then destruction; a blow to the conquest theories, internal or external, for the origins of the state. Jacobsen indeed (1970a:384 n.71) sees the origins of the term **Ensi** in his role as "leader of the seasonal organisation of the townspeople for work on the fields: irrigation, ploughing and sowing". In stark contrast to 'productive manager' and cultic leadership "The 'king' **lugal**, in contrast to the **en** was from the beginning a purely political figure, a 'war leader'" chosen from the scions of the aristocracy (idem), originally as a temporary commander. "His residence, the **e-gal**, 'great house' had no ties with the temple but is merely his own large private manor which, because of his office, comes to take on the public aspects of a 'palace'" (idem). A palace, that is, as a 'ruling machine'.<sup>3</sup> Over

3. Succinctly described by Paolo Mattiae (1979:21) as "In Mesopotamia, from the end of the Early Dynastic Period to the Neo-Assyrian empire a complex, polyfunctional and unitarian building conceived according to a tight syntactic pattern".

time supreme ideological power became vested in the **lugal** since he enjoyed political power as head of the military levee, the able-bodied citizenry distinguished above.

Arms and armour in the hands of kings and their soldiery were employed for inter-community hostilities, not for internal policing and control (Watkins 1978:485). Those civil 'regulatory' functions were performed 'democratically' so to speak, by the councils, by customary law and by ritual/ideological activities. Thus we should not be surprised to find Diakonoff (1969c:182) pointing out that "An **ensi** or **lugal** of a nome state exercised the supreme **priestly** function, as well as heading the work of construction of temples and the irrigation work (in his own name, beginning with the First Dynasty of Ur, 26th century B.C.) and also fiscal functions"; a point stressed also by Edzard (op. cit., p.149).

Interestingly, however, legislative functions are so far only known in connection with the **lugal** (Diakonoff op. cit.), indicating that his power was simultaneously more concentrated and multiplex. Names given to children during the Early Dynastic period are very revealing of the range of roles embraced by the **lugal**. They include **lugal-ur-sag**, 'the king is a warrior'; **lugal-engar-zi**, 'the king is a good farmer'; **lugal-a-mah**, 'the king possesses great might'; **lugal-si-sa**, 'the king is (or exercises) justice'; **lugal-he-gal**, 'the king (brings about) abundance'; **lugal-za-dah**, 'King (shall we succeed) without you?'; **lugal-u<sub>4</sub>-sur<sub>x</sub>** (BU)se, 'may the king (live) unto distant days'; **lugal-u-mah**, 'the king (stands) triumphant'; and **lugal-pa-e**, 'the king appears in a thunderclap' (Edzard op. cit., p.142; cf. also Kramer 1979:58). During the third millenium the term **lugal** came to be applied to the pre-eminent position in a single city-state or over several, while the terms **ensi** (unless someone like Sargon was making a point about his own legitimacy, biographic and political!) tended to be assumed by local or subordinate rulers, eventually being applied to governors and administrators; that is, to royal officials by the late Sargonid period (Hallo[1957]1963b:45).

Eannatum was an aggressive and innovatory ED III ruler of Lagash in the southwest, who, widely victorious, took the title of **ensi** upon himself. But before him, and even into the early part of his own reign, the independent rulers of Lagash had called themselves **lugal Lagasa** (Hallo op. cit., p.39). His military exploits were so extensive that he was able to assume the title **Lugal Kisi**, 'King of Kish', equivalent in meaning to 'king of kings'; pre-eminence in, if not total mastery of, the whole of Sumer (cf. Edzard op. cit., pp.147-8). Consequently Eannatum has left us many inscriptions, one of which deserves to be reproduced entire as it draws together many of the themes of this chapter so far and of its subsequent part. Particularly noteworthy is the opening section dedicated to the gods and celebrating their support. In this context the taking upon himself of the **ensi** title seems equivalent to assuming the mantle of 'defender of the faith'.

The inscription is from an inscribed boulder dedicated to the god Ningirsu (lord of Girsu) or Ninurta as he is called when worshipped at his temple in Nippur. He is 'lord of the floodstorm' in the Eninnu temple at Girsu, the 'ploughman of Enlil' as Ninurta at Nippur. Jacobsen (1976:80) considers the force inherent in Ningirsu/Ninurta a particularly apposite ruler metaphor. The translation is by S.N. Kramer (1963:309-10):

FOR NINGIRSU - Eannatum, the **ensi** of Lagash, whose name Enlil had pronounced, to whom Ningirsu had given strength, whom Nanshe had chosen in (her) heart, whom Ninhursag had constantly nourished with (her) milk, whom Inanna had called by a good name, to whom Enki had given understanding, the beloved of Dumuzi-Abzu, the trusted one of Hendursag, the beloved friend of Lugaluru, the son of Akurgal, the **ensi** of Lagash - his (Eannatum's) grandfather was Ur-Nanshe, the **ensi** of Lagash - restored Girsu for Ningirsu; built for him the wall of the 'holy city'; (and) built Nina for Nanshe.

This first section is entirely '**ensial**' in that it rejoices in the god's blessing upon Eannatum as a pious **Ensi**, nourished by the gods and himself succouring their houses (temples).

Eannatum conquered Elam, the lofty mountain, (and) heaped up their (that is, the Elamites') burial mounds. He conquered the **ensi** of Urua, who had planted the standard of the city (Urua) at their head (that is, at the head of the people of Urua), (and) heaped up their burial mounds. He conquered Umma (and) heaped up their twenty burial mounds; returned Guedinna, his beloved field, to Ningirsu. He conquered Erech [Uruk]; conquered Ur; conquered Kiutu; laid waste to Uruaz (and) killed its **ensi**; laid waste to Mishime; destroyed Adua.

In the sections immediately above and below Eannatum shows his prowess as a great lord of battle before whom the armies of no other cities could stand. The slaughter of warriors (**erin**) at this time is indicative of the absence of application for slave labour.

With Eannatum, whose name Ningirsu had pronounced, the foreign lands fought. In the year that the king of Akshak rose up (to do battle), Eannatum, whose name Ningirsu had pronounced, smote Zuzu, the king of Akshak, from the Antasurra of Ningirsu up to Akshak and destroyed him. At that time, he (Eannatum) dug a new canal for Ningirsu (and) named it Lummagimdug after his **Tidnu** name, Lumma - Eannatum was his Sumerian name.

If extensive slave labour was not productive in Mesopotamia, developing the infrastructure of canals certainly was, and its glory was such that Eannatum titled it with his own intimate (**Tidnu**) name.

To Eannatum, the **ensi** of Lagash, whom Ningirsu had conceived of (in his mind), Inanna, because she loved him, gave the kingship of Kish in addition to the **ensi**-ship of Lagash.

With Eannatum, (the people of) Elam fought; he (Eannatum) drove (the people of) Elam back to their land. Kish fought with him; he drove the king of Akshak back to his land.

Eannatum, the **ensi** of Lagash, who makes the foreign lands submit to Ningirsu, smote Elam, Shubur, (and) Urua from the Asuhur (canal). He smote Kish, Akshak, and Mari from the Antasurra of Ningirsu.

He reinforced (the walls of the canal) Lummagimdug for

Ningirsu and presented it to him as a gift. (Then) Eannatum, to whom Ningirsu had given strength, built the reservoir of (the canal) Lummagimdug containing (?) 3,600 gur of 2 ul (probably about 57,600 gallons).<sup>4</sup>

Eannatum, whom Ningirsu had conceived of (in his mind), (and) whose (personal) god is Shulutula, built for him (Ningirsu) the palace Tirash.

Interesting too is the wide geographical spread of those with whom Eannatum fought: from Mari on the upper Euphrates some 280 miles from Nippur, through Akshak, near to Kish in Akkad (Babylonia) to Elam across the Tigris in Iranian Khuzistan, whose centre at Susa was about 160 miles from Nippur. It is worthwhile reminding ourselves at this point that in Sumer with Akkad there were only fourteen major cities in the Early Dynastic period. They were, from north to south: Sippar, Kish, Akshak, Larak, Nippur, Adab, Suruppak, Umma, Lagash, Bad-tibira, Uruk, Larsa, Ur and Eridu.

#### 4: Monarchy to Proto-Empire

Eannatum's triumphs foreshadowed the first approximation to the world's earliest empire under Sargon, called 'the Great', after whom the period (2334-2154) is named and whose exploits, like Gilgames, entered the corpus not only of Mesopotamian, but also Near Eastern legends. Eannatum's temporary dominance over the other city-states was more after the traditional pattern of 'Kings of Kish', whose military predominance and personal prestige may have been hegemonic, but who did not attempt unified government. That would have been an almost physical impossibility in Frankfort's view (1978:217).

Since states were essentially self-sufficient, competing for the same resources of land and water, government over them came

4. This is Kramer's own estimate and is certainly too small; 57,600 gallons is scarcely worth having for irrigation and barely enough as a reserve of drinking water in the Near East.

down to resolving disputes, such as Mesilim (c.2550 BC) as King of Kish, then Eannatum, did between Umma and Lagash; or extending those same resources by digging further canals. Trade, apart from local circulation, seems to have been more in the nature of negative reciprocity, that is military campaigns and forcible seizure, apart from 'the Dilmun trade' (overseas) and exchanges with pastoralists, discussed below.

There was accordingly no compelling economic basis of a regional ('imperial') government, but certainly there were political advantages in suppressing internal conflict and turning Mesopotamian attention outwards towards a more classical Romano-Greek form of tribute. Sargon faced ferocious autonomatist opposition in trying to add another functional level of rule above the city-state government, such that he not only had to undertake numerous campaigns but even had to found a new 'imperial' city, Agade, whence the name Akkadian derives. Sargon was, it seems propelled into this role of supplanting city-state conflict by the career of a particularly destructive *ensi* of Umma, one Lugalzagesi who "burned looted and destroyed practically all the holy places of Lagas" (Kramer op. cit., p.58). While there had been traditional (and typical) rivalry between those two cities, this anti-cultural behaviour was the sort of thing Sumerians expected only of the savages of the mountains, such as Gutians or Elamites. It seems however that Lugalzagesi was a bona fide berserk, for according to Falkenstein (1974:11) "Lugalzagesi of Umma was, like his father, originally an 'ecstatic' (*mah*) in the service of the chief goddess of the city and he joined the community of priests at Uruk in the rank of a 'purification priest' of the god of heaven after he had made Uruk the centre of his kingdom".

The suggestion by Peebles & Kus (1977:444), following Gibson (1974), that warfare could be a prime means of upward social mobility in an otherwise rigidly ranked society seems very germane here, especially when coupled to the role of the priesthood as in Lugalzagesi's case, a point stressed by Falkenstein (op. cit.).

It should be remembered that the true and presiding 'owner' of the city was its god and both human ruler and priests were his 'slaves'.

Indeed Sargon's own career appears as a parallel case of dramatic upward mobility to dominance. The humble origins of Sargon himself are of course legendary, even archetypal. It was he, an orphan, who was supposedly found floating in a basket upon the Euphrates. Raised as a gardener (in some accounts), he somehow found his way into the court of Ur-Zababa of Kish whom he eventually replaced. However the King List cites four or five others before the termination of the Dynasty of Kish and they must have been contemporaries of Sargon (who reigned for over half a century) for he did not rule all of Mesopotamia the whole time. Indeed, the confusion over who was 'king of Kish' seems to be a legendary confusion (and all legends are confused) between the **Nam Lugal** title (of the whole of Mesopotamia) and actual rulership of the city alone. Hallo & Simpson (1972:55-6) suggest that "During those fifty years Sargon seems to have been busy establishing himself as an independent ruler at Akkad, the new city he built somewhere on the Euphrates (and still not discovered) and campaigning far beyond the traditional borders of Sumer and Akkad ... thus he established his authority in a great ring round Sumer and Akkad", from southeast Anatolia to Elam and Dilmun. Only then, in this reconstruction, do the still independent city-states of Sumer proper, under Lugalzagesi of Uruk, rise against Sargon in his old age. Even then, he seems to have sought an accommodation with Lugalzagesi; but when this failed Sargon moved with great force. Lugalzagesi, 'King of the Land', was taken prisoner along with his 'fifty governors', i.e. **ensis**. But this is best told in terms of an inscription of Sargon's on the pedestal of a statue. What is notable is not only the sheer extent of his campaigns but that he claimed hegemony from the coast of the Mediterranean to the Gulf.

Sargon, the king of Akkad, the **maskim** of Inanna, the king of Kish, the **guda**-priest of An, the king of the Land, the great **ensi** of Enlil, laid waste the city of Uruk, destroyed its wall; fought with the men of Uruk,



conquered them; fought with Lugalzagesi, the king of Uruk, took him prisoner (and) brought him in a neck-stock to the gate of Enlil.<sup>5</sup>

Sargon, the king of Akkad, fought with the men of Ur, conquered them, laid waste their city, (and) destroyed its walls: laid waste E-Ninmar, destroyed its walls, laid waste its territory from Lagash to the sea, washed his weapons in the sea (the Gulf); fought with the men of Umma, conquered them, laid waste their city, (and) destroyed its walls.

To Sargon, king of the Land, Enlil gave no rival; (indeed) Enlil gave him the entire territory from the sea above to the sea below.<sup>6</sup>

Akkadians<sup>7</sup> held the *ensi*-ships (everywhere) from the lower sea and above; the men of Mari (and) the men of Elam served Sargon, the king of the Land (as their master).

Sargon, the king of the Land, restored Kish (and) gave that city to them (the men of Kish) as a dwelling place.

Whoever destroys this inscription - may *Utu* [the sun god] tear out his foundation (from under him); may he bereave him of his seed. (Kramer 1963:324).

More than just the ideological flavour of public rhetoric (i.e. the glorification and vindication of policy) can be gained from this text. For instance, given the continuity of the major cities and even of their rulers, Lugalzagesi, after his humiliation (Hallo & Simpson *op. cit.*, p.57), was allowed to return to his base as governor under the (now) supreme overlord. Presumably only *ensis* who had died fighting or who were intractable were replaced by Akkadians as the inscription suggests. However the integrated bureaucratic and military administration characteristic of territorial states did not obtain until succeeding Ur III times.

5. Neck-stocks were one of the usual means of dealing with prisoners of war before deciding their fate (Gelb 1973:72).

6. Meaning from the Mediterranean to the Gulf.

7. Literally, 'sons of Akkad'.

More importantly, while city walls might well have been razed, one wonders to what extent cities could have been fully destroyed, since the point was to get kingship 'kalama' over the land, and not to reign over a desert. There were, after all, only ever about fourteen city-states in Sumer and Akkad proper, extending over an area only about the size of the Irish Republic (Seton Lloyd 1978: 135) and whose permanent influence reached not farther north than Mari and Assur, and only in places to Elam.

We can see, however, why Sargon's grandson Naram Sin (2254-2218) would want to destroy Ebla in Upper Syria, which, an inscription reads, 'since the beginning of mankind no king had ever destroyed'. Ebla was the major power in the north and stood between Akkad and the wood and mineral resources of the Amanus, Anatolia and Cyprus (Mattiae 1980:174-8). The point was to thrive by monopolising exchange and extracting tribute, and it seems Sargon only opened the way, as we read from another of his tablets:

Sargon, the king of Kish, triumphed in thirty-four battles (over the cities) up to the edge of the sea (and) destroyed their walls. He made the ships from Meluhha,<sup>8</sup> the ships from Magan,<sup>9</sup> (and) the ships from Dilmun<sup>10</sup> tie up alongside the quay of Agade.

Sargon, the king, prostrated himself before Dagan<sup>11</sup> (and) made supplication to him; (and) he (Dagan) gave him the upper land, (namely) Mari, Yarmuti, (and) Ebla up to the Cedar Forest (and) up to the Silver Mountain.

Sargon, the king, to whom Enlil permitted no rival - 5,400 warriors ate bread daily before him.

Whoever destroys this inscription - may An destroy his name; may Enlil exterminate his seed; may Inanna...  
(Kramer op. cit., p.324).

8. Meluhha = the Indus (Basham 1971:19).

9. Magan = Baluchistan or Oman, probably the latter; but either or both might be so designated in different periods.

10. Dilmun = Bahrain (Bibby 1970:220-1).

11. Dagan = the major god of the Upper Euphrates.

It is interesting that as late as this, and with Sargon commonly and all too loosely history's first emperor, the standing army at the capital amounted to only five and a half thousand soldiers. This should tell us something about the numbers of professional warriors at the disposal of rulers of individual city-states, and perhaps why they found it often so difficult to resist incursions by Gutians, Amorites and other non city-dwellers. It should also tell us something about the expense of providing bronze arms and armour for warriors, as a result of which its use was probably confined to professionals and the aristocracy, hence their occurrence in the better class of burials (Moorey 1982:32).

In armies almost entirely consisting of phalanxes of spearmen, helmets, shields and armour would largely have been of leather. In productive uses too, copper and bronze were scarce and precious. Where, as generally, alternatives were available those were employed. "Until at least the Akkadian period sickles with a flint edge were still the predominant type... Where baked clay, ground stone, chipped flint, bone or wood sufficed for agricultural tools then they continued in use, as in prehistoric craft traditions" (idem).

Bronze and even copper ingots (the basic register of exchange values until the Akkadian period) were, then, an elite good, "subject to rigorous bureaucratic control, constant recycling and use only for essential artifacts" (idem). An indicator of the value and scarcity of metal even for the elite is that arrowheads and spearheads

and where necessary daggers and axeheads, were issued by a central authority in periods of conflict to the main body of troops, and then withdrawn into the city, temple or palace armoury. Significantly, when such arms appear with men of markedly lower status, they are the guards of the 'Royal Tombs' at Ur: presumably the standing royal guard and part of the household.

The primary application of metal was thus warfare and warfare is both negative trade and negative production of subsistence. According to Jacobsen ([1957]1970c:143) "In the myths (4th millennium) life was on the whole peaceful, with only an occasional serious threat of war". In the subsequent millennium, however, war became the rule in the epics, cities were ringed with large defensive

walls, their rulers thought mainly of war and conquest and thus the danger of sudden attack was an ever present reality. The risks involved in such attacks were indeed real and serious.

G.A. Johnson (1973:157), discussing 'Local Exchange and Early State Development in Southwest Iran' on the basis of his survey work there, specifically locates state formation on the Susiana plain of Khuzistan in the Early Uruk period of the fourth millenium:

The first indication of potential external conflict appears in Middle Uruk with a concentration of large settlements on the margins of the settlement system. The first indications of internal conflict do not appear until late Uruk, well after the development of state level organisation.

Susiana, however, is not, be it noted, in the 'heartlands' of the alluvium, where competition might be expected to be the fiercest. There, work by Hans Nissen on the city wall of Uruk (1972:796) indicates that

the records of the subsequent Early Dynastic II and III periods are full of local fights between neighbouring cities, such as the one known from contemporary sources between the old centre of Lagash and the new centre of Umma over a stretch of borderland. It is probable therefore that the first city wall of Uruk was a response to feared or actual hostilities from the new emerging centres. This would make the earliest wall of Uruk a product of the changes in the distribution of power at the end of the Early Dynastic I period.

In this connection we may read G.A. Johnson's (op. cit., p.160) suggestion that "primary state development involves overloading the decision making organisation of a chiefdom". Earlier in the same work (ibid., pp.4-5) he had declared that "a society must have a differentiated decision making hierarchy of at least three levels to be considered a state"; without really saying why, except to observe that "the presence and elaboration of such hierarchies have been related to problems of basic information

handling and decision making" (Johnson op. cit.). If, however, we disregard the cyberneticist analogues and implications, and concentrate on decision making in the political sense, we can see that until the apparatuses or institutions of power are in place, that is, means of ideological, economic and military control, there can be no sense in which a state can be said to exist, only, as Johnson (passim) rightly maintains, chiefdoms. Indeed, as Renfrew has recently (1982:4) observed precisely of the type of settlement data utilised by Johnson (op. cit.), "it is dominance which establishes hierarchy, which generates the different levels or strata within a system of ranking, thereby establishing it as one of stratification". The immediate reference here is to settlement size and role, but the argument holds for institutions also.

But perhaps, in the light of what has been said above and what will be argued next concerning self-governing communities, there is no **necessary** social space for, and thus evolutionary stage of, chiefs and hence chiefdoms. The possibility suggests itself in our material, that perhaps some other category is formative in Mesopotamia that is not caught in the usual 'segmentary/chiefdom/state' classification that derives from Service (1962) and which was reviewed earlier (Chapter VIII).

It seems likely that we are encountering something we can call **synoecism**, Thucydides' (I.10) term for 'settling together' with distinct implications of urbanisation and state-formation (Humphreys 1972:764). In the process of urbanisation war chiefs (**lugals**) and cultic chiefs (**ensis**) emerge, the latter during the Uruk period, the former in the Early Dynastic. And the focus of this communality as a new settlement type is not the chiefly institution but the temple, and most importantly the urban settlement itself which demands a new set of relationships for living together, **synoecism**, celebrated at Athens by the Feast of Union (Thucydides II.15).

Proceeding from the generally overlooked truism that people, however socially organised must live and work in determinate areas

having regard to the actual productive resources available, D.H. Turner (1978:226) has distinguished two complementary but analytically distinct organising principles of people to environment. The first employs the principle of lineal kinship which is necessarily 'confederational' (due to lineal exogamy) and serves to spread people over the available resources. The other, 'an incorporative principle of group formation' applies directly to a permanently occupied locality in which co-residence serves as the basis of kinship ordering rather than vice versa. This 'locality-incorporative' mode, in contrast to the 'kinship-confederational' (also called by Turner the 'lineal exogamous'), is thus "likely to appear as a cognatic or genealogically-based one and would remain so as long as production associations continued to be formed within the territory concerned and did not become ordered primarily through the 'kinship' principle adopted" (*ibid.*, p.227); that is, so long as the ideology of kinship did not overtake the necessity of fitting people to the local resources, something we shall further examine in Chapter VI.

Turner himself endeavours to apply those distinctions to the progress of complex societies and here there are implications for dense settlement on the Mesopotamian alluvium. As suggested above, states tend to reduce all those they incorporate to the status of subjects, with a fundamental cleavage into rulers and ruled. In this process a social plurality develops since kinship statuses become supplanted by those inherent in stratification with overall social coherency given by the political economy. The process is in fact one of the transformation of kinship rank into class, as will be seen at length in Chapter X. In this context the importance of the 'ward' (*babtum*) organisation of Mesopotamian cities become apparent, alongside occupation-group organisation under an 'overseer' (*ugala*).

## 5: The Institutions of Civic Society

The social relations of civic society, that is the society of city-states, is political in idiom (as the very etymology suggests) since here membership is by co-residence (corporative territoriality), as against lineal or ramified kinship and dispersed residence. "We must note in the first place that the original articulation of Mesopotamian society was local rather than tribal. In other words habitat rather than kinship defined one's social affiliation" (Frankfort op. cit., p.215).

Horizontal distinctions are emergent on the basis of social classification, which I am here calling ascriptions, that divide the population of cities into aristocrats, commoners, helots and slaves (and outsiders, pergrini, metics, who are neither), and which only in the process of evolution provide the basis for a purely economic stratification. Ascriptions provide political perogatives that give access to wealth in (a) landholding; (b) state revenues; (c) commerce.

In the city states of Greece "the distinction of the most far-reaching significance, one that continued right through the classical period in both democratic and oligarchic states, was between the citizen and the non-citizen, because it was a universal rule - I know of no exception - that the ownership of land was an exclusive prerogative of citizens" (Finley 1973:48). And at Rome the propertyless plebs, because they were technically citizens, lived at state expense, profiting from the exploitation of both slaves and a depressed peasantry, also technically free. In sharp contrast segmentary society, where the 'tribal' kinship modes remain intact produces a 'vertical' classification system resulting, through conical clan-type structure in the 'Asiatic' state. Here land remains overwhelmingly collective property (of clans or the village or the state), or rather its benefits accrue to the 'representatives' of those collectives.

The formation of each corresponds to distinct modes of production, seen clearly in the case of Mesopotamian city-states to reside in the presence of a number of competing 'modules' that lack any extensive hinterland. This absence of an extensive rural domain to be monopolised from a primate city is reflected also at the level of the state, where it is marked by the absence of an autocrat or despot.

At the outset of the historical period in Mesopotamia, palace separates from temple and various types of administrators from both ruler and priests. In the EDIII period Entemena, **ensi** of Lagash, was no longer its high priest, for his inscription of a silver vase dedicated to Ningirsu explicitly states: "In those days Dudu was priest (**sanga**) of Ningirsu" (Barton 1929:53).

In addition, even Sargon, or in the next millenium, Hammurapi, as 'early emperors' were not in any fashion absolute: "the Mesopotamian kings were anything but Oriental despots" states Oppenheim (1977:103). In this at least he agreed with a scholar with whom he did not always concur, I.M. Diakonoff, who likewise maintained (1969c:185) that "the ruler's authority beyond the territory which he controlled directly (i.e. beyond the temple estate, and later, crown land) was neither autocratic, despotic, nor unlimited". Although in the areas of Mesopotamian unification the local **ensial** estates tended to be transformed into "something like branches of the united royal estate that embraced the whole region" (Tymenev 1969b:81), beyond this **ensi**, **lugal** and later even 'king of kings' "had to buy land as any other mortal" (Diakonoff op. cit., p.182) and many such deeds survive. On social, geographical and sequential grounds (of the actual archaeological evidence), Adams (1981:243) also rejects a Mesopotamian despotism, even when it is supposedly founded on an assumed economic necessity, as is Wittfogel's famous (1957) 'Comparative Study of Total Power' as he subtitles his work on 'Oriental Despotism'. Having criticised Wittfogel's rigid and monocausal systematics that reduce Mesopotamian, Egyptian, Inca and Chinese civilisations to variants



of one type where "farming depends on large-scale and government-directed water-control", producing "an inordinately strong government" which is "stronger than all other forces of society" (Wittfogel 1971:560), Adams disposes of those supposed correlates in no uncertain terms:

Insofar as conditions denoted by his construct of a rigidly authoritarian, centralised, bureaucratic 'Oriental Despotism' ever were even remotely and briefly approached in this historical and geographical setting (of Mesopotamia), they were never a norm and instead might be described as a kind of asymptote or limiting case. (Op. cit., p.243).

Those strictures apply similarly to Claude Mosse (1969:5), who imagines "in the Near East before the Greek civilisation ... the king (to be) the master of the land and of men" because of 'the divine origins of royal power'. We shall indicate in the next section the processes of the origin of royal power and the extent to which royal power, if considered divine, had the opposite effect. However, Adams (op. cit.) continues to dispose of Wittfogel's grand schematism as follows:

Underlying Wittfogel's view is an insistence that the management and coordination of an irrigation system of any size requires a despotic political regime that completely suppresses the scope of action and autonomy of all other societal groupings within its compass. It should have become apparent in the earlier chapters of this study that in Mesopotamia that kind of unrestricted power was conspicuous by its general absence, and that even in the conduct of irrigation the hand of the state was only selectively and episodically applied".

Adams goes on to criticise Wittfogel for trying to extract, or rather impose, one relationship as uniquely causal or determinative in a complex interactive set. Here we will simply observe that the actual empirical basis for state control is not only absent but contrary, not least in a plethora of texts. There just never was in our period a unitary state sufficiently large and powerful to control the hydraulic resources of Sumeria. The non-utilisation of

the Tigris until the last millenium BC is just one facet of this. Another is that even Sargon 'the Great' was constantly facing revolts of the individual city-states with assorted allies, wishing to return to their 'natural' autonomous and competitive condition, not least **in dispute** over water. Just like the Greek city-states, their culture united them but competition over material resources divided the cities of the plain. And it is there, on the alluvium, that an alleged "hydraulic society, to be used interchangeably with 'Oriental society'" (Wittfogel op. cit., p.560) would have arisen, if at all.

The common pantheon with local emphases upon particular deities and myths is but one feature of Mesopotamian city-states shared by those of classical Greece. Another is that the names of the months in both areas varied from one city to another. Thirdly, in both the phalanx was the fundamental military formation. The phalanx was a unit of heavy infantry fighting shoulder to shoulder in lines of compact formation with shields and lances. For both defence and attack the phalanx had to stay united: manoeuvring for position and attacking in formation at the run. As such it depended upon the unity of self-discipline for its integrity (Gonen 1975:30); a unity only forthcoming from such a formation in its ideological motivation to defend its home city (idem). As Garlan (1969:124) explained the phalanx in his study of ancient warfare: "The introduction of the hoplite panoply [body-armour, shield, lance, short-sword] and of a battle formation founded upon a spirit of solidarity and discipline is usually associated with the birth of the city-state and the expansion of the civic body". Only 'civic soldiers' could fight in such an inter-dependent formation requiring selfless discipline (Gonen op. cit.).

The convergence of many roles in that of the ruler, economic, ideological and military, far from giving him an absolute power in which "free man played (no) part at all in political activity" (Mosse 1969:5) on the contrary depended upon civil harmony **and balance** within, and indeed the military balance without (Oppenheim

1977:103) such as Urukagina and then Lugalzagesi found to their cost.

## 6: The Norms of Rulership

Writing of the later (Hammurapic) Dynasty (1894-1595), Diakonoff (1969c:199), while observing that by this time a 'centralised despotic monarchy' had formed,<sup>12</sup> yet remarks that "the validity of the authority of the king over all Babylonia depended on his exercising in every 'nome' the function of high priest to its local deity". And we know too that from the earliest period "The building and upkeep of temples was of all civic functions the one perhaps most closely linked to chief magistrate or king" (Hallo [1957] 1963b:142).

As 'chief magistrate' the king exercised also the 'chief judgeship', since he ultimately held both divine and physical sanctions; a relationship made clear in the preamble to the law code of Lipit-Ishtar (c.1934):

the wise shepherd, whose name had been pronounced by Nuamnir (i.e. Enlil) - to the princship of the land in order to establish justice in the land, to banish complaints, to turn back emnity (and) rebellion by the force of arms, (and) to bring well-being to the Sumerians and Akkadians, then I, Lipit-Ishtar, the humble shepherd of Nippur, the stalwart farmer of Ur, who abandons not Eridu, the suitable lord of Erech (Uruk), king of Isin, king of Sumer and Akkad, who am fit for the heart of Inanna, established justice in Sumer and Akkad in accordance with the word of Enlil. (Kramer op. cit., p.336).

This prologue goes on to assert in very Confucian 'rectification' terms, how Lipit-Ishtar made all the fundamental social categories (fathers, sons, husbands, wives, etc.) live up to the social responsibilities inherent in those statuses.<sup>13</sup> Indeed

12. Although such a despotic monarchy could not be long sustained (Hallo & Simpson 1971:102).

13. This is the precise sense in which the term status is used in other chapters.

the great codices of Mesopotamia are all essentially 'rectifications' of established practices rather than innovations, with, for instance, clarification and updating of compensations for sundry offences. Thus the surviving fragments of Ur-Nammu's (c.2112) code at the outset of the Ur III period, consist of the amount due in recompense for loss of foot, bones or nose, through misuse of weapons or tools. Even the great 'reform' code of Urukagina<sup>14</sup> (c.2300) though having the widest scope known seeks, like the misarum cancellation of debts that accompanied a new reign, to reestablish things as hitherto. This applies particularly to **andurarum** royal acts (in Sumerian **ama.ar.gi<sub>4</sub>** or **am.gi<sub>4</sub>**) which from as early as the time of Entemena (c.2450) referred especially to the freeing of slaves, and the release of cities from oppressive burdens (Lemche 1979:11-22). Likewise with the most famous, because most complete of the Mesopotamian codes, that of Hammurapi (c.1790) we see in it "an Akkadian compilation of laws based largely on Sumerian prototypes" (Kramer 1963:295). It was not the great innovation that previous generations imagined, though it did have enormous influence on the subsequent history of the Near East (idem).

But not only transcendental and physical power focus upon kingship, administrative responsibilities did too. Even the great autocrat Hammurapi is inextricably involved in mundane daily routine, as may be seen in a group of texts from Sippar where an agricultural official, Samas-hazir, is instructed by the king to collect his records and those of his subordinates and to meet Hammurapi in Sippar to 'go over the books' together (Ellis 1976:14).

Maine (1883:160), who can have known next to nothing of ancient Mesopotamian kingship since Assyriology was then still in its formative stages, yet wrote most appositely (in Early Law and Custom) despite and occupational legalism:

Whenever in the records of very ancient societies, belonging to races with which we have some affinity, we

14. I.e. Uruinimgina.

come upon a personage resembling him whom we call the King, he is almost always associated with the administration of justice. The King is often much more than a judge. He is all but invariably a general or military chief. He is constantly a priest and chief priest. But whatever else he may be, he seldom fails to be a judge, though his relation to justice may not be exactly that with which we are familiar.

In those his civil functions, the king was on the one hand constrained by custom and belief, on the other assisted by subordinate but relatively autonomous and equally traditional government organs. Thus, in this, Hammurapic period of 'centralised despotic monarchy' (Diakonoff 1969c:199) nonetheless, as he goes on to relate, the royal administration and community organs were linked through the town mayor or village headman (**rabi-anum**), presiding over the community Council of Elders (**sibutum**) and the community court of law, the latter sometimes identical with the former and sometimes a special committee of it. The **rabi-anum** and the Council together dealt with problems of landownership and local administrative matters; the **rabi-anum** and the community had the duty to arrest robbers on the territory of the community, failing which they had to compensate the victims for their losses.

We noticed above the central role of compensation; and we see here the intrinsic governmental role of 'judging', even by subsidiary organs. There seems indeed to have been no judges by profession (except perhaps for seven 'royal judges' at Nippur), but instead anyone of substance might serve (Kramer op. cit., p.86, where a list of occupations is given). Those criteria also applied to the signatories to court decisions (**ditilla**), both the actual notary himself (**mashkim**), and likewise to the 'witnesses' who functioned either as witnesses in the civil sense (as 'recorders' but not as those giving evidence), or else they functioned as a jury. Oaths, however, were not administered in court but in a temple (ibid., pp.86-7), and none of those 'legal' roles was "a regular and permanent profession" (idem). What we see here is law functioning as the intersection of ideology, administration and

representation.

Alongside the Council of Elders there existed other organs of community self-government such as the Popular Assembly of a town community (alum) and the assemblage of a city ward (babtum). The functions of the Council, the Popular Assembly and the assemblage of the city ward probably differed in the various communities. The community organs had their own officials (keepers of records, wardens, etc.), a treasury, etc. There existed also undivided tracts of community land, although they were not extensive. (Diakonoff op. cit., p.200).

So there was a great deal of continuity, autonomy and hence a rather circumscribed autocracy, though Diakonoff himself does wrestle with the 'Oriental Despotism' phrase but, in the light of the existence of 'collective self-government organs' concludes that the sphere of despotism was limited "so to speak, (to) super-community and extra-community relations" (ibid., p.202). That is, to relations between city-states, and between the city-states of Mesopotamia and external forces.

Specifically merchant cities like Sippar, studied for the period from 1894 to 1595 BC by R. Harris (1975:69), were if anything even more autonomous, with the town run predominantly by and for merchants and in which the karum (quay) is not only the locus of trade but of administration. And notwithstanding the long strides 'from status to contract' made by this time at least in a predominantly mercantile city like Sippar where, indeed, most of the documents recovered so far have been contracts of some sort, the central role of religious ideology is still manifest, even in specifically commercial affairs: "In the very early part of the Old Babylonian period, when Sippar is ruled by local rulers, the legal texts specify the curses to be inflicted on the party who breaks the agreement" (ibid., p.133).

Later, however, action triumphed over imprecations, with contracts threatening plaintiffs that "their (sic) noses will be pierced, his hands stretched out (in a stock?) and he will (thus)

walk about the city square of Sippar" as Harris quotes from one such (op. cit.). Records of those consequences actually ensuing also exist. Further, lawsuits can also be won or lost on the basis of whether or not the oath to be administered in the sanctuary (supra) of Samas' temple (Ebbabar, 'the White Temple') is taken or refused (ibid., p.144). And, as suggested above, in the private economy of buying, selling and leasing, the king conforms to written contract just like a private, though wealthy, citizen. Until Hammurabic times by when the burden may have been confined to ilku plot holders (Komoroczy 1976:34) all citizens were... obliged to do corvee labour on the infrastructure (roads and canals), or provide substitutes. Indeed "women are also included and may have been able to substitute for their husbands" (ibid., p.115). But most significantly, the form of social integration involved in a period usually regarded (e.g.: by Diakonoff op. cit., pp.198-9) as one of increased commercial<sup>15</sup> opportunity after a tight Ur III period of state control, is indicated from a document collected by R. Harris (op. cit., p.82): "The bailiff (of Sippar), Abum-waqar, hires a man to carry the divine symbol of Samas about the countryside in order to collect the barley tithe from the devotees of the god and bring it to Sippar. Since the first witness to this hire (sic) contract is the **rabianu** (mayor), the bailiff in this case is apparently acting on behalf of the city and not the temple."

This, it should be noted, in the highly commercialised city of Sippar, and at a time, when Lamberg-Karlovsky (1975:349-59) reminds us there had long been specialised merchants in long-distance trade and even merchant colonies in Anatolia, such as Kanesh. Indeed the divine symbols were leased out and carried about

15. R.B. Rowton (1980:298n) suggests the Old Babylonian period was one of 'incipient capitalism' which "took the form of loans on excessively high interest". However usury and the resulting debt-bondage were far from new and it is hard to see why "Babylonian society was entirely unprepared to deal with" it. Rowton (op. cit., p.298) also reckons that Hammurabi had succeeded in doing away with the city-state system once and for all", but couldn't make empire stick. "Instead, Babylonia once again lapsed into a long process of trivial obscurity, although in this case the decline was a gradual process." It had also much to do with Kassite irruptions, and not to mention this is like overlooking similar events in the collapse of Rome; though many factors, of which usury was no doubt one, tore O.B. society apart.

the countryside for a number of reasons: to ensure the just collection of taxes and tithes, the fair distribution and storage of the harvest yield, and to further the settlement of disputes (R. Harris op. cit., p.204). And least it be thought that such ideological inducements applied only to a traditional and rural peasantry, merchants and their creditors did their final reckoning in the Samas temple to liquidate their partnerships and liabilities, there dividing any profits (ibid., p.262).

### 7: Organisation of the Economy

From Akkadian times, at least (that is from c.2,300 BC), "there appears to have been a fairly continuous band of cultivation that varied in width but extended down the centre of the alluvium for virtually its whole length, from Sippar to the head of the Gulf" (Adams 1981:147). Large labour gangs, consisting of both men and women (**gurus** and **geme**) and amounting to about one fifth of the urban population (excepting Nippur and Ur, privileged by cult and power respectively) were assembled in the south to work progressively northward as the wheat and barley harvest became sequentially due between April and June (ibid., pp.145-6). Nonetheless, apart from this extensive organisation of labour, "marked regional interdependence was a less constant feature, perhaps confined to the Ur III period" (ibid., p.147).

Not only was the return to seed, at 38- to 39-fold in Ur III times, high by European standards up to the present (supra), though in decline from 41-fold in the time of Urukagina to 36-fold for the Neo-Babylonian period (Jones 1976:60-1), but productivity was likewise high at harvest, the critical time, with texts recording 3.53 hectares harvested per person (although about half of this area should have been fallow) (Adams op. cit., p.146). This is both a creditable and credible figure, for under similar conditions in the same areas the Iraqi Bureau of Statistics (1954) gives the average number of hectares per agricultural worker as 3.24 in harvest. Nonetheless with a seeding rate of 55.5 litres of seed per



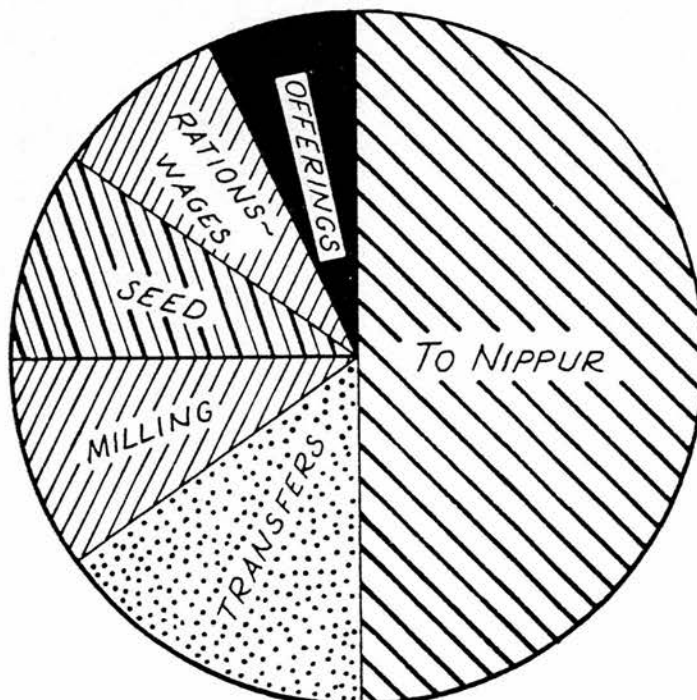
hectare in the Ur III period, it was more than twice the average rate applied at the end of the Early Dynastic period (Jacobsen 1958 : 63).

About half of gross yield was consumed in costs of production, as Jones' (op. cit., pp.41-61) invaluable study of Ur III economic texts makes clear. For instance

in the territory of Lagash a dozen or more temple establishments were responsible for cultivating most of the arable land ... The main crop was barley, and in any given year the yield averaged better than two million bushels. About half of this amount was consumed by the cost of production (wages for workers, feed for draft animals and the like), and a quarter went to the king as royal tax. The remaining 25% accrued to the priests. From this they fed themselves, paid out seed grain, sent large quantities to Nippur, provided the grain for milling, and so on. (Ibid., p.57).

The relative amounts expended by an official so charged, one Bazi, is clearly illustrated in the pie chart (Figure IX:2 below).

FIGURE IX:2  
RELATIVE AMOUNTS OF GRAIN (IN KUR) EXPENDED BY BAZI  
FOR VARIOUS PURPOSES<sup>16</sup>









16. From Jones 1976:57.

Actual budgeting rates for barley in the Ur III period were for a yield of 60 gur per bur seeded at 460-70 sila per bur (Jones *op. cit.*, p.60); where there are 300 sila in a gur ('one barrel') and a bur (consisting of 18 iku) is equivalent to 16 acres or 6.5 hectares.





TABLE IX:1  
SUMERIAN MEASURES AND THEIR EQUIVALENTS<sup>17</sup>

1—Measures of Length

	š u - si		"finger"
	kùš	= 30 su-si	"cubit"
	gi	= 6 kùš	"reed"
	gar - ( du )	= 2 gi	
	èš	= 10 gar - ( du )	"line"
	danna	= 1800 gar - ( du )	"league"

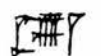


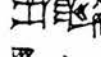
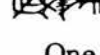
One kùš is about 50 cm. or 20 inches.

2—Measures of Area

	sar	= gar - ( du ) <sup>2</sup>	"garden"
	iku	= 100 sar	"field"
	bùr	= 18 iku	
	šár	= 1080 iku	


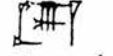

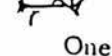
One s a r corresponds to 35 square meters or 376 sq. ft.

3—Measures of Capacity

	gín		
	sila <sub>3</sub>	= 60 gin	
	gur	= 144 sila	
	gur-lugal	= 300 sila	"barrel"
	gur <sub>7</sub>	= 3600 sila	

One sila<sub>3</sub> equals 0.850 liters (almost one-fifth of a gallon).

4—Measures of Weight

	še		"grain"
	gín	= 180 še	"shekel"
	ma - na	= 60 gín	"mina"
	gú	= 60 ma - na	"talent"

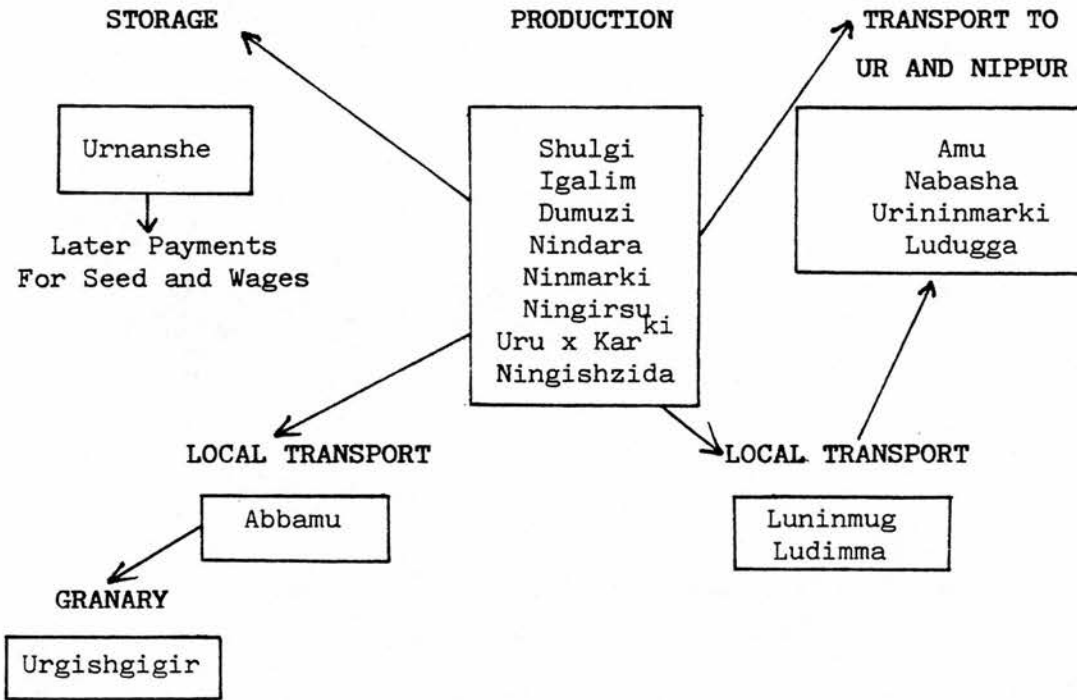
One m a - n a corresponds to about 500 gr. (approximately 1 pound).

17. Taken from Kramer (1963:107); translations are given when known.

Product flows are represented in the following chart (Jones op. cit., p.59) based on the account tablet of Ur-dingirra, **sanga** of the divine Shulgi, the first Sumerian king to be deified in his own lifetime (and indeed at his own instigation) (Klein 1981:8).

FIGURE IX:3

A PRODUCTION AND DISTRIBUTION FLOWCHART



The core box, marked 'Production', contains the names of temple establishments. Abbamu (lower left) was the ship captain who delivered grain from various establishments to the granary superintendant, Urgishgigir (bottom left). Storage (upper left) was effected by Ur-dam, agent of Ur-Nanse "for storage and ultimate distribution in the same manner as illustrated by the accounts of Bazi: most of the remainder was stored by Ur-dingirra in local barns" (Jones op. cit., p.58). Ludimma (lower right) and both Amu and Urninmarki (upper right) are yet more boatmen, while Ludugga and Nabasha are granary superintendants responsible for transport as well as storage. In all, Ur-dingirra, the **sanga**, disposed of 3,700 kur (idem).

In this context it is worth bearing in mind that "three **silá** of grain per day was the normal subsistence wage for Sumerian workers unable to make special demands upon the economy by virtue of skills or importance" (Jones & Snyder 1961:258). That, of course, works out at 2.4 litres of grains per worker per day. While adequate in calories, being in excess of the required 3,000 daily for an adult, such a diet would be intrinsically deficient in both protein and minerals, and vitamins too, were it the sole means of sustenance (Ellison 1982:3-4). Children, on a **pro rata** diet, would be even more seriously affected. Pastoral nomads, with a much higher protein diet, enjoy better health and hygiene than contemporary and, very likely, historic peasants of the region (Barth 1960:82). However diet was supplemented by the oil and beer in rations, and in access to procurement either from the family holding or by purchase. A standard wool allowance (linen being reserved for priests and the wealthy) seems to have been around 10 **manna** (Jacobsen 1953:221); with one **manna** equivalent to about 500gm; or more exactly  $504\text{gm} \pm 30\text{-}40\text{gm}$  (M.A. Powell 1979:88).

The wool and meat requirements were met by continuous movements from the periphery of Mesopotamia to the temple centres, funnelled largely through Drehem (Calvot 1968:103-113) to supplement the state herds kept on both the alluvial fallow and upon the surrounding non-cultivable (**edin**) steppelands (Adams 1981:148). Steppe, stubble and riparian verdure were, however, systematically linked in the ecology of pastoral nomadism, tribally organised. To the plains "steppe nomads came in the spring, mountain nomads in the autumn" (Rowton 1980:294).

Prior to the advent of long-range (camel) nomadism, those cyclic to those relatively short range movements within or across the borders of states, Rowton (1973:247-258) gave the designation 'enclosed nomadism'. But those tribal groupings, of whom the best known are from the Mari area around 1830-1760 BC, particularly Haneans and Yaminites, exhibit a 'dimorphic structure' (Rowton 1976: 17-31). Since their migrations take place within the ambit of city-

states, the pastoral nomads, while avoiding outright control such as the state exercises over most of the settled population, nonetheless are symbiotically tied into the economy of the city-state (Matthews 1978:132). As suggested above (pp.81-83), pastoral nomadism is a specialised development to exploit terrain otherwise not available to any but hunter-gatherers. In fact this can be seen as a particular form of foraging, mediated by animals, in our case mostly sheep (idem). Indeed in its developed, 'historic' form to which the term dimorphic structure applies, with the constant interaction between mobile and sedentary, that is, between the pastoral and the agricultural, we can conceive of this symbiotic relationship also as a kind of extended transhumance by a (differently organised) sector of a regional population.

The necessary but often tense process of the exchange of products and services between agriculturalists and pastoralists is something we see worked out in the myth 'Inanna Prefers the Farmer' (Kramer 1961b:101). Here the farmer god Enkimdu and the bellicose shepherd god, Dumuzi, are competing for the hand of 'the maid Inanna' (= Ishtar), goddess of fecundity. In the suitors' dispute Dumuzi is the combative one and he boasts:

Enkimdu, the man of dike, ditch and plow,  
(More) than I (Dumuzi), the farmer, what has he more  
(than I)?

Should he give me his black garment,  
I would give him, the farmer, my white ewe for it,  
Should he pour me his prime date wine,  
I would pour him, the farmer, my yellow milk for it  
Should he pour me his good date wine,  
I would pour him, the farmer, my kisim-milk for it  
Should he pour me his ... date wine,  
I would pour him, the farmer, my ... milk for it,  
Should he pour me his diluted date wine,  
I would pour him, the farmer, my plant-milk for it,  
Should he give me his good portions,  
I would give him, the farmer, my itirda-milk for them,  
Should he give me his good bread,  
I would give him, the farmer, my honey-cheese for it,  
Should he give me his small beans,  
I would give him, the farmer, my small cheeses for them.  
(Pritchard 1969:42; see also Kramer op. cit., p.101).

What is being stressed here by Dumuzi is both the plenitude of his resources and the possibility of balanced reciprocity. Indeed the shepherd goes on, in the very next lines, to promise even more than measure for measure but a bonus of 'extra fat' and 'extra milk'. Despite Inanna's early resistance, to which are opposed the blandishments of the sun-god UTU on behalf of the 'much possessing shepherd', not only does Dumuzi eventually succeed in gaining Inanna, though originally disposed to favour the farmer, but the farmer even invites the shepherd to:

Let thy sheep eat the grass of the riverbank,  
In my meadowland let thy sheep walk about,  
In the bright fields of Erech [i.e. Uruk] let them eat  
grain,  
Let thy kids and lambs drink the water of my Unun canal.  
(Pritchard op. cit., p.42; Kramer 1961b:101).

Because pastoral nomadism is so specialised, producing only a small range of products - meat, milk-products and wool or hides - and since "they consume or require a wide variety of agricultural and industrial products" (Barth op. cit., p.69), pastoral access to agricultural resources and their relations to the state were usually buffered through tribal occupation during part of the year and/or by part of the population, of a town or village within the territory of a city-state. This is the other, more organic, form of 'enclosure'. "Typically, the dimorphic chiefdom consisted of a town, usually small, from which a local or tribal dynasty exerted a varying blend of rule and influence over the tribes in the countryside" (Rowton 1980:297). Rule, influence, revolt and conflict, with the nomads acting as raider and levees (sometimes both together), is the political side of economic cooperation and competition (ibid., p.296).

What we are dealing with, and what the city-state rulers like Zimri-Lim had to contend with as seen in their correspondence (Matthews 1978, passim), is two distinct but interlocking modes of production and hence modes of economic and political organisation.

Barth (1960:70) clearly brings out the contrasts and the articulation as he encountered them:

Throughout the South West Asian region ... the nomads become tied in relations of dependence and reciprocity to sedentary communities in the area - their culture is such as to presuppose the presence of such communities and access to their products. As far as the economic structure of an area is concerned, nomad and villager can therefore be regarded merely as specialised occupational groups within a single economic system; and this fact has great implications for an understanding of the role of the nomads in the life of the nation. Not only are they adapted to an environment containing villages<sup>18</sup> and markets and specialised craftsmen - the other occupational groups are adapted to an economic system which contains pastoral herders as one of its basic elements.

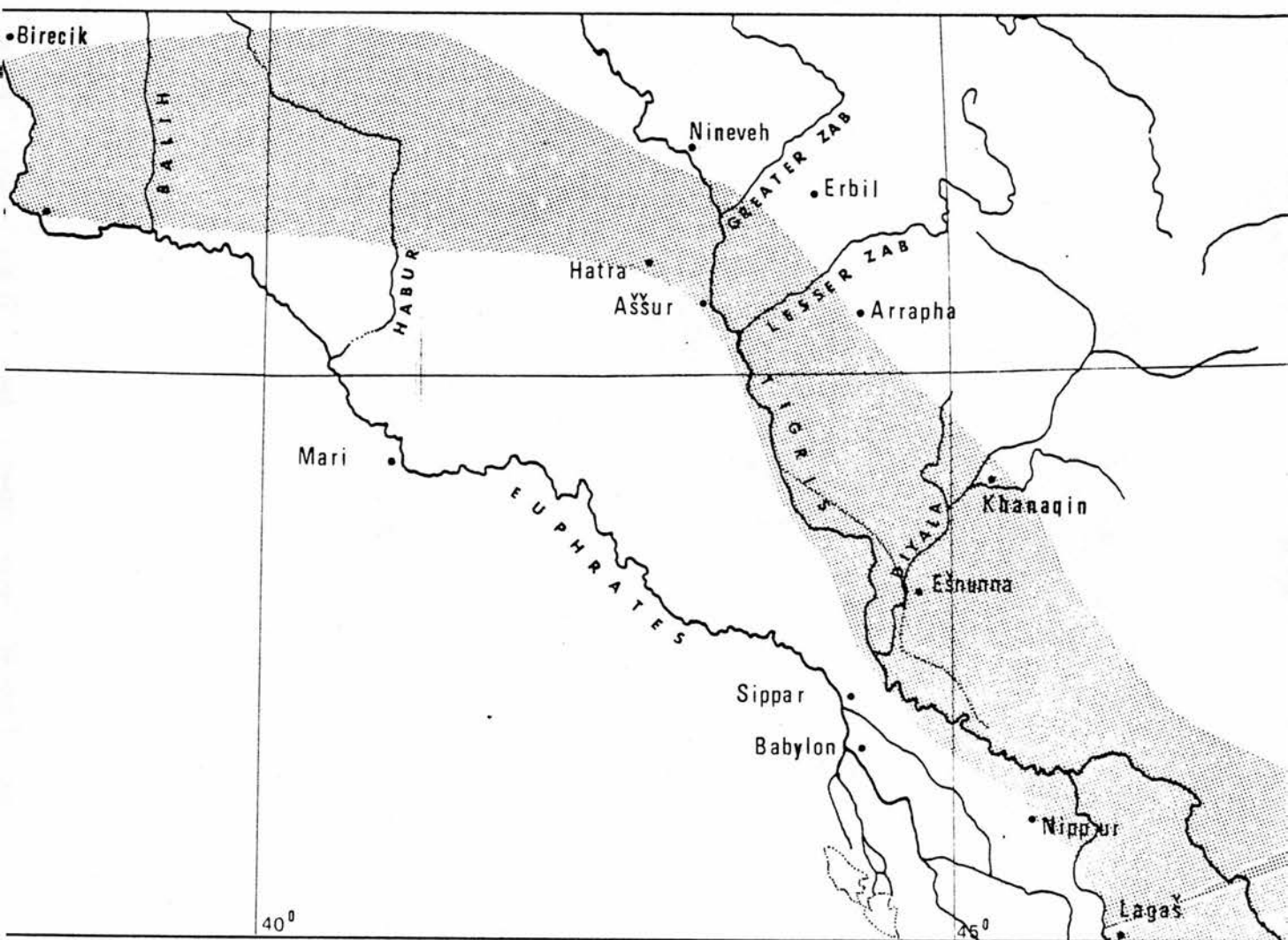
Nonetheless this was a turbulent, not a smoothly integrated system (we are, after all, dealing with different modes of production), and it is indeed from disruption, become intense and sustained at particular periods, that Rowton (1980:296-7) sees the nomadic factor playing the dynamic, if episodically destructive, role in the continuity of Mesopotamian civilisation. This because the pastoralists' role was neither marginal nor external but intrinsic, as may be seen topographically in the extent of the 'dimorphic' zones' shown in Map XIX(overleaf). When the state was strong, as was the Mari of Zimri-Lim, the nomads could be closely administered and controlled, even down to their religious observances (Matthews 1978:151). A state weakened, say by warfare, became a tempting prize.

Accordingly during the reign of the divine Shulgi (2093-2046 BC), in his forty-eighth glorious year, one text records the

18. Indeed the 'Mari' nomads often had villages of their own, occupied at least seasonally (Matthews op. cit., pp.110-112) and/or as a retreat from government control. Agriculture could also be undertaken, as when the Mari government supplied plows and other agricultural equipment in exchange for a share in the harvest, seemingly a quite common practice (ibid., p.86).

MAP XIX

APPROXIMATE LIMITS OF THE 'DIMORPHIC ZONE'<sup>19</sup>



orphic Zone in rough outline

19. Taken from Rowton (1976:31).



processing of almost 350,000 sheep and goats, plus rather less than a tenth of this number of cattle, "sent to Drehem by royal authority or by priests and officials and representing tribute, offerings and official disbursements" (Jones & Snyder op. cit., p.212). Analysing 'Sumerian Economic Texts from the Third Ur Dynasty', they found that "the animals were employed for sacrificial purposes and the sustenance of priests, officials, foreign emissaries and workers. Thousands of animals were brought in and sent out each month" (idem).

Such movements led Diakonoff (1972:43) to the assumption that temple sacrifices were the main source of meat for community members. Likewise Dinka and Nuer cattle, so well known to ethnography, have first to be sacrificed before they can be eaten (Evans-Pritchard 1940:26-8).

Also in the Third Dynasty of Ur (under Ibbi-Sin), the Royal Wool Office at Ur was responsible for 6,435 tons of raw wool and employed around 9,000 state-owned male and female slaves in its processing (Jacobsen[1953]1970b:221). The 'Royal Wool Office' undertook the supply, storage, processing, weaving and fulling of many fibres, not wool alone (Jacobsen 1970b:223). The actual labour in this period seems to have been done by female slaves under male overseers called *ugala*, themselves grouped under 'headmen' termed *nu-banda* (cf.: the dual military/productive *erin* supervision above p.164ff). One known establishment located in a village and specialising in linen, employed an average of 230 women and girls (idem).

Textiles and not metals was the major industry of the Mesopotamian world, reflecting not just the exigencies of the extreme climate, but, at least in this period, the need of textiles by the crown as "the only valuable, lightweight, marketable commodity available in the kingdom's heartland with which to meet the needs of long-distance exchange" (Adams 1981:150). In the ancient world textiles were the only sort of production that could

accurately be called 'manufacturing' as against handicraft production or direct extraction. Yet as late as the Roman Empire, which was able to syncretise productive technique from the whole circum-Mediterranean area, the classicist A.H.M. Jones (1972:40) could write of the crudity of the economy in terms that apply equally well to Mesopotamia, right down to the particulars of field rotation:

It is hard to remember that, despite its great achievements in law and administration the splendid architecture of its cities and luxurious standard of living of its aristocracy, the Roman Empire was, in its methods of production, in some ways more primitive than the early Middle Ages. Agriculture followed a wasteful two-field system of alternate crop and fallow. Yarn was spun by hand with a spindle, and textiles laboriously woven on clumsy hand looms. Even corn was ground in hand querns or at best in mills turned by oxen: windmills had not been invented and watermills were still rare. In these circumstances the feeding and clothing of an individual demanded a vast expenditure of human labour, and the maintenance of any substantial number of economically unproductive persons laid a heavy burden on the rest.

For the Mesopotamian workshop, we may assume that despite some rudimentary division of labour, the actual productive process was but domestic weaving on an enlarged scale. Kramer (1963:104) speaks of 3 women, using spindles and both vertical and/or horizontal looms, taking as many as 8 days to produce a piece of material 3.5 x 4 metres. It had then to be fulled, washed and otherwise got ready for actual use. Wool, by far the most important fibre, was got by plucking and not by shearing, indicating yet again the marginality of metal in production and underscoring the point made at the outset that 'Chalcolithic', 'Bronze Age', etc. are terms of classification and not the primary indices of the mode of production, nor do they indicate the chief materials of production. Still less, as has been argued, do the materials and technologies employed determine the relations of production, for those are essentially historical (turning on previous modes of production) and political, being the current balance of powers.

Rather, the argument like Childe's from technology to a social organisation designed to accommodate or foster it can now be seen to be teleological. Specifically in regard to the division of labour, such a view conflates the consequential with the causative. A **consequence** of advancing population levels and emergent political structure is the furtherance of the division of labour to the extent that it fosters the mobilisation of surplus and so extends the elite's consumption patterns (on, for instance, chariots and temples). This indeed has its own logic of further consequences, but the **causes** of the advent of social stratification and the state could not be some impulse to bring into being a social order whose reality was as yet unknown. Such an orthogenetic view attributes intention to social processes which are always both blind and contradictory. Direction is an **outcome** of the interplay of forces, a resultant, not a purposive input.

In the context of the formation of the Greek city-state, Runciman (1982:352-356) distinguishes between semi- and proto-state societies, the former having a system of ranking and governance, but only the latter possessing the structural conditions which, in appropriate circumstances, allow it to crystallise into a fully state ordered society. Those prior conditions are the disconnection of political authority from the kinship order to the extent that a leader is in the process of breaking horizontal ties with the people at large being in the process of replacing them with vertical relations. The potential then exists in a proto-state, unlike in a semi-state where traditional sanctions and autonomy remain intact, for force to be centralised, taxes to be levied and orders issued that are binding. A proto-state becomes a fully-fledged one to the extent that around a pre-existent leadership role other functions cluster making for an omni-competent ruler served by a permanent staff. "Only when a permanent central authority can count on the implementation of its decrees can law, and statehood with it be said to have been reached" (*ibid.*, p.360). In other words, what have previously been identified as the constituents of political power - the economic, the ideological and

the armed, must be synthesised, and they can be fused under a range of circumstances "once two negative preconditions are fulfilled - the absence of fragmentation on the one hand and conquest on the other - any trigger which augments the economic or ideological or military power available to potential rulers will also augment the other two" (ibid., p.361).

The very process of **synoecism** in the formation of the Sumerian city supplies the first condition, while the parallel evolution of cities satisfies the other. The specific medium for the crystallisation of the state was, however, an institution peculiar to Mesopotamia, the temple, rather than a traditional leadership role. But most important, it was the very process of settlement on the alluvium with its exploitation only secure under irrigation and cooperation that made the disconnection of temple and then city leadership from the kinship order a peculiarly institutional one.

CHAPTER X

IDEOLOGY AND POLITICAL ECONOMY OF THE MESOPOTAMIAN STATE

Unfortunately, archaeological data, and even to a considerable extent philological data of the type available to us in Mesopotamia, can nowhere detect the implicit and often unexpressed ideas that regulate the way in which a society behaves and which must be of more relevance to social patterning than either environment or technology. (Joan Oates 1977:481-2).

Difficult as it is to grapple with something as impalpable as ideology or cosmology, the attempt must be made given its importance to social structure and individual action.

Cosmology is two things simultaneously: a personal **belief system** and a social **construct system**; but the two are not synonymous. Cosmologies consist of ideologies, which are themselves structured around myths, incorporating empirical facts of some description, such as that baking packed and tempered mud produces bricks; or, in the Mesopotamian case, human beings from 14 pieces of clay, seven male and seven female (Bottero 1982:24-32).

With the personal belief system the individual situates himself in life as he experiences it: by the social construct system society locates itself in Nature (the 'cosmos') and situates its members in relation to one another. Cosmology is thus a worldview shared to the extent that its holders feel a joint commitment to it because they have come (usually by socialisation and not by choice) to interpret their existence through its categories. It is precisely because this is so that cosmological engagement is intrinsic to any stable functioning of society and the state (Finley 1973:38).

From the ideational material supplied by society ready-made (such as its foundation and charter myths) and from the very appearances of how things manifest themselves in social processes (as self-evident events, 'causes', etc.) the individual's own biographical exposure selectively constructs a personal version of the prevailing cosmology.

While, therefore, it is quite possible for individuals to develop a new worldview (e.g. Jesus, Buddha, Marx) for those to become a (social) cosmology they must engage with, and supply more satisfactory answers to the existential concerns of members of that society (Frend [1959] 1978:282-6; Greeley 1982:97-102).

The existential problem is that of being situated in an environment, social and natural, over whose functioning one has little effective control and of whose logic one will have little comprehension. Thus they are encountered as external forces that, in confronting the actor, have somehow to be propitiated (for example by making sacrifices or paying taxes). Collective representations are thus the socially (historically) derived means whereby members of a society cognitively situate themselves in and explain to themselves their common connection with their natural environment as the basis from which all derive subsistence. The totality and shape of social and natural connections perceived form that society's cosmology.

Existential concerns are then those inhering in 'life as lived' by the mortal individual confronting his everyday conditions of existence. Some concerns are kernel in that no member of society can escape his own biological existence and its end, mortality. Other concerns are contingent upon the actual organisation of society, with differential benefit to its populace from social institutions. The actual 'crossover linkage' between the kernel and contingent is of course the somatic condition of the individual, his personal state of health, the prerequisite to any possible well-being.

The Existential Concerns tend to form two clusters some being intrinsic, that is fundamental, to the life of the individual and others extrinsic or more palpably social. Those concerns are the central issues to which any cosmology must provide satisfying answers. However the emphases will shift according to historical context from the millenarian, whereby individual salvation is thought to be produced by total social transformation; to, on the other hand, quietistic beliefs wherein social solutions are the consequence of individual transformations. These are of course polar types and most cosmologies, most of the time, are structured between the two. The Existential Concerns can be listed as follows:

Fundamental

mortality =  
birth  
death  
health  
reproduction

Contingent

happiness =  
health (the condition of)  
social vigour and success (by  
ascriptive or reproductive  
means) of  
prestige/wealth/security

We observe, too, that the 'stages', or better, 'conditions' listed in the Fundamental (or kernel) column are what is socially marked by life-crisis ritual ('rites of passage') in which an individual's status is set or recast.

As for the Contingent factors, this in particular is a matter of personal prayer, enterprise and haggling with the gods; especially in Mesopotamia through one's personal god, without whom "man cannot make his living, the young man cannot move his arm heroically in battle" (Frankfort, Frankfort, Wilson & Jacobsen [1946] 1949:219). A letter to one such personal god asking for his intervention with the high god, Marduk, is revealing in its combination of haggling and pleading:

To the god my father speak: thus says Apiladad,  
thy servant:

'Why have you neglected me (so)?  
Who is going to give you one (other worshipper)  
who can take my place?  
Write to the god Marduk, who is fond of you,  
that he may break my bondage;  
then I shall see your face and kiss your feet!  
Consider also my family, grown ups and little  
ones;  
have mercy on me for their sake, and let your  
help reach me!'  
(Frankfort et al. op. cit., p.221).

The benefits, then, to be derived from proper subordination are well summed by Frankfort et al. (ibid., p.220) as that of the 'dutiful servant' for whom "service and worship, is the way to achieve protection [from the gods]; and it is also the way to earthly success, to the highest values in Mesopotamian life: health and long life, honoured standing in the community, many sons, wealth".


At the origins of the Chinese writing system (of 'characters') in Shang times, we find the 'oracle-bone script' inscribed on pieces of flat bone or shell and framing a question of immediate concern, the answer to which was found by diviners from the cracks formed when the bone was heated. An example (from Fairbank, Reischauer & Craig 1973:25) is illustrated overleaf: Figure X:1). Indeed, "we can see how significant an activity divination was from the fact that the chief ministers of the Shang rulers all seem to have been diviners" (Fairbank et al. op. cit., p.28).

While, then, it is perfectly true to say that ideologies are social facts independent of any particular individual, it is certainly not sufficient to their efficacy that ideologies be encountered as external pressure. On the contrary, to work they must be internalised personally to the extent that they become the individual's own way of construing the world and his place in it.



FIGURE X:1

TYPICAL INSCRIPTION FROM AN ORACLE BONE <sup>1</sup>

ORACLE BONE TEXT	MODERN CHINESE	LITERAL TRANSLATION
	<p>辛 今 亦 卯 日 雨 貞 辛 不 雨</p>	<pre>     hsin  now  also           /           v    v    v     mào  day  rain                       v    v          divine hsin                         v         not → rain     </pre>

SHANG INSCRIPTION ON BONE. *The characters are to be read from top to bottom, but the lines in this particular case read from left to right. The meaning of the text is: "[On the day] hsin-mao, it is divined whether on this hsin day it will rain—or not rain."* Most of the characters in this text are clearly identifiable from their modern forms. The second character in the second column is a picture of the sun with a spot in it, while the second character in the third column as well as the lower right-hand character show rain falling from a cloud. The upper right-hand character, showing a man's armpits (the two spots under the arms), was at this time a homophone for the undepictable word "also."

1. Taken from Fairbank, Reischauer & Craig (1973:25).

So much so that in the process of personalisation/socialisation the cosmology comes to form the structure of conscience, norms, values and, to a large extent, actual behaviour. And if we recognise in culture the intergenerational transmission of beliefs, organisation and techniques, we may see how cosmology determines the first, shapes the second and influences the third.

### 1: Order and Law

But probably the most active thing that cosmology affects is law. Enacted law is generally recognised to depend ultimately on norms intrinsic to society at large, but how it differs is rarely specified, except to say that some sovereign authority is involved in 'making law'. But law is a considerable factor in Mesopotamia, which has the first written law codes and, indeed, the first civil contracts for the transfer of property, in addition to the earliest records of criminal proceedings. As we have seen, above all Mesopotamian kings claimed to be upholders of Justice in their proclamations, either those celebrating victory or some pious deed like restoring a temple and, perhaps most pious of all, when proclaiming the *misarum* restitution usual on accession and every seven years thereafter. Thus Ur-Nammu (2112-2095 BC.), the founder of the IIIrd Dynasty of Ur, having declared that "After An and Enlil had turned over the Kingship of Ur to Nanna, at that time did Ur-Nammu, son born of (the goddess) Ninsun, for his beloved mother who bore him, in accordance with his (i.e. the god Nanna's) principles of equity and truth ..." goes on to show the physical rightness of his course in battle with the *ensi* of Lagash, who Ur-Nammu defeated.

Then did Ur-Nammu, the mighty warrior, king of Ur, king of Sumer and Akkad, by the might of Nanna, lord of the city (of Ur), and in accordance with the true word of Utu, establish equity in the land (and) he banished malediction, violence and strife. (Finkelstein 1975a:31-34).

Ur-Nammu then goes on (a) to enunciate measures taken for the general welfare, and (b) to adumbrate many sections of particular redress. Thus he goes directly on to say that "By granting immunity in Akkad to the maritime trade from the seafarer's overseer, to the herdsmen from the 'oxen-taker', the 'sheep-taker' and the 'donkey-taker' he set Sumer and Akkad free", it seems, from grasping officials. Ur-Nammu further promoted the general welfare in that "He fashioned the bronze *sila* measure, he standardised the one *mina* weight (and) standardised the stone weight of a *shekel* of silver in relation to one *mina*" (lines 162-168).

More specifically social measures are found in the claim that "The orphan was not delivered up to the mighty man: the man of one *shekel* was not delivered up to the man of one *mina*" (*ibid.*). We do not know just how this was achieved, as some parts of the proclamation, known only from scribal copies, are missing. It may however lie in the specific provisions for restitution that take up the rest of the 'code' which is extant. Thus following a great deal on adultery and sundry fornication, we read that

If a man proceeded by force, and plowed the arable field of a(nother) man, and he (i.e. the latter) brought a lawsuit (against him), but he (i.e. the squatter) reacts in contempt, that man will forfeit his expenses.

If a man flooded a field of a(nother) man with water, he shall measure out (for him) three *kur* of barley per *iku* of field.

If a man had leased an arable field to a(nother) man for cultivation, but he (the lessee) did not plough it, so that it turned into wasteland, he shall measure out (to the lessor) three *kur* of barley per *iku* of field.

The king was truly *fons justitiae* (Driver & Miles 1952:490). He did not merely issue proclamations amending or, more centrally, reaffirming the laws, but he was directly involved in implementation, often acting himself as the court of highest appeal. The preamble to Hammurapi's famous 'code', which is largely taken up with recounting his religious acts in the restoration of

temples and so forth, as vindication of the divine favour he has been shown, concludes the preamble to what he calls his *dīnāt mišarum*, 'verdicts of the just order':

When Marduk commanded me to give justice to the people of the land and to let (them) have (good) governance, I set forth truth and justice throughout the land (and) prospered the people. (Driver & Miles II 1955:13).

However two things should be noted also: the law did not apply equally between citizens of substance and lesser men (and even more so, women); and many trials involved ordeal, that is, a physical test, like burning or drowning. One of Ur-Nammu's provisions illustrates both principles:

If a man accused the wife of a man of fornication and the river(-ordeal) proved her innocent, then the man who had accused her must pay one third of a *mina* of silver.

Mesopotamia was full of law-cases civil and criminal, even marriages necessitating a binding written deed. Nonetheless, there was no police force, no public prosecutor and no public executioner (Driver & Miles op. cit., p.494), those functions falling to the community organs as indicated above. Thus we can see how the political and the legal came together (in 'Justice') to reinforce the legitimacy of rule, even where that bore down unevenly. There was an established social order in which places were ascribed, and continuity itself assumes value, *nomos* or *mos maiorum* ('the ways of the forefathers'), if only because it is that particular culture to which members are socialised and they know of no other.<sup>2</sup> Those norms (of ideal and expected behaviour) derive from cosmological principles that appeal to continuity itself and the rightness of

2. Conversely, Finley (1983c:123-6) cogently argues that it was the constitutional contrast between the Greek city-states, between the Greek-speaking world and barbarians, and indeed the condition of the rapid political flux of state constitutions within city-states like Athens, which provoked and sustained the classic tradition of enquiry in politics and social philosophy. (cf. Forrest 1966).

the present, its 'naturalness', under which the existing order can be postulated as ultimately sanctioned by the gods and nature. The very 'facticity' of prevailing conditions, its palpable actuality, means that it is itself the criterion of 'normality' from which other possibilities are deviations. Legitimate force is then that ostensibly employed in the enforcement of the norms of normalcy.

In Chapter VII we saw how 'back in time' (for instance genealogically) becomes assimilated to 'upwards' in power and authority, producing super and sub-ordination. Both the temporal and spatial are 'beyond' and having fused, descend from 'on high'. Thus Anu is the Sumerian god of the sky but he is also simultaneously the father of the gods and the font of authority. Anu is both overarching sky and overarching authority, hence he and Utu, the sun god, are the ultimate arbiters. Authority thus seems to 'descend' to earth as kingship was said to have done in Eridu, and as the **me's** - roles, skills and offices of civilisation - were said to have done.

Going to law also underlies the great **bit rimki** ritual of purifying the king when he is threatened by the evils involved in an eclipse of the moon. The sunrise ritual takes the form of a full-dress lawsuit before Utu and the assembly of the gods. Utu acts as judge and hears the complaint. Enki guarantees that the verdict will be enforced, a function known as 'overshadowing' the case. (Jacobsen 1976:86).

This was a necessary recourse, for, "execution was left to the winning party; and for that reason a court would not touch a case unless it was certain that the plaintiff had power behind him, a powerful protector who would guarantee that the judgement would be executed" (Frankfort *et al op. cit.*, 221).

In the myth 'Enki and the World Order', it was Utu who was put in charge of all boundaries, both in heaven and on earth, a particularly important point "implying that all of the universe was

under the same law and the same judge" (Jacobsen op. cit., p.85).<sup>3</sup>  
And Enki, 'the overshadower' "decrees the fate:

Sumer, 'great mountain', 'country of the universe',  
Filled with enduring light, dispensing from  
sunrise to sunset the **me's** to (?) the people,  
Your **me's** are lofty **me's**, unreachable.  
(Kramer 1963:177).

**Me's** are the norms and techniques of civilisation instituted  
by Enki 'the wise, the knowing', to produce world order at Enlil's  
behest. Of the hundred or so listed (four times over) in the Myth  
"Inanna and Enki: The Transfer of the Arts of Civilisation from  
Eridu to Uruk", the first dozen are given in their original order  
(from Kramer op. cit., p.116):

1. **en**-ship
2. godship
3. the exalted and enduring crown
4. the throne of kingship
5. the exalted sceptre
6. the royal insignia
7. the exalted shrine
8. shepherdship
9. kingship
10. lasting ladyship
11. (the priestly office) 'divine lady'
12. (the priestly office) **ishib**.

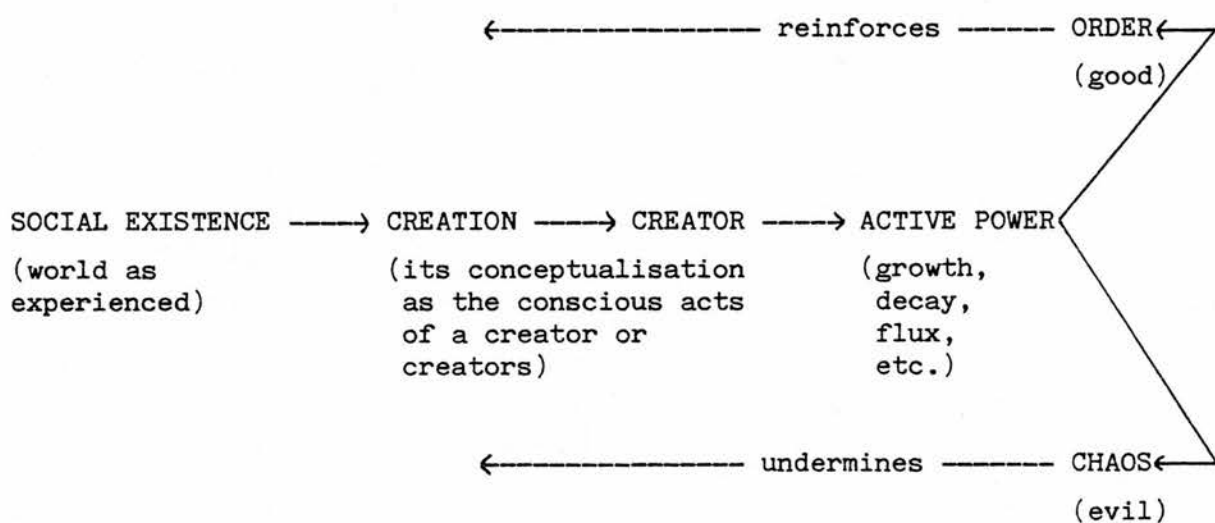
Etymologically [**me**] may be considered as the noun  
( 'being' = manner of being) which corresponds to  
the verb **me** 'to be'. It is used characteristically  
of the totality of the functions pertaining to  
an office or a profession ... of rites, and of  
mores ... Instructive also is **me-te** 'approaching  
the norm' = 'proper', 'fitting' (Akkadian (**w**)**asmu**).  
(Jacobsen 1970a:359-60, n.20).

3. Even Enlil was bound by the **me's** he had caused to be uttered.

We can thus represent the Mesopotamian view of the fusion of cosmic and social orders, manifested in orderly social relations, as follows:

FIGURE X:2

COSMIC ORDER



Order, regularity and hence stable boundaries in and between natural and social forces as the prerequisite of social life and its reproduction, is by definition 'good', the very archetype of 'goodness'. In Mesopotamian society the king was co-ordinator of cultic and legal structures, the latter it should be noted, a purely secular system (Speiser 1954:14). Nonetheless,

the cosmos was founded on certain eternal truths which the laws strove to safeguard. These truths applied to the ruler no less than to his subjects. The king, more than anyone else, must be ever

watchful to maintain them. The sum of such cosmic and immutable truths was called *kittum*. A king might seek to 'establish' (*sakanum*) the *kittum* just as he was bound to institute *mesarum* [i.e. restitution, see above]. (Speiser op. cit., p.12).

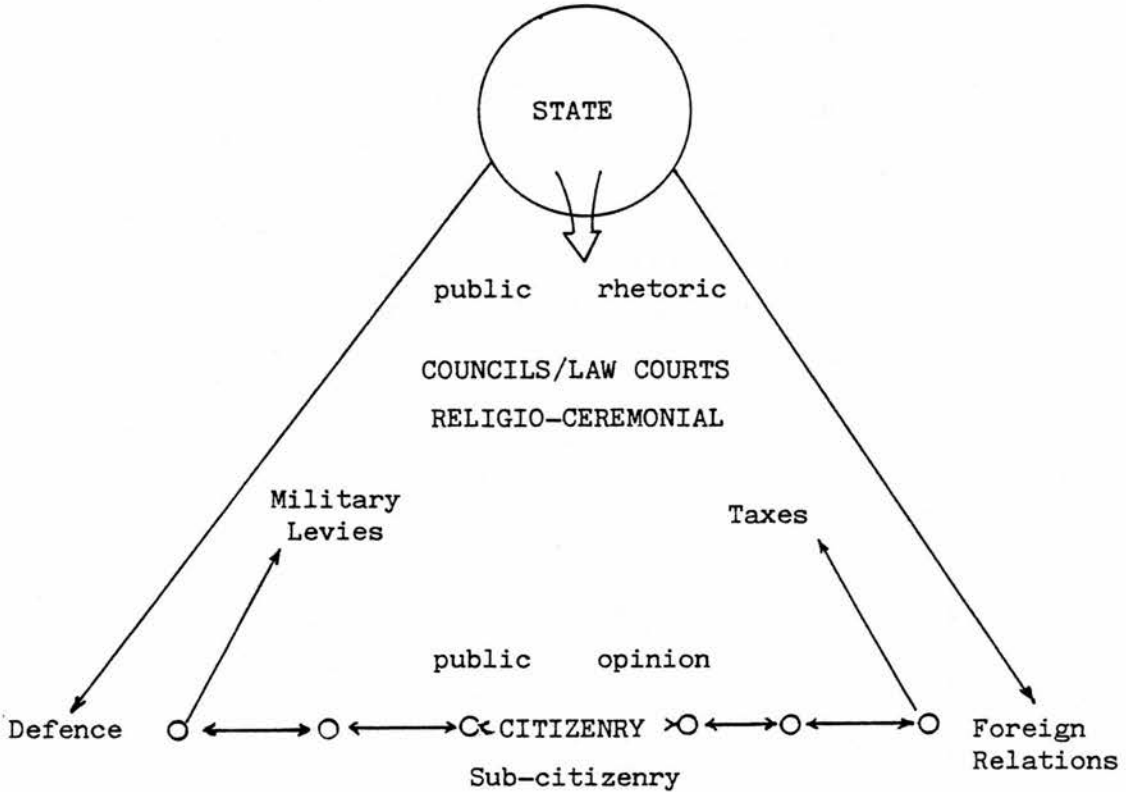
Those things that conduce to orderly reproduction are virtuous, those tending to undermine it are accordingly evil. As Finley (1983c: 95) wrote of the unequal but stable incorporation of the lower orders into a (Graeco-Roman) social hierarchy in which they were permanently and institutionally disadvantaged: "The vast body of religious practices was of course an integral part of the traditional *nomos* or *mos maiorum* that upheld the whole structure, including the right of the elite to dominate". Habit, norms and religion, all of which can be subsumed under the head of 'customary behaviour', thus possess what Bloch (1974:66) has analysed as 'illocutionary force', the power to shape expectations and behaviour by circumventing logic and employing affective devices, formal and positional, so interpellating the individual and inducing him to accept the existing order as both 'natural' and thus inevitable if not necessarily desirable.

But it is not only this 'habitual' or customary dimension which is in play, though it is the most fundamental and omnipresent (Bloch 1975b:3). There is also the reverence that derives from awe of religion or state power, both embodiments of supreme power. Both religion and the state conjoin in a public rhetoric of cult, ceremonial, monument, display and dispensation, to reinforce the intrinsic aspect of deference and to mobilise that of induced awe. Whereas socialisation would tend to elicit assent, public rhetoric of the rulers directed toward the ruled, could at the least evoke, and at the most command it. Rhetoric, says Oliver (1971:8) in a phrase that he emphasises, "seeks to make motive appeals compulsive".

We can now envisage how the state appears to hover above society while engaged in a political dialectic with it:



FIGURE X:3  
THE POLITICAL DIALECTIC OF THE STATE



Here the state manifests its sovereignty in central ways of raising military forces for defence (or in the Roman case usually attack) and in conducting inter-state relations generally. For its support the state levies some sort of taxes in labour, kind or specie. This latter is usually confined to the citizenry properly so-called; those with full political and economic rights, beneath whom there are invariably strata who lack either full political or economic rights. When both are absent the condition is that of slavery, but intermediate we have serfs and clients. The citizenry are represented as undertaking 'horizontal' economic and political transactions, in groups, corporations or whatever. It is the citizens alone or even just a sub-grouping of those (such as the Roman **nobiles**) who form 'public opinion' amongst themselves and for which they then may seek to involve other strata in support of. This is the dialectical counterpart of public rhetoric, and both are focussed upon, and contested within, public forums, such as

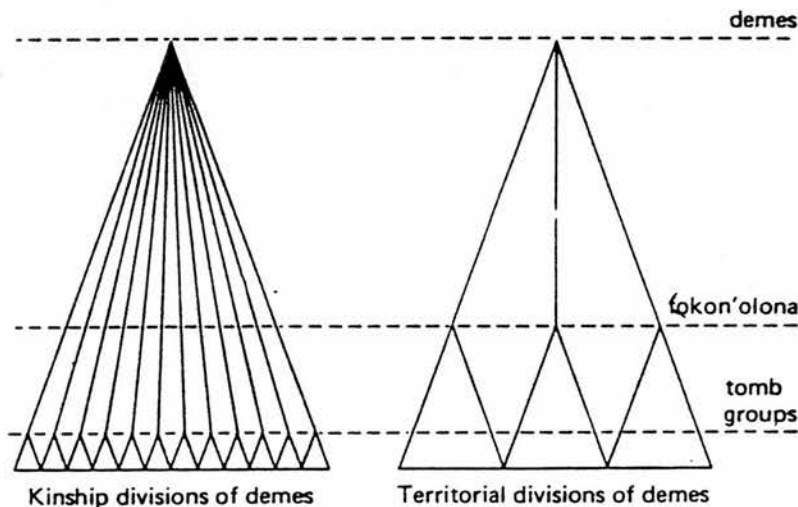
Councils, and law-courts; often one and the same as in both Athens and Mesopotamia. Finley (1983c:57) supplies this very useful generalisation:

every city-state government consisted of at least a larger assembly (and usually of only one), a smaller council or councils and a number of officials rotated among the eligible men, most often rotated on an annual basis. The composition of these bodies, their method of selection, their powers, the names by which they were known, all varied greatly, in place and in time, but the tripartite system was so ubiquitous that one may think of it as synonymous with city-state government.

## 2: Synocicism as Organising Principle

The structure of traditional divisions of Merina demes, as diagrammed by Bloch (1971:41) looks formally similar to the conical clan, but instead represents the residential/conciliar group of bilateral kindred:

FIGURE X:4  
TRADITIONAL DIVISIONS OF MERINA DEMES



At the apex here, instead of a noble household is a **deme**, corresponding to a named kinship (but not descent) group and this contains the territory of several unnamed **fokon'olona** local groupings. The tomb groups, of which there are a number in every village, belong to the various families (Bloch 1971:41).

The dynamic element is the **fokon'olona** gathering, which is the **fokon'olona** neighbourhood kin 'doing something' (ibid., p.45), basically mediating disputes (ibid., p.53) and in the process assessing the claims of speakers in the assembly to be **Raiamandreny**, that is, men of standing (ibid., p.54). Evaluation occurs on the basis of the individual's oratorical skills and general community prestige, which in turn is rooted in status.

The nature of status (as defined initially) in its role of prerequisite to any social prestige (since status is social **capacity**) is clearly indicated by the phrase which opens the highly rhetorical formal speeches of village headmen and the "other unchallenged **raiamandreny** (who are) the universally respected senior heads of large local families" (ibid., p.46). They declare: "I am not an elder brother but a younger: I am not a father but a child" (ibid., p.49). **Raiamandreny**, the term for elders, literally means 'father and mother' (ibid., p.46) and they need not always be men, as befits a cognatic system.

Of Mesopotamia Lambert & Millard (1969 :23) quite simply state that the characteristic form of rule from the Early Dynastic Period onward was by a king and a council of elders. This is but one of the striking parallelisms between a contemporary ethnology and what the documentary and archaeological sources inform us of Mesopotamian social structure. The similarities inhere at a fundamental level<sup>4</sup> that turns upon fixed settlements, intensive

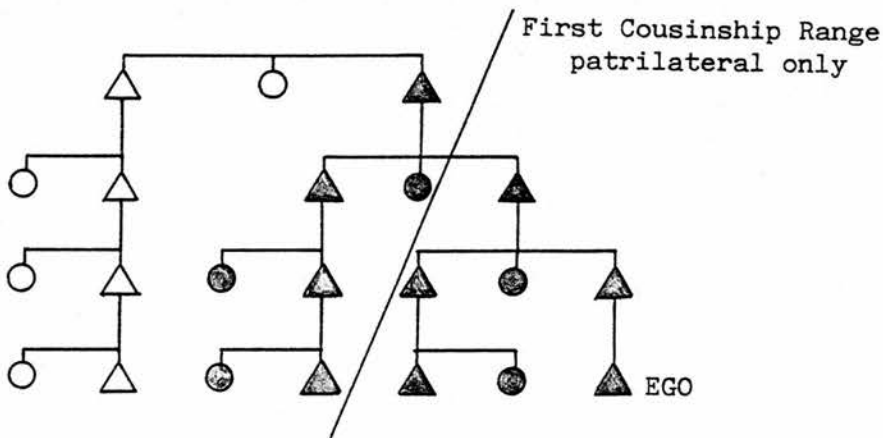
4. This is quite apart from the contingent similarities. In the Merina village studied by Bloch the **fokon'olona** assembly met at the village gate, while in Mesopotamian towns the 'elaborate gateways' also functioned as the town's (or the

Cont'd:...

land-use, agricultural storage and disposable surplus. There are even structural similarities at the level of ideology, for instance the Mesopotamian royal bath necessary to clean the king from the pollution of lunar eclipses (Jacobsen 1976:112).

Diakonoff has been extensively cited previously speaking of the 'patriarchal extended family', but what does this mean anthropologically? Miranda Bayliss (1973:121) in her study of "The Cult of the Dead in Assyria and Babylonia", found "absolutely no evidence of the cult being observed for ascendants further back than the grandparents among private persons". Oppenheim (1977:79) states that "clan-relationships (were) not in evidence in cities", but Rivkah Harris has addressed the problem directly, concentrating upon Old Babylonian Sippar. Her conclusions from kin terminology and the transmission of property, with "a partitive system of inheritance and no primogeniture" (1975:130) yet with a distinct agnatic preference (ibid., p.129) is that we are dealing with groups of "patrilateral kindred" and that, at least "in Sippar, all an individual's male kinsmen up to the first patrilateral cousin belonged to his kindred" (ibid., p.130). This is illustrated below from Fox (1967:170) to which Harris herself refers:

FIGURE X:5  
THE RANGE OF PATRILATERAL KINDRED



Cont'd: quarters') civic centre. Here "the assembly met and made decisions and the mayor administered the town or, at least that quarter to which the gate led" (Oppenheim 1977:128). Of course if there were not assemblies in either society there would be no such contingency.

In the above diagram descent is traced solely through males. All reckoning of kindreds however is 'upwards' from ego. His kindred out to the second cousinship range is marked by shaded symbols. The line of intersection separates his first from the second cousin range, since only that narrower range is established for urban Mesopotamia. This gives us the three generational depth required and the application of the term *nisutu*: "'first patrilineal cousins', i.e. children of the father's brothers" (Harris op. cit., p.131). Note too that this includes women, sisters, though descent is not reckoned through them. However they do participate in family property in their own right (ibid., p.129).

### 3: The Familial Basis of Super-Ordination

As late as pre-industrial England, Peter Laslett (1971:48) could state it to be 'a general principle' that "the higher status of the household or family the larger it was, and the humbler people were, the smaller were the households they lived in". Indeed Laslett goes on to speak of the governance of the country on familial lines under which: "England was an association between the heads of such families, but an association largely confined to those who were literate, who had wealth and status, those, in fact, who belonged, with their families as part of them, to what we have called the ruling minority". Of this minority the majority, like the rest of the population were organised by cognatic descent with an agnatic bias. Only the aristocratic families of long standing, in particular the royal family, went by genealogies of any depth, but the tendency for families of 'good standing' was to manufacture them (Leach 1973:53). The point is that both real property, and also status as potential access to property through social standing, was involved.

In the Babylonian legal and administrative texts the term *sehīr rabī* is often encountered of differential rights, and is

translated "small and great" of rank and "young and old" of status (Evans 1958:9). In this light we may understand how, in the absence of a historically evidenced clan-type organisation in urban areas, Oates (1977:476) can state that

in Mesopotamia both kings and gods were seen simply as heads of rather special households and at least from ED III onwards society was divided basically into two classes, persons under the authority of a household and persons exercising such authority. Labourers in the state sector, whether secular or religious, were conceived as under the patriarchal authority of the king or gods.

Senior had become seigneur (king, proprietor) and he in turn subordinate to a grand-seigneur, the city god (Meillassoux 1978b: 166). But someone in real material dependence, that is, lacking their own means of production, is a permanent social minor (Evans 1958:8-9; Auge 1977:391). Into such a condition fell the semi-servile **gurus** class, consisting of men, women and children, the major labour-force of large households, and who received rations for their basic subsistence (Gelb 1967a:8).

Initially, then, those 'abba' holding **patria potestas** held council and power (Frankfort et al. op. cit., pp.148-9). The first stage in the loss of sovereignty was in treating the **lugal**, originally appointed on a temporary or at least revisionary (**bala**) basis by the assembly, as both permanent and equal, thus conceding the sharing of power. This can be called the 'Gilgamesh' context (cf. Jacobsen 1976:184).

The next stage was that of the assembly functioning as the 'king's parliament', discussing his initiatives, with his the final decision. Such is the 'Sargonic' context. And the third stage of demotion from full sovereignty is the relegation of the assembly to a subsidiary and specialised body of state restricted to resolving breeches of law and custom. This can be termed the

'Hammurapic' context, though probably the best known example of such a law case (murder), given in Kramer (1961a:100-103) is slightly earlier, during the reign of Ur-Ninurta of Isin (1923-1896 BC).

Nonetheless, as suggested above, the position of king, whether **lugal** or **ensi**, was never absolute, with regional power as 'Emperor', always precarious and short-lived. Durable groupings always had more of the 'tribal', that is voluntary, nature of the confederacy about them. Under such conditions, as for example amongst the Huron, Trigger (1978:200) observes that numbers as large as twenty thousand could be rendered cohesive relying only on councils of elders functioning on a delegational basis at as many as four levels, reaching from village through to the confederacy.

Hence when a pre-eminent 'Great Man', a **Lugal**, emerged in ED I times (Westenholz 1979:109) as the Great King "exercising a nominal hegemony over most, if not all the city states within the orbit of the Sumerian culture" (idem), that is, the **KI-EN-GI** or 'Kengir League', his 'rule' was largely cultic and juridical since "he was held responsible for both fertility and justice in the land and he should also keep enemies at bay" (idem). For the great festivals he travelled by boat from city to city bringing the appropriate offering to each one, with Nippur pre-eminent. There stood Enlil's temple, Ekur, and in a corner of its forecourt the assembly of gods gathered in council (Jacobsen 1976:86).

A 'great king', though he would need to be militarily preponderant, still needed to have authority, or rather legitimacy conferred upon him by Enlil in the holy city of Nippur, the 'bond between heaven and earth'. While a supreme **Lugal** would first have to be a **lugal**, or city-king (though he could also be called **ensi**), pre-eminence was contested between individual cities or blocs of cities and so often in the King List we find the formula "City A was smitten with weapons; its kingship was carried to city B" (Westenholz op. cit., p.109). The victor, however, has to be





seed in the Early Dynastic period to be of 6 **gur-sag-gal**, 49 **sila**, of barley per **iku**. This is no less than 76-fold of the seed volume. Yields fell right through the Akkadian period to reach only 30 **gur** per **bur** (500 **sila** per **iku**; 1,193.2 litres per hectare) or 20-fold of the seed volumes for barley by Ur III times (idem). As efficiency and terrain vary somewhat these are of course orders of magnitude rather than uniform figures; nonetheless even the 'low' levels are high by the standards of the Graeco-Roman world and its medieval successors, where yields ranged up to about eight times seed volume for the former, and only about half that for the latter (ibid., p.4).

Disposable surpluses generate not just a need for transport in addition to the actual storage facilities (over which Inanna presides) but methods for keeping track of income, stocks and outflows; indeed, as we have seen, of production itself. It is well known that the development of writing was a response to the accounting needs of institutions, a logical outgrowth of the employment of the sealing of clay by stamp and cylinder, plus recording by **bullae**, used for identifying the sources, both corporate and private, of consigned goods (Schmandt-Besserat 1979: 152-161). Two of the earliest pictograms, on the jar-neck found at Jemdat Nasr, have been read as a certain quantity of beer, the property of a particular woman. Thus despite superficial similarities, and the fact that both are pictographic in origin (as is illustrated overleaf), it can be seen that the social origins, that is, the structural place of writing, is quite distinct, even contrasting, between Mesopotamia and China (Gelb 1963:62). (This will be accounted for formally in the next section).

P.R.S. Moorey (1976:101) identifies the proto-Dynastic complex at Jemdat Nasr as a temple: "the focus for a miscellany of houses and 'places of sacrifice' and regularly modified in plan". Found there were both large and plain-ware jars "offering evidence of storage" and the ubiquitous 'bevel-rimmed bowls' used probably for donations to the temple (ibid., p.102 and

FIGURE X:6  
PICTORAL SIGNS IN THE SUMERIAN, EGYPTIAN, HITTITE AND CHINESE  
WRITING SYSTEMS<sup>4</sup>

	SUMERIAN	EGYPTIAN	HITTITE	CHINESE
MAN				
KING				
DEITY				
OX				
SHEEP				
SKY				
STAR				
SUN				
WATER				
WOOD				
HOUSE				
ROAD				
CITY				
LAND				

4. Taken from Gelb (1963:98).

plates). Also found and illustrated (Plate XVI and Fig.4) were the 'collective sealings' relating a number of cities in the exchange of goods, such deliveries being "sent to magazines and storehouses" (Moorey op. cit., pp.103-4).

Of the many tablets discovered at Jemdat Nasr none so far read is a literary text, but "that they are predominantly texts is not in question; primarily administrative checklists of persons, of commodities and of land areas subtly inter-relating all three" (ibid., p.105). While various deities are named, the term **lugal** does not appear, but there is a group of personal names commencing with the element **EN**, etymologically 'lord' (i.e. chief priest). Moorey concludes (ibid., p.106) that we are here (in the thirty-first century BC.) encountering an administrative complex within a temple estate, presided over by the **EN** official "whose cult function was (then) more important than his political role", and whose residence was more sacred than secular in character.

That, no doubt, was the temple's purpose and ideology; its **effect**, however, was to function as silo of the storage economy. 'The **EN** element' appears also in the personal names of the culture heroes Emesh and Enten (summer and winter respectively), the former the spirit of husbandry, the latter of 'vital forces' (winter is the rainy season). In their dispute for priority before Enlil, the embodiment of power, Enten declares:

O father Enlil, knowledge thou hast given me, I  
brought the water of abundance,  
Farm I made touch farm, I heaped high the  
granaries,  
Like Anshan,<sup>5</sup> the kindly maid I cause strength  
to appear;  
Now Emesh, the ..., the irreverent, who knows not  
the heart of the fields,  
On my first strength, on my first power, is  
encroaching;  
At the palace of the king..."

(Kramer 1961a:51).

5. The goddess of grain.

Enlil decides in favour of Enten, showing the dependence of husbandry upon the vital forces in nature, just as the 'sacred marriage rite' performed by the king at the crucial New Year Festival in the spring, at which 'as Dumuzi' he united with Inanna 'numen of the storehouse' (Jacobsen 1976:39).

Clearly, as early as the Jemdat Nasr period that immediately precedes the Early Dynastic, storage, distribution and disbursement had become crucial organisational characteristics of Sumerian society. The Jemdat Nasr/Early Dynastic transition marks also the advent of the 'Bronze Age' in Mesopotamia.

So far we have elaborated upon the themes of Order, Hegemony and Dependence shown as the ideology of the mode of production from the Pre-Sargonic to Hammurapic times in Mesopotamia. In what follows its production relations are further elaborated, and it is stressed that the city-states of Mesopotamia were self-subsistence units for the bulk of all production, while 'exports' and 'imports' were but the display and consumption items for the elite and for the state apparatus (bronze for weapons, lapis for temples, etc.; cf. Herrmann 1968:21-57).

## 5: The Political Economy

Under conditions of relative military security and tight bureaucracy, with maximal coordination of the economy, both settlement and agriculture reached their greatest extent under the Ur III Dynasty, the dynasty ironically of Sumerian city-state restoration after Sargonic hegemony and the Gutian interlude.

Adams (1981:151) indicates a 64% increase in settlement site area, with its implication of equivalent population growth between the Early Dynastic and Ur III periods. Nonetheless, crop yields had been halved over that period from 2,030 litres per hectare, to 1,134 litres per hectare, with seeding rates, as we saw above,

having to more than double to keep pace. Further, over this first millenium of extensive and intensive irrigation farming, a pronounced shift from wheat to barley as the principle crop was under way, reflecting both salination, to which barley is more resistant, and its feeding to livestock. Yet

Serious as was the decline in average yields by the Ur III period, it subsequently went on to become almost catastrophic. Jacobsen has shown that by 1700 BC, shortly before an extensive abandonment of southern Babylonia, yields around ancient Larsa had slipped to a mere 718 litres per hectare. Worse still, more than one fourth of the area then in production seemingly was being kept in cultivation even though yields were only 370 litres (about 228kg) per hectare. Since labour inputs were relatively inelastic, this represents less than a fifth of the expected yields eight hundred years earlier for a roughly similar magnitude of effort. The burden on the cultivator had become a crushing one. (Ibid., p.152).

Its its desperation to get more from, or at least to compensate for, declining productivity, the Hammurapic Dynasty that had succeeded in uniting Mesopotamia after a period of chaos, was nonetheless driven to institute ever more supervisors of production and to engage in financial expedients over short-dating loans to raise revenue (Yoffee 1979:13). Of course this just succeeded in exacerbating the problem, since in the absence of a technological revolution in agriculture (the only economy that really mattered despite the trade and industry theorists), further intensification of an already intensive regime simply made for ecological disaster. Thus fallow was violated and salinisation accelerated (idem).

Thus Adams concludes that long term agricultural decline was in some ways a direct consequence of its earlier success. But that success was not merely apparent, it had very tangible consequences in the growth and cities and population generally. A late (Assyrian) version of the Sumerian/Akkadian Atra-Hasis flood and creation epic, speaks tragically of the destruction wrought by the

wrath of the gods at the 'noise' of a swarming mankind:

The fields diminished their yields,  
Nisaba turned aside her breast,  
The black field became white,  
the broad plain produced salt,  
Earth's womb rebelled,  
No vegetables shot up, no cereals grew,  
Pestilence was laid upon the peoples,  
So that the womb was constricted and gave birth  
to no child.

(Lambert & Millard 1969:111).

A more graphic account could scarce be given, not least of a fall in the birth-rate consequent upon heightened social stress (Stott 1962 1969:90-115). This could further have undermined at least absolute levels of production due to labour shortages.

Hired labour, **hun-ga**, working for wages, a, does not appear until the Ur III period. Until then most labour was general purpose, dependent labour, **gurus** and **geme**, receiving rations from temple and state. As Gelb (1965:242-3) sums the process:

The semi-free class of the **gurus** workers and the ration system dominated the socio-economic life of early Mesopotamia all through the periods from Fara (ED IIIa) through the pre-Sargonic and Sargonic to Ur III. Beginning with the Old Babylonian (i.e. Hammurapic) Period, the term **gurus** for the semi-free class disappeared completely and was replaced by others. At the same time the ration system was slowly dying out in Babylonia proper, although it continued strongly in outlying regions, such as Mari and Chagar Bazar. After a brief revival in the Kassite period, the ration system seems to have died out in Mesopotamia by the end of the second millenium B.C.

The non-dependant free peasantry, **engar**, produced their own sustenance on what Oppenheim (1977:114) terms their 'manors', meaning patril holdings, and indeed some of them must have been quite extensive as land became alienated through debt and by other

means. While this is the 'citizen' class, the basis of the city and ruling elites, Diakonoff (1972:46) reminds us that "there is no mention either of elders or of members of a Popular Assembly among the habitual recipients of rations or land allotments from the state sector at any period later than the archivists of Šurruk. Among the royal (and Temple) personnel, the sources distinguish the producers of material wealth, *našī biltim*, from warriors and 'other persons liable to the royal service' (*ilkum aḥum*)." In other words 'citizens' controlled their own means of production, hence Oppenheim's assertion (1977:90) that staples never appear in the context of trade, for they were either consumed directly or redistributed socially in the manner diagrammed above. Temple, royal and 'private' estates also supplied their own comestibles to their workers, for the *gurus* in the form of rations.

The three central staples were barley, sesame oil and wool, and they were issued in the following quantities in a form "very much standardised all through the Sargonic and Ur III periods, although deviations of different types are found occasionally" (Gelb 1965:233).

TABLE X:1

KIND	TIME	MEN	WOMEN	CHILDREN	MEASURE
barley	once a month	60	30	25, 20, 15, 10	quarts
oil	once a year	4	4	2, 1½, 1	quarts
wool	once a year	4	3	2, 2½, 1	pounds

"Besides *se-ba*, *i-ba*, and *sig-ba*, that is rations of barley, oil and wool, several other kinds of rations occur in the texts, the most important of which are *ziz-ba*, *ninda-ba*, *zid-ba*, and *tug-ba*, that is, rations of emmer, bread, flour, and cloth respectively" (*ibid.*, p.236). In addition, sheepmeat and beef, butter, milk, cheese and other dairy products, onions, legumes, cucumbers and other vegetables, plus fruit such as dates, figs, apples, also beer and wine, regularly supplemented the rations during festivals, such as sheep during the *Akitu* (New Year)

Festival. During scarcity or glut some items replaced others (Gelb op. cit., p.238) and we may further assume that regional variations, such as the availability of fish in the south, played a role in allocation too. Indicative of the economy's low productivity overall is the fact that a sheep produced only about one pound of wool annually,<sup>6</sup> barely enough for a child's ration, and that the yearly output of a cow is only around 5 dry quarts of butter and 7½ dry quarts of cottage cheese (Gelb 1967b:68). Interestingly, the value and amount of dairy products from cows are identical with those from goats (idem). Further, calves had a low birth-rate, and the growth of a herd of cattle from 6 to 32 in ten years seem quite typical (idem), suggesting poor pasture and reinforcing the suggestions above as to the role of long range nomadic pastoralism. In present-day Zagros village husbandry, sheep and goats average around one pint of milk each in a full day (total of all milkings), while a cow will produce around 1 **mann** (7 pounds, about 0.75 gallons) of milk per day (Watson 1979:98). But even those low figures are for the period of optimal grazing in the spring, and the current state of deforestation in the area means that each villagers can maintain only a few animals, so gross yield is also low (idem).

Given the latitude and the rudimentary nature of preservation techniques, we should bear in mind that fresh foods, or at least animal foods, must have been locally consumed (Gelb 1967b:68-69).

As well as disbursements in kind, the state received its income in kind also, apart from some taxation of merchants who had the specie to pay in silver. As for a general taxation, there seems to have been none. Instead there was a general corvee, one that Gelb (1967a:7) has called 'the everybody works principle', in "the form of labour or military service (**redu**) and of obligatory sacrifices, at least as far as the third millenium and the first

6. About 20 pounds of locally processed wool is required for a rug (gilim) c.2.25 x 1.50 metres made by traditional weaving methods in a contemporary Zagros village (Watson 1979:174).



part of the second millenium are concerned" (Diakonoff 1972:44).

The bulk of state income, as indicated, was directly produced from what can be called, following Maria de J. Ellis (1976:12), the State Land Fund. The summary of its disposition during the reign of Hammurapi is reproduced as follows:

TABLE X:2

TYPE OF LAND	biltu-land	ilku-lands	
Tenure	retained by state	assigned to beneficiaries on the basis of service ( <b>sukussu</b> & <b>sibtu</b> fields)	
Method of cultivation	administered by officials: worked by lower ranks of state personnel ( <b>nasi bilti's</b> )	(a) worked by beneficiary	(b) administered by "cultivator" ( <b>erresu</b> ) for owner by rental contracts worked by state personnel
Destination of crops	to state after deduction of production costs	to beneficiary	"owner's" share ( $\frac{1}{3}$ or $\frac{1}{2}$ , called either <b>biltu</b> or <b>miksu</b> ) to beneficiary; cultivator's share to state after deduction of production expenses

The terms of tabulation by Ellis (ibid., pp.12-3) are elucidated further:

The word **ilku** in general describes the service which an individual performed for the state, and

which by extension also came to be applied to land held in return for (or subject to) such service.

**Sukussu** is used to describe a subsistence allotment, usually held in return for service. The term does not however refer to such service.

**Sibtu** also is used of land; the word simply means 'holding'.

Finally, **biltu** in agricultural contexts can be used in general of goods which are paid as rent or income, and can also be applied to land which produces such income.

In sum, state personnel in the Old Babylonian period either received rations, or they received land in lieu of rations (Ellis op. cit., p.18). One imagines that those awarded lands were rather better off, not least in personal autonomy, and indeed Ellis (ibid., p.15) remarks that "fields were assigned by the central administration to groups of artisans and workers, as well as to individuals because of their membership in certain groups, or their service to the state. Gelb (1965:243) states that this is indicative of a devolution of the control of land toward small landholders and artisans and away from the largest landholders, temple, state or private, part of a general fragmentation.

It is worth looking 'in close up' at an administrative text of the period from the Musée de Louvre, Textes Cuneiformes and translated by Norman Yoffee (1977:120). The text nicely brings together a number of relationships discussed above:

item: 24,630 litres barley measured according to the standard 30 litre measure, which is 27 payments of 900 litres plus 11 additional payments of 30 litre measures.  
item: 2610 litres 'late grain' measured according to the standard 30 litre measure, which is 2 900 litre payments plus 11 additional payments of 30 litre measures.  
total: 27,240 litres grain measured according to the standard 30 litre measure.

Received according to the 'thick' standard, including 'late grain', from the fields of Kar-Samas under the responsibility of Beliyatum, the **issakum** of Lamassani, **naditu** of Samas, daughter

of Sin-iqīša, the **mu'errum**-official. Brought in to the granary, received by Lamassani, **naditu** of Samas, Sin-rimeni, and Baza.  
overseers: Etel-pu, **dumu-e-dub-ba-a**, Sumum-libsi, and Beliyatum, **issakum**.  
date: 28.4. A-s 13.

A **naditu**, such as Lamassani was, and for whom the **issakum** and **mu'errum** officials were acting, was a daughter of an elite family who remained unmarried and instead entered into seclusion in an establishment dedicated to the service of a god, in this instance Samas. In a clear example of the 'diverging devolution' of property (Goody 1976:23), the **naditu** had at her disposal some of the familial property, in this instance amounts that would at least be equivalent to a dowry, to engage in commercial and real estate transactions. The term '**naditu**' means 'fallow', which meant she did not marry and produce children, but her money was far from fallow. It was actively employed in augmenting her own wealth (Harris 1975: xii), which could be left to adopted 'children'.

The **naditu** institution was an elite and quasi-state institution, and hence Lamassani's supervisor, Beliyatum, was an **issakum** official, in the Old Babylonian period "a manager of crown lands, not a private farmer; he could be paid either a fixed wage or a proportional share of the harvest; workers in his precinct were always paid fixed sums" (Yoffee op. cit., p.108). The **issakum** of the Old Babylonian period was an official answerable to a **mu'errum** and he to an **abi sabim**, at least after the reign of Ammiditana ibid., p.144).

Now, **issakum** is a loan word in Akkadian from the Sumerian **ensik** - usually written (in cuneiform) PA:TE:SI - and he "seems to have been originally the leader of the seasonal organisation of the townspeople for work on the fields: irrigation, ploughing and sowing" (Jacobsen 1970a:384n). Manifestly it survived in this (original and technical) sense of something like 'agricultural coordinator' into Old Babylonian times, by which time **ensik** was

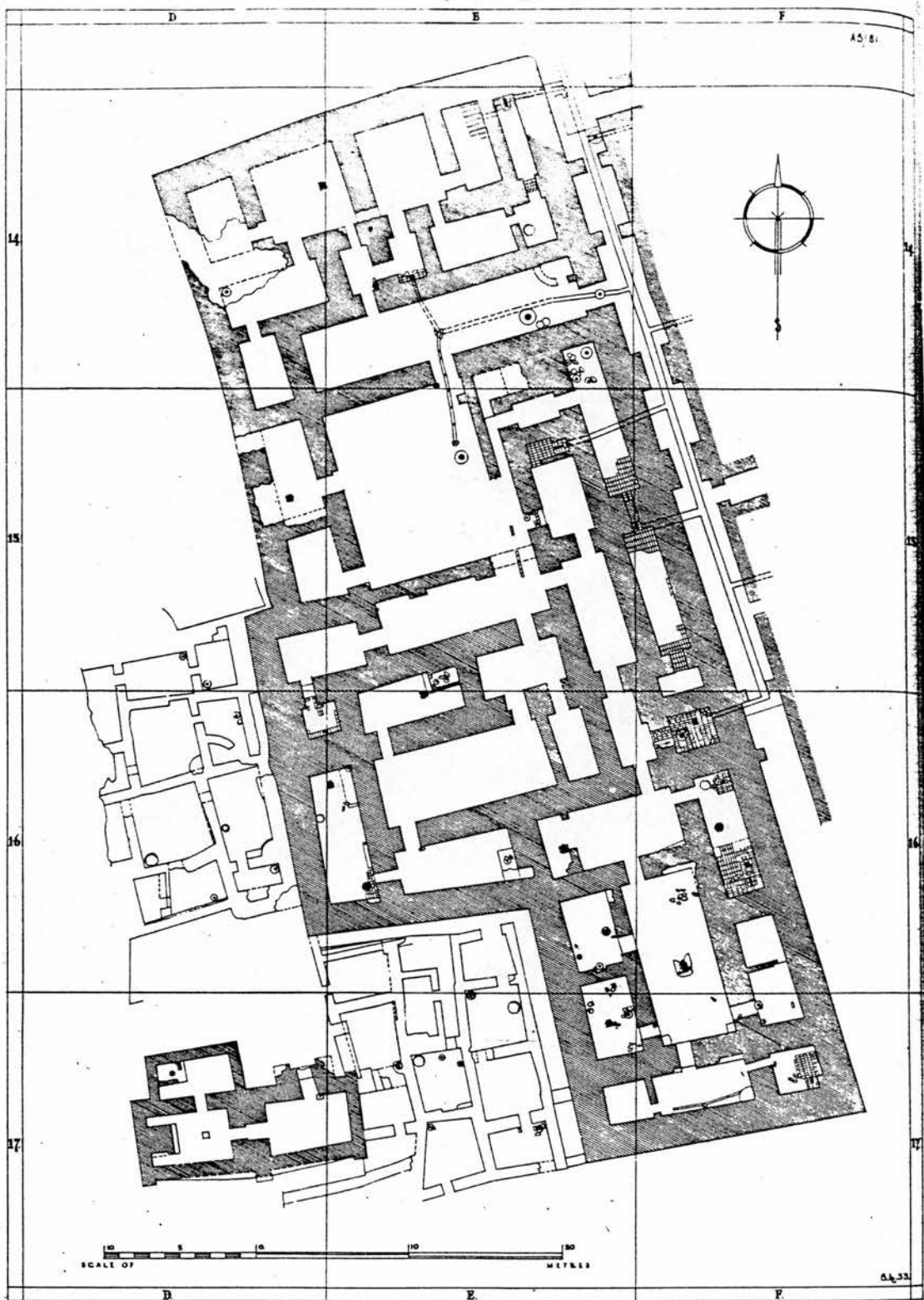
obsolete as a political term (Ellis 1976:45). But in his role between those two periods, Frankfort *et al.* (1949:203) "call the *ensi* 'manager' of the god's estate; and his position vis-a-vis the [city] god was actually closely parallel to that of an estate manager, a steward, vis-a-vis the owner". Speiser (1954:8), reviewing authority and law in Mesopotamia, points out that "Old Assyrian inscriptions state explicitly that the real king was the god Ashur, whereas the mortal ruler was merely the god's agent (*issakku*)".

Here we should remind ourselves that the oldest leadership position so far known in Sumeria is *En*, priest: "the sign *EN* already occurs in the oldest cuneiform texts yet recovered, those from Uruk", Hallo ([1957] 1963b:3) makes plain in his study of Early Mesopotamian Royal Titles. In contrast "the *LUGAL* - sign in a case by itself is not found before the archaic texts from Fara [i.e. ED III] which are later than the earliest texts from Uruk" (*idem*).

"The 'king', *lugal*, in contrast to the *en* was from the beginning a purely secular political figure, a 'war leader'", writes Jacobsen (1970a:374 n.32). "His residence, the *e-gal*, 'great house' had no ties with the temple but is merely his own private manor which, because of his office, come to take on the public aspects of a 'palace'" (*idem*). That is, his private estate (or 'manor' or 'household') served as a "full socio-economic unit, largely self-contained and autarchic, (and) which includes residential buildings, shelters for the labour force, storage buildings and animal pens, fields, orchards, gardens and pastures, as well as the owners (or managers), labour personnel, and domestic animals" (Gelb 1967a:5).

It was therefore both his economic and political power base and served as a 'ruling machine', or at least as its core (Uphill 1972:721). The palace itself, whose plan is illustrated overleaf, is succinctly described by Paolo Mattiae (1979:21) right from the end of the Early Dynastic period to the Neo-Assyrian empire as "a

FIGURE X:7  
PLAN OF THE 'AKKADIAN PALACE' AT TELL ASMAR



Plan shows royal apartments, elaborate drainage and separate wing for women. The adjoining Abu Temple (bottom left) was also rebuilt at this time (c.2350 BC) with a double sanctuary. Taken from Lloyd (1978:140).

complex, polyfunctional and unitarian building conceived according to a tight synactic pattern".

The palace became polyfunctional because the kingship itself did. From being a war-leader,<sup>7</sup> no doubt selected from the Eupatridae, the 'well born', holding a reversionary commission (*bala*) from the Assembly, the lugalship gained permanence and pre-eminence by involving itself in all aspects of civic life. As Jack Goody showed in his discussion of Technology, Tradition and the State in Africa (1980:56), once investment has been made in the means of destruction, in the case of West Africa guns and horses, in the case of Mesopotamia, bronze weapons and city-walls, these are set to work 'to earn their keep', always expensive, by external raiding and warfare, while the internal population can be made to pay for protection against reciprocal attack. Hence Webb's suggestion (1975:158) that "states emerged in clusters under conditions of mutual competition".

Here we seem to have a *prima facie* instance of what Flannery (1972a:410-11) has termed 'systematic promotion' whereby one institution in a complex of institutions manages to 'get promoted' from one amongst several to the hegemonic institution at the apex of the system.

In the 'Common of Enlil', a field  
belonging to Esabad, the temple of Gula,  
Kish assembled  
and Iphurkish, a man of Kish,  
.....  
they raised to kingship. (Jacobsen 1970a:162).

In the process of the emergence of what Jacobsen (*idem*) calls 'Primitive Monarchy' from 'Primitive Democracy', the Assembly, seen above in its sovereign role, could be progressively relegated to

7. "Like many other American Indian groups", writes Trigger (1978:196) of the Huron, "each clan unit had two headmen; one for peace and one for war".

a subordinate, and then a consultative role; a move facilitated by the operations of the Assembly being cumbersome, infrequent and dependent upon consensus, 'asking one another' (Evans 1958:146). Hence by the time of hereditary kingship appointment was by the gods, initially through the good offices of the deity of one's own city, who then interceded with Enlil, the supreme deity resident in Nippur.

In this royal hymn Sulgi's divine mother, Ninsun, 'Lady of the Wild Cows', goes straight to the top, to An himself, source of all authority, to get her 'son' Shulgi legitimated as king of all Sumer. Her father An agrees in these words:

Sulgi, the king of propitious reign  
For you, the goddess, may he perfect the cultic  
norms, which are established for the kingship!  
May he execute perfectly for you the statues of  
the gods!  
May he present you the offerings of the New Moon  
(and) the offerings of the New Year!  
May you yourself (Ninsun) bring to me (An) daily  
his prayers!

(Jacob Klein 1981:10).

And in another version "the national god Enlil appoints him, with the hearty approval of the divine assembly, to the leadership (lit. 'shepherdship') of Sumer" (ibid., p.13).

However, at the outset not even that quintessence of unbridled force, Enlil, could escape being banished from the sacred city of Nippur by the Assembly of gods as punishment for his raping of Ninlil (Jacobsen 1976:103-4).

Subsequently the 'historic' pattern is established, seen poetically and clearly in the Hymn to Inanna as the Evening Star:

In the palace, the house that administers the  
country - in the house that is called the  
(disciplining) neck-stock for all lands,

the house (called) 'The River Ordeal' - has, in  
its entirety,  
the black-headed (people), the nation,  
founded a dais for (the divine) 'Queen of the  
Palace'  
(Ninegalla),  
the king, being a god, will dwell with her on it.  
(Jacobsen 1976:37).



## CHAPTER XI

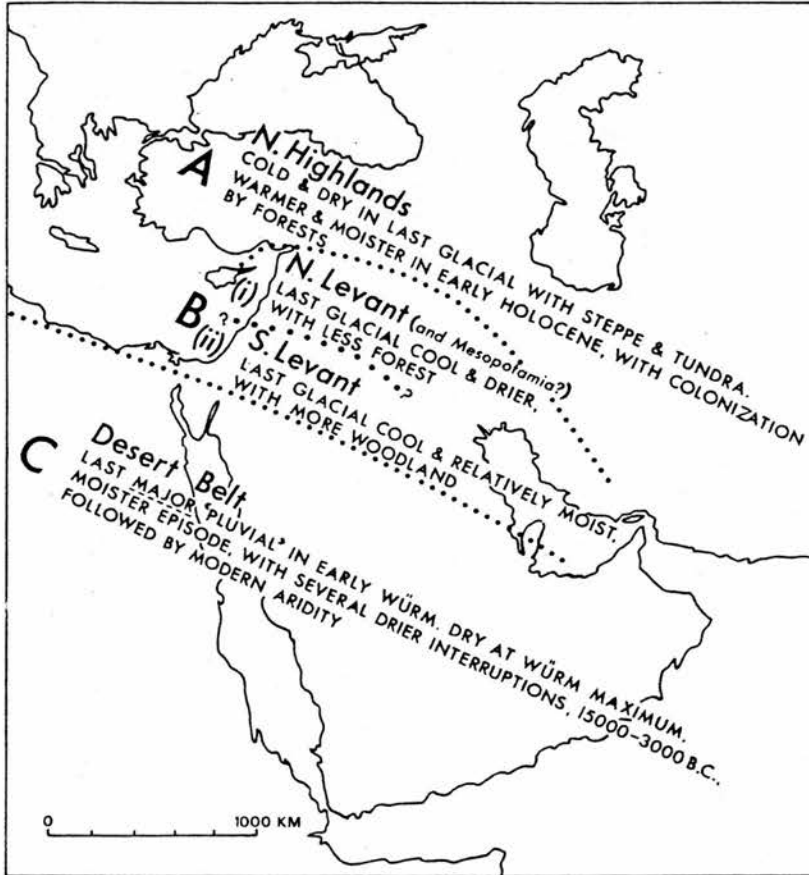
### SUMMARY AND CONCLUSIONS

This work has posed the question of why and how permanent settlement, husbandry and cities developed where and when they did. Answer was given in terms of necessary and sufficient conditions, beginning with the environmental shifts consequent upon the ending of the last Ice Age. In those increasingly permissive conditions of the Holocene Near East, it was indicated that for the very first time Homo sapiens sapiens was present to take advantage of an Inter-glacial. But the ending of glacial conditions was itself destabilising. New adaptations had to be made in an environment that continued to flux differentially for millenia after the nominal onset of the Holocene neothermal, reaching a temperature 2-3° higher than today's between 5,000 and 3,000 BC, while tree-pollen climaxed at 3,500 BC in the Zagros (Bottema 1978:25). It is only about this time that near-modern sea-levels were being attained in the Gulf (Larsen & Evans 1978:236). Some idea of the scale and suddenness of the adaptations that had to be made at the Epi-Palaeolithic can be gained from the fact that the maximum of the last, Würm, Ice Age, was reached only around 21,000 years BP, with sea level declining about 100 metres (Nützel 1975:104). Regional conditions over this transition are conveniently summarised in the following map from Butzer (1978:7)(Map XX overleaf).

A rising density of subsistence resources, particularly the grains, led to a downward spiral of mobility until full sedentarisation was possible at particularly favoured sites and still employing only wild plants and animals. However, while only a few grass species were intensively exploited, it should be noted that in each area from Anatolia to Khuzistan a different animal species was the main object of the hunt.

MAP XX

REGIONAL CONDITIONS IN LATE PLEISTOCENE/EARLY HOLOCENE



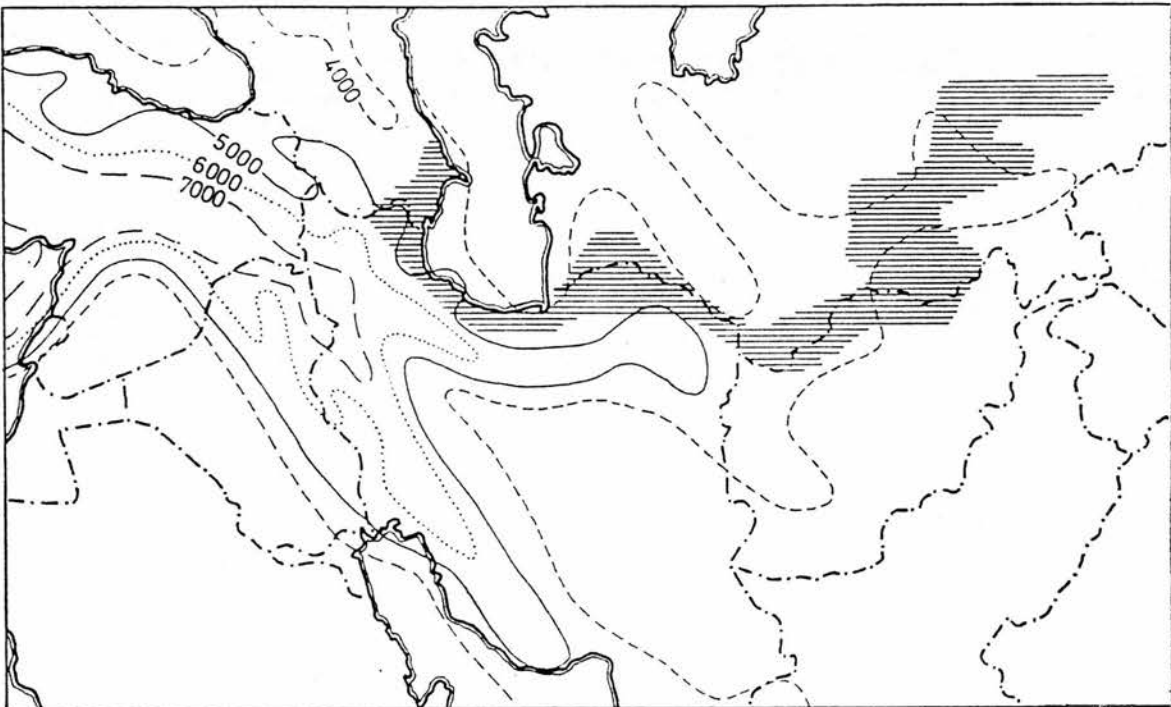
In southern Turkey the majority of animal remains from Cayonu and Catal Huyuk came from cattle (in the earliest levels *Bos primigenius* and in the later, domesticated ox), red deer, sheep and goats. In the Levant the greatest number of animal remains came from gazelle with fox also an important source of meat. At Jarmo and the Deh Luran sites the people hunted mainly wild sheep and goat, but also gazelle, fox, aurochs, and pig. Beidha is the only site from which the Nubian ibex (*Capra ibex nubiana*) has been identified. (Clutton-Brock 1978:35).

The same holds of the loci of animal domestication in this most diverse region I have termed the Zagrosian Arc. Here, it was maintained, there was no single 'hearth' for the origins of

husbandry from which such techniques diffused. Rather the complementarity of diversity was stressed in the concept of **lateral step-wise progression** whereby innovations made in separate zones connected at different times in different places, forming new syntheses that themselves served as the cores of new departures technically and indeed geographically. A seminal example previously given was that of the formation of bread wheat (*Triticum aestivum*) depending as it did on the raising of Emmer (*Triticum dicoccum*) intersecting the natural habitat of goatface grass (*Aegilops squarrosa*) along the lower Caspian, there forming hexaploid wheat (*Triticum aestivum*), which in turn spread south again. In Map XXI (from Van Zeist 1976:34) to the distribution of *Aegilops squarrosa* are added isochronic lines in years BC representing the spread of village farming (after Braidwood 1975:143).

MAP XXI

LOCUS OF THE LAST GENETIC ACCESSION TO BREAD WHEAT  
AND THE SPREAD OF CULTIVATION

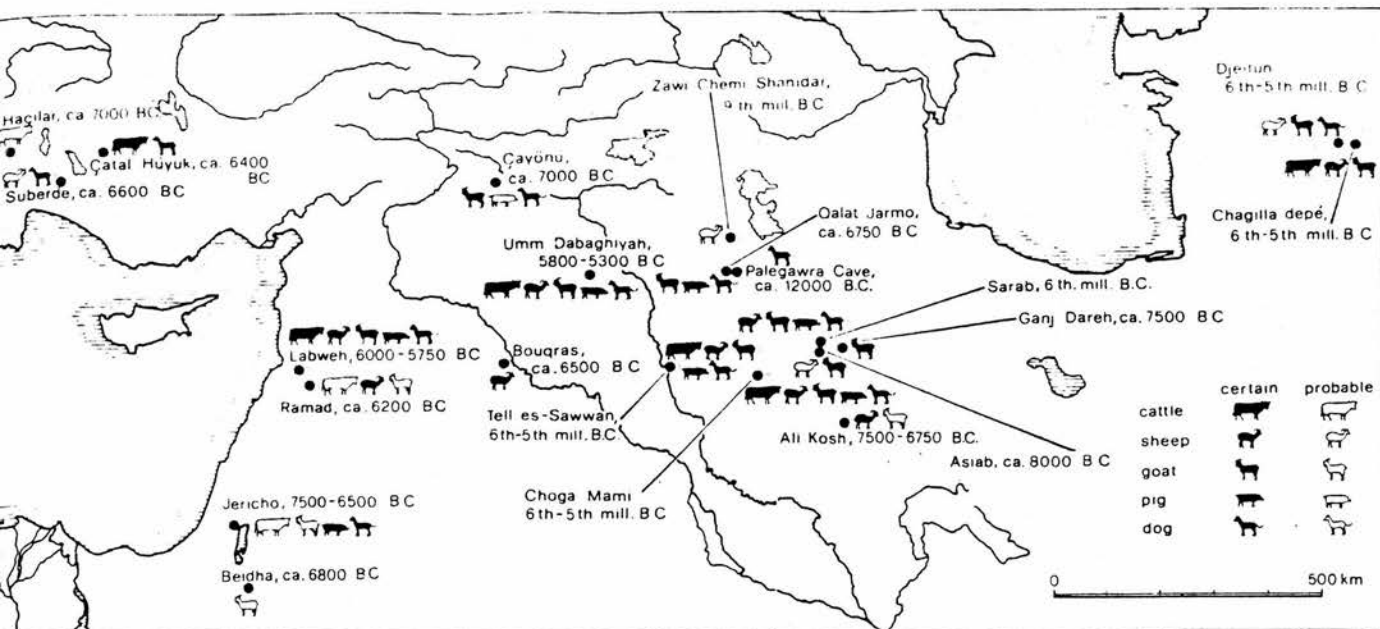


Similar processes occur in the domestication of animals. The domestic goats so far known were found in Asiab, Iran, and date from about 8,000 BC (Bökönyi 1976:21). Domestic sheep with goats have already been noted at Ali Kosh in Deh Luran after about 7,500 BC, while the earliest domestic cattle in the Near East are from Catal Huyuk in Anatolia, about 6,400 BC (idem). Pig is also domesticated in the seventh millenium, with horse and ass, much later, between 4th and 3rd millenia BC (ibid.) right on the edge of the historical period, while the camel is domesticated later still.

Most significantly, however, of the five species characteristic of Neolithic animal husbandry in the Near East - sheep and goat, cattle and pig (plus dog, which is Epi-Palaeolithic) Bökönyi (ibid., p.22) himself observes it to be curious "that the five species did not appear together at any site in the area before the end of the 7th millenium BC, although many different species combinations occur on many sites". Such a phenomenon however is eminently explicable on the basis of crossover development described above. This data is summarised on Map XXII from Bökönyi (ibid., p.21).

MAP XXII

SITES OF THE EARLIEST FINDS OF DOMESTICATED ANIMALS



In the process of elucidating the origins of farming, two conventional postulates were overturned, one belonging to the nineteenth century and the other current. The nineteenth century premiss dismissed is that pastoralism precedes and lays the basis for cultivation. In the scheme of Savagery - Barbarism - Civilisation then obtaining, the domestication and herding of animals is situated in the 'middle period' of Barbarism by Morgan (1877:26), for whom "it seems extremely probable ... that the cultivation of cereals originated in the necessities of [feeding] the domestic animals..." We have, however, seen that animal and plant domestication went hand-in-hand, and indeed to the extent that nomadic pastoralism developed it did so in response to an intensification of agriculture consequent upon widespread irrigation on the alluvium. "Any land that can be found is potential pasture, and extensive farms thus remove extensive areas of pasture from pastoralist use" (Hole 1978:157).

This brings us directly to the current view of the onset of farming, here challenged. This orthodox view basically is that farming originated and flourished in areas of abundant rainfall spreading to cover all the areas capable of supporting 'dry', that is, rainfed, farming. In this view, only when those areas were filled to overflowing would irrigation be attempted, for it would indicate that no areas of rainfed farming, deemed to be preferable, were by that time left, with the 'extra labour' of irrigation merely an unpleasant necessity on otherwise uncultivable lands. This view, it is here maintained, misconstrues the background to the origins of farming outlined in early chapters along with the sequences involved in its emergence (sketched in the Flowchart Fig.III:4).

At the outset it was indicated that the Boserup scheme of swidden horticulture being intensified into open field agriculture through decreasing regenerative forest fallow had no relevance to Near Eastern conditions<sup>1</sup> where cereal farming actually originates.

1. This is not to suggest that destruction of forest for fuel, timber, etc. did not occur, still less that it was not locally devastating, as it currently is in parts of Iran (Hole 1978:148; Watson 1979:240).

Indeed shortly it will be indicated that slash and burn cultivation in forested areas, whether tropical or temperate was of late advent, and most unlikely to be a seminal point of departure. That distinction belongs to something I have called 'hydromorphic planting' in Figure XI:1.

Sherratt (1980:317), considering the sorts of environment encountered, for instance, at Jericho (permanent springs) and Deh Luran (permanent and seasonal marsh) suggests "that the critical innovation in the cultivation of cereals was their transfer from environments with a winter growth pattern to alluvial, lake edge, riverine or springside locations in which an accelerated (Spring) growth cycle was possible". In other words, when cereals were first being planted, in contrast to the preceeding stage of harvesting naturally occurring wild grains, those still morphologically wild cereals were of necessity transplanted to locations where human groups wanted to be for other reasons. Those included the presence of drinking water, fish, fowl, molluscs and bodies of standing water to which game animals were also likely to come to drink. Here the significance of the 'broad-spectrum' economy will again be recognised. Soil conditions at desirable sites on small alluvial fans, alongside streams and rivers, and by the margins of lakes and marshes are naturally hydromorphic; that is, they are very moist throughout most if not all of the year, due either to intrinsically high ground-water or, as in wadis, to seasonal flooding. Such soils, being naturally soft and of fine structure require little in the way of soil preparation (Sherratt op. cit., p.318), in addition to being in many cases self-fertilising through seasonal oscillations (which if it included dessication would also include soil aeration) and local decomposition. Only by transplantation from the grains' natural upland habitats, it has previously been stressed, would the brittle, instantly shattering rachis be replaced by a tough non-shattering rachis.

Hydromorphic soils were optimal for early agriculturalists who were thereby living at a site able to provide all their other

requirements in a single location. Year-round sedentarism makes perfect sense in such a context. However such locations are relatively few and far between in the Near East and hence attempts to recreate hydromorphic conditions would lead to what would otherwise seem to be precocious experiments in irrigation (as at Choga Mami) before enormous tracts of vacant 'dry' arable land had been taken into cultivation. Further, such early irrigation might look like a response to the necessity of agricultural intensification, so lending comfort to population pressure theorists. On the contrary, however, what is known of the size and number of village sites during the proto-Neolithic leads to the opposite conclusion, namely that "this pattern would make sense with low population levels and a simple technology" "for the hydromorphic locations are the very optimum habitats, "a narrow zone of maximum productivity" (Sherratt op. cit., p.318). Dry farming, normally taken to be original, would thus be a later development of essentially lower productivity, adoptable only where rainfall was both high and, just as important, dependable. Of the 'wet' Luristan mountains flanking Mesopotamia Frank Hole, in his ethnoarchaeological investigation there (1978:141) reports that

overly wet or overly dry years occur with ominous regularity. A 'normal' year is hard to describe and still harder to find.

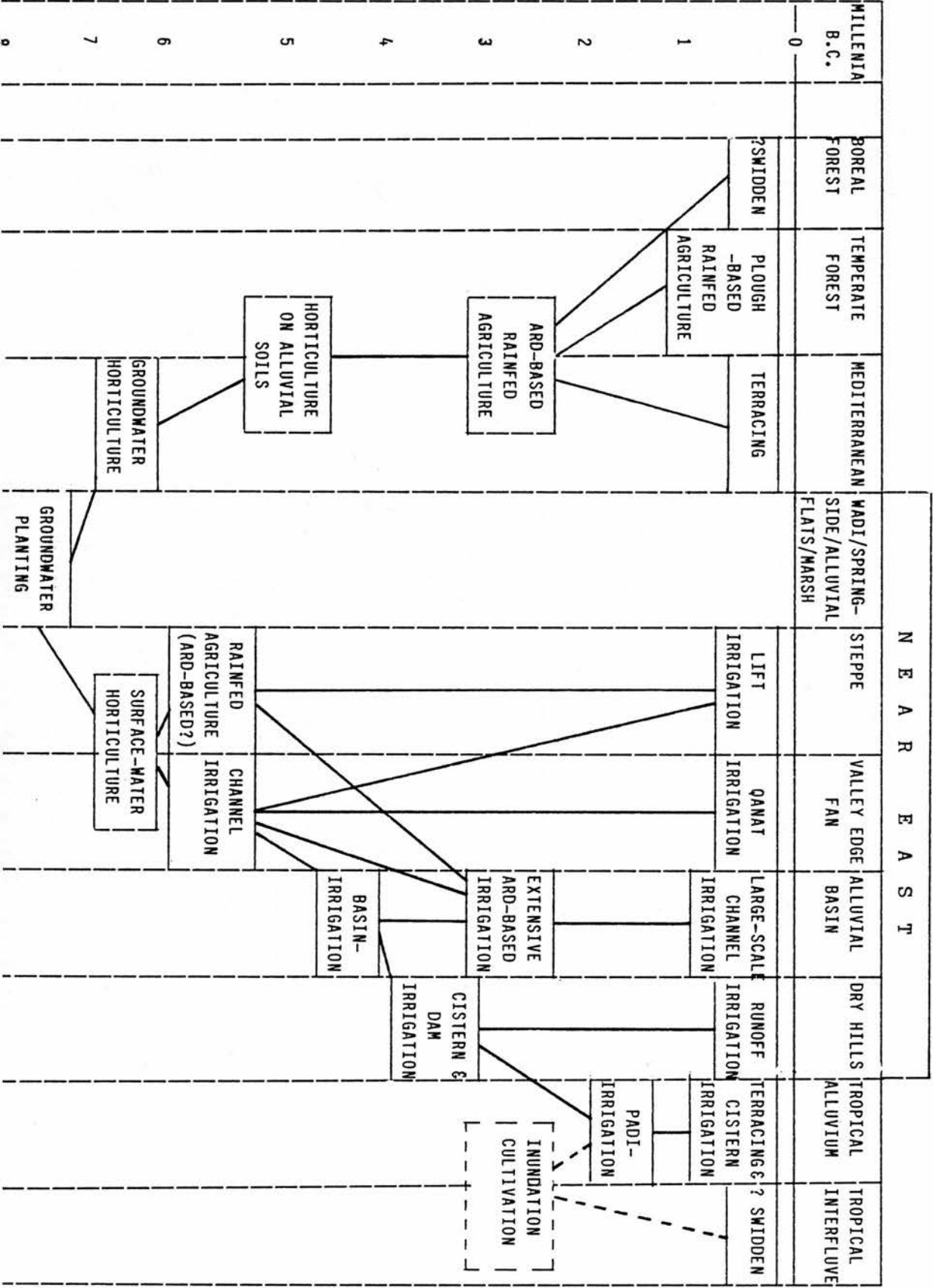
...People who live in the area assume that two or three out of five crops will either fail outright or be so poor as to make the work and cost of planting hardly worthwhile.

...In general conditions are better in the mountains than on the Kurdistan Plain. That means that one or two crops out of five may fail.

Kirkbride (1972:4; 1982:14) noted similarly unpredictable conditions when excavating at Umm Dabaghiyah in the Jezirah.

The spread and regionalisation of agriculture is seen in the following chart (Figure XI:1 overleaf, modified from Sherratt op. cit., p.323). It will be observed that from eighth to fourth milleniums agriculture was predominantly on hydromorphic soils,

FIGURE XI:1  
 THE DIFFERENTIATION OF OLD WORLD FARMING SYSTEMS  
 (After Sherratt 1980:323)





with the notable exception of the Near Eastern steppe.

The very desirability of such hydromorphic locations explains the early colonisation of, and rapid expansion, amounting almost to an explosion, upon the alluvium of Mesopotamia. There river channels flowed between levees which had only to be locally breached to extend the productivity of already moist backslope and swamp areas (see Figure III:1). High and sustained levels of output could be thus attained given the right institutional conditions. For even with high intrinsic productivity and abundance inter- and intra-annual variability had to be met and buffered in a society for which the grains were the staff of life. Not only were carry-over stocks needed until the next harvest but seed supplies were demanded to produce one, with surpluses on top of those seed supplies required to guard against losses. Over this period too, surpluses were required for exchange against pastoral and other subsistence products while further stores had to be held against years of drought, pests or growing-season damage, for instance by storms. It might not be fortuitous that the chief executive in the Sumerian pantheon is Enlil, Lord Storm.<sup>2</sup> Such reserves when pooled and institutionally allocated amount to 'social storage', something that does not necessarily mean enormous silo-like storage, but institutional means of organising production and consumption so that there is always a sure safety margin. The institutionalised basis of social storage crystallised into the temples at the nodes of agricultural and social reproduction. In turn the temples, like the precincts of Kulab and Eanna at Uruk served as the cores of the synoecism that congealed into cities.

Jacobsen (1980a:74) has hypothesised from the etymologies of

2. Jacobsen (1980a:74) states that it is "significant that in Nippur (the only pre-Uruk settlement in the region) Enlil, god of the older, sacred parts of the site was god of the hoe; while his son Ninurta, god of the city area itself, was god of the plough". While Ninurta in fact means 'Lord Plough' he is also god of the floodstorm.

Lagash and Ur (the full form of which is Urim) meaning a treasury and its doorpost (symbol) respectively, that those cities of the southern alluvium might have their origins in the 'treasuries' at fixed points where tribal valuables were kept during the annual cycle of nomads. "Such a storehouse, because of its sacred objects, becomes a religious centre at which people gather from afar for religious festivals and - as usual on such occasions - for barter and exchange of goods" (Jacobsen op. cit., p.74). However the priority of pastoral nomadism has been rejected and further, no 'tribal valuables' theory can explain the location, early date or deity celebrated in the most venerable site of the area, Eridu, where offerings were of fish to its 'owner' Enki, god of the Sweet Waters. But Jacobsen's etymologies are never to be disregarded, and what it seems they most appropriately designate is the temple's social storage function outlined above.

That this trajectory does indeed follow from the causes stated may be seen by contrast with Australia, and indeed in the contrast of Australia with Tasmania. Having entered the continent at a time whereafter no environmental shocks occurred, Homo sapiens received no impulse tending toward qualitative adaptation but instead was able to maintain or even improve upon the prevailing conditions with merely qualitative advances. And if the element of environmental shock was absent so too was resource diversity through which great changes could be wrought, seen for instance in the absence of any large or medium mammals in Australia, though these were the essential complement of the grain economy in the Near East.<sup>3</sup>

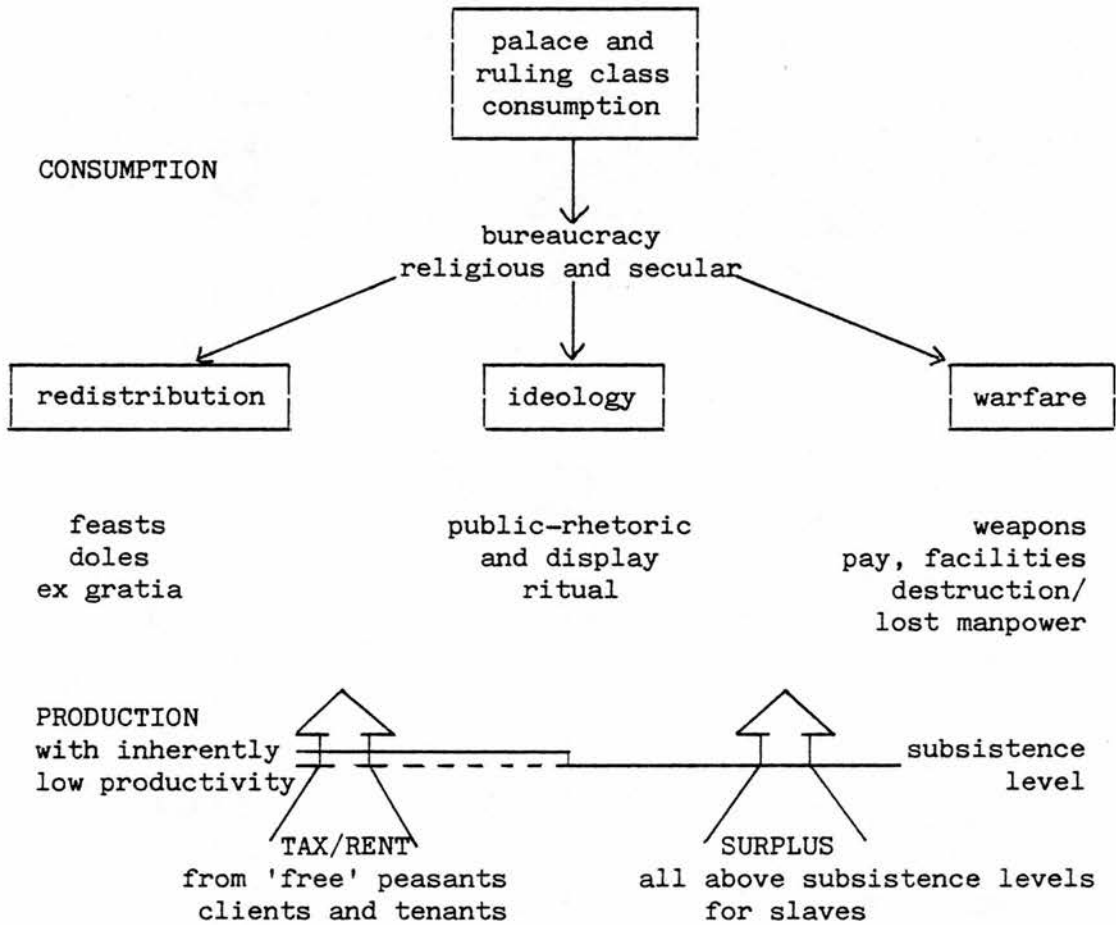
3. Bray (1979:79) suggests that "what may have delayed the advent of settled life is simply the lack of a staple crop. Archaeological specimens of maize from dry caves (from 5000bc to the Spanish conquest) show that more than three thousand years of genetic selection were needed to develop races capable of sustaining full-time agriculture".

Environmental manipulation undertaken in Australia, such as water-control, "are not seen as attempts to increase environmental productivity, but to regularise (stabilise) the availability of resources" (Lourandos 1980:246), a stability hard to achieve in the Near East due to ever-shifting parameters, natural and human. In Tasmania, where there was much less topological, faunal and human diversity and greater environmental stability than obtained on the mainland, "the mainland's vast array of specialised hunting, gathering, food processing and storage methods is not known" (*ibid.*, p.256). Indeed recent Tasmanians had even dropped fishing from their subsistence repertoire (*idem*). It is not irrelevant that no contact between Tasmania and the outside world is thought to have occurred for at least 10,000 years, ironically that span at the beginning of which the Neolithic was forming in the Near East.

Another central proposition advanced was that social organisation, technics and demography were so systematically inter-related that all three moved together in qualitative 'pulses' of change. It was argued that in pre-state societies, where the direct producers are simultaneously the consumers without any mediation by other social strata, decisions on technics by the producers and on demography by the reproducers were taken directly by those immediately involved and were such as to keep those factors in balance, even were that balance to shift over time. Why and how this could occur was demonstrated in the models of Modes of Production developed for pre-state societies.

In post-state societies, however, the case inverts. Now the social configuration is such that the ruling classes have a vested interest in certain techniques of production because they have a guarantee therefrom of certain levels of revenue and bases of power. This disjunction between consumers and producers, between production and the disposition of surplus extracted by and dispensed through political power is indicated in Figure XI:2 overleaf.

FIGURE XI:2  
DISPOSITION OF PRODUCTION BY RULING CLASS AND THE STATE



Accordingly, while technics might advance somewhat nothing can be done that qualitatively transforms the relations of production for it is they that determine what is produced, by what means, by and for whom, and those decisions determine the level of social productivity. Relations of production are in turn secured by overarching political relations of which the state is the keystone. The state is then 'capping' as it were any fundamental alteration in its structural basis. And as essentially closed systems state-ordered societies remain stable until either internal contradictions accumulate to bursting point or some external shock is received to which the social institutions are not resilient, or most likely, some external shock opens up fissures along the

intrinsic lines of social contradiction which undermine the whole structure.

As its height Cretan 'palatial' society was subject to strong seismic shocks and indeed seismic activity continues in the region to this day. From seismic activity early in the second millenium Minoan society was easily able to recover, even developing its full vigour **after** 'the great Levantine disaster' of the later 18th century BC which destroyed, **inter alia**, the palace at Phaistos. Yet "on the ruins of the early palace was constructed a still more magnificent building" (Hutchinson 1962:193). There is nowhere signs of internal decay, such that, Hutchinson (**ibid.**, p.174) observes of the island's main centre, "at Knossos the 3rd Middle Minoan period is that of the greatest building activity" and this generally throughout the Mesara, the most productive part of the island.

Matters, however, are quite different in the last half of the 15th century. Then natural disasters not merely, as hitherto, destroyed settlements and institutional buildings, but led to the very abandonment of those settlements, combined, it would appear, with raids, uprisings and looting (**ibid.**, p.304). Cretan society as it had been was never recreated. Even as early as the 16th century trade with the western Mediterranean seems to have been in Mycenaean (i.e. mainland) rather than in Cretan hands (**ibid.**, p.305).

By the 15th century Mycenae had managed to capture most of the trade with Egypt, Cyprus and the Levant, though Crete is of course better placed geographically to exploit such opportunities. This is but one indication of a general condition of atrophy on Crete to which the natural disaster around 1450BC, probably the explosion of the island of Santorini, proved terminal. There is no question that this disaster was much more devastating than, for example, any floods or salinisation occurring in Mesopotamia. The point, however, as the 'Curse of Agade' renders graphically, is the relationship between internal processes and external context.

The interlocking and mutual constraint of the parameters of social organisation, technics and demography, all rigidified by the state (or overextended by its desire for surplus) helps to clarify the processes at work not only in Mesopotamian history but in the rise and fall of civilisations generally. In particular it throws light on the High Civilisation/Dark Age oscillation that characterises Eurasian history.

In Mesopotamia a continuity was observed from the Ubaidian of the 5th millenium through the Uruk and Early Dynastic periods of the city-states to Sargonic over-extension and disarray in the latter part of the 3rd millenium. Resilience prevailed even under the Gutian incursions at the millenium's end. Continuity at Lagash and Uruk meant that reorganisation under the Neo-Sumerian hegemony of Ur III resulted in a Sumerian renaissance. Again overextension obtains and confusion follows; yet continuity again prevails through the city-states of Isin and Larsa until the Amorite dynasty of Hammurapi extends hegemony over the whole region. In its turn the Amorite dynasty and the High Civilisation centred on its capital Babylon is swamped by Kassite intruders from highland Iran.

The immediate beneficiaries of Knossian collapse were the Mycenaean states of the mainland, but temporary records of clay preserved by the fire that destroyed the palace at Pylos in the Peloponese show that state to be preparing for a seaborne invasion (at the Gulf of Navarino) which duly came. As Chadwick (1972:233) relates, "every major Mycenaean site so far excavated shows traces of fire and destruction" and the destructions cluster around a date at the end of the 13th century. At this time and the beginning of the 12th century the East Mediterranean and Levant were in turmoil. The Hittite empire in Anatolia collapsed about 1190 BC and what Hutchinson (op. cit., p.314) calls "a motley horde of northerners" overran Syria and Palestine and attacked Egypt at this time. Only by Egypt, the most durable and self-contained of Mediterranean states, were those Aegeo-Anatolians, known to the Egyptians as "Sea Peoples", repulsed. But in remaining thus closed off, Aldred (1961:

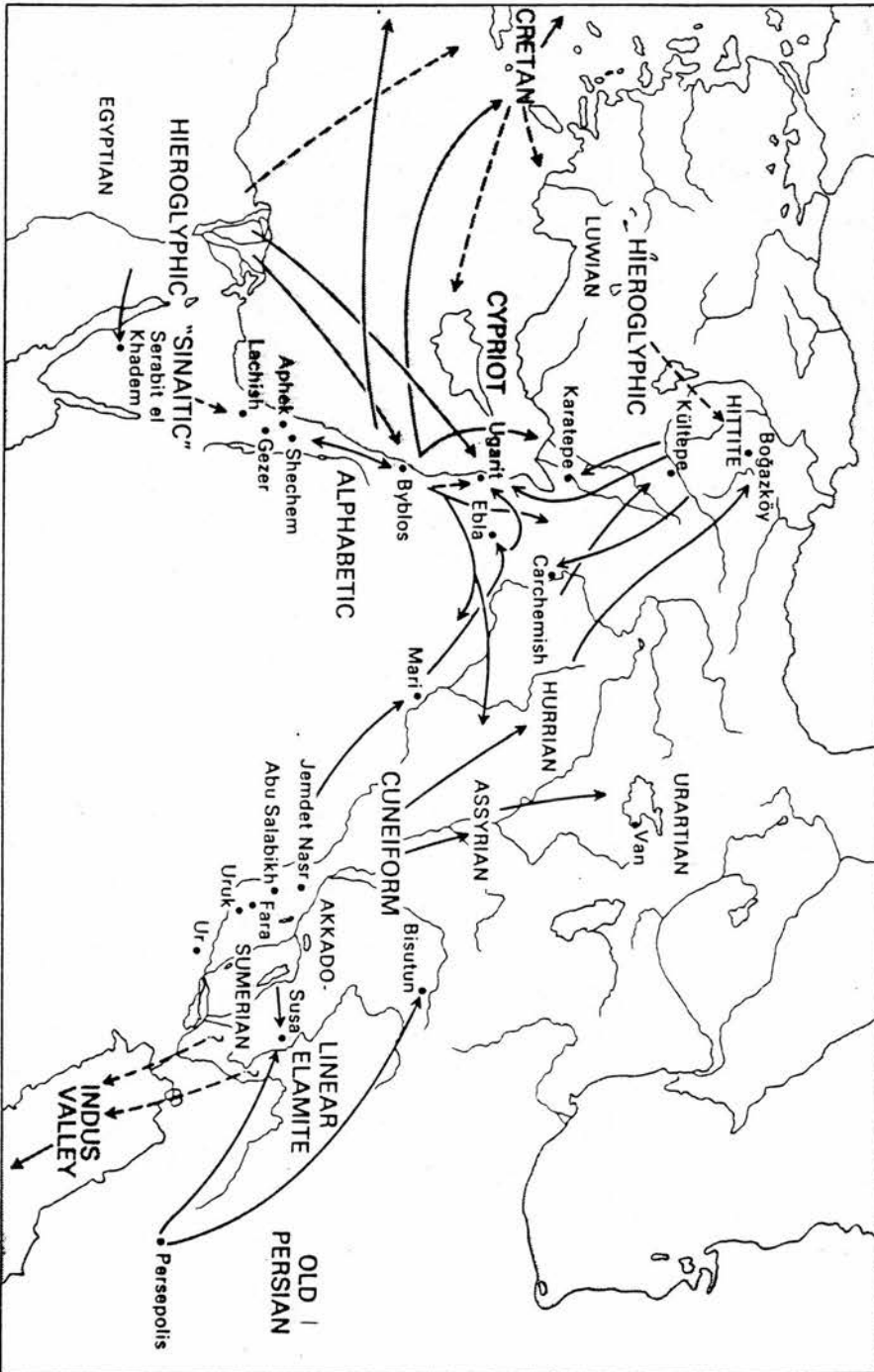
139) observes of Egypt that "thereafter she lived on, a Bronze Age anachronism in a world that steadily moved away from her".

For those are the great upheavals that usher in the Iron Age, and whose heroes are the great protagonists of the Homeric Dark Ages. The Homeric epics were committed to writing in the newly Graecified Phoenician script during the 8th century BC. Emergence of the Alphabet is itself a prime example of the mode of contrasting but contiguous development, something well illustrated in Map XXIII overleaf.

During the third and second millennia the Near East was dominated by two writing systems, Egyptian, usually called hieroglyphic, when not monumental written on papyrus, and Sumerian-Akkadian cuneiform, overwhelmingly written with a stylus on clay. Both began pictographically, representing the object they designated visually, and early in the third millennium had already moved on to the ideographic principle whereby ideas associated with a term (say, foot) are also designated by the sign in addition to and by extension of its basic referent; (thus 'foot' of a mountain; but also stand, walk, go, etc.). Both pictograms and ideograms are called logograms, i.e. (whole) word-signs, distinguishing them from the later syllabaries<sup>\*</sup> whereby only single syllables are represented whether or not these are whole words, which in both Sumerian and Chinese they very often are. As a script evolves, however, usually it comes to incorporate both logograms and syllabograms and, in the case of Sumerian, 'class determinatives' showing how a sign should be read, by indicating to what class of referents it belonged, such as MAN (for professions or nationalities), WOMAN (for female names), FLESH (for parts of the body), WOOD (trees, woods and wooden artifacts), and so forth (Hawkins 1979: 138). The radicals originally performed analogous classificatory function in Chinese.

4. Cretan Linear A and B scripts are also syllabaries.

MAP XXIII  
THE CENTRES AND ROUTES OF TRANSMISSION OF EARLY SCRIPTS  
(from Hawkins 1979:165)





Egyptian and Mesopotamian scripts are, then, "both mixed logographic scripts, both using class determinatives formed from common logograms as aids to reading. The essential internal difference of the two lay in their syllabaries; for while both formed these in the same way (namely by the rebus-principle of stripping a logogram of its semantic content and using it to write the syllable which its syllabary suggests), the cuneiform syllabary was based on the monosyllabic structure of Sumerian, supplemented by similar Akkadian roots, but the hieroglyphic syllabary reflected the Egyptian word structure", the consonantal skeleton of the syllable without reference to the vowels, a feature shared by Semitic orthographies (Hawkins op. cit., p.146). They differ too in their social applications. While Egyptian seems to have its origins in ritual and ceremonial contexts (like the Chinese) Sumero-Akkadian is, as we have seen, rooted in practical accounting needs.<sup>5</sup> It also, despite the cursive versions of hieroglyphic later developed, was applied much more widely than hieroglyphic, rapidly forming a corpus of literature, mathematics and so forth. By as early as c.2,500 BC Mesopotamian cuneiform had already been borrowed to write the copious 'proto-Canaanite' documents of Elba (Tell Mardikh, in Syria) and a few centuries later was again borrowed at the other end of the Mesopotamian province to write Elamite (the Susa area of Southwest Iran). In contrast Egyptian hieroglyphic was never borrowed to write another language.

Generally speaking, when, over the next thousand or more years, societies became literate in the Near East, they did so by employing a version of Mesopotamian cuneiform for writing their own languages. And while Egyptian papyruses circulated in its areas of influence, the international language of diplomacy from the Sargonic period onward was cuneiform Akkadian. But the area where Akkadian and Egyptian influences overlapped most continuously was the Levantine seaboard. Its ports were the major direct points of contact between Mesopotamia and Egypt, and not by sailing right around the Arabian Peninsula as During-Caspers imagines (1971-2: 43). Between Egypt and Syria there was even overland contact

5. Egyptian hieratic and demotic scripts on papyrus were, however, later applied to purposes of administration; hieroglyphs used monumentally were called 'god's words' (Baines 1983:581).

through Sinai.

Ugarit (Ras Shamra) and the signally titled Byblos (which means 'papyrus' in Greek) are the cities on the Syrian seaboard where the contrast between and mutations of hieroglyphic and cuneiform secreted alphabetic script in the later part of the second millenium. In Ugarit are found no less than five separate scripts: Egyptian, Akkadian, Hittite hieroglyphs, Cypro-Minoan, and a fifth script "the remarkable Ugaritic 'Cuneiform Alphabet', written also on clay tablets found in large numbers and dating to the period c.1400-1200 BC. The language written is mostly Ugaritic, a West Semitic language, though it is important to note that the script was also used to write Hurrian. Ugaritic was used, in contrast to the international and diplomatic Akkadian, for local documentation (letters, legal and administrative texts), but above all for literacy, mythological, and ritual texts. Scattered examples of the Ugaritic script found on various sites in Syria and Palestine attest to its wide dissemination" (Hawkins op. cit., p.159).

The Ugaritic was a thirty letter, essentially vowelless alphabet, though Ugaritic scribes did introduce three vowel sounds: a, i, u used, for initial sounds (ibid., p.161). From 14th to 11th centuries BC different alphabets were employed for a variety of purposes, including graffiti, throughout Canaan (Millard 1976 :135). The number of letters needed to fit local dialects varied, with Phoenician needing only 22. Nonetheless, "it is beyond doubt that the Byblian, Palestinian, Phoenician, and Aramaic scripts are all related, the Byblian being the most archaic" (ibid., p.133). It was, however, the 22 character consonantal alphabet that the Greeks subsequently borrowed and to which they added letters for distinct vowels, to function solely as vowels, entirely supplanting the previous mode of a character standing for 'consonant + vowel'.

The Ahiram coffin text and tomb inscription from Byblos is the oldest text in the linear alphabet to yield continuous sense (ibid.

p.135), and they do so in a script developed for writing ink on papyrus in an area long within the Egyptian cultural sphere. The Ahiiram text date is around 1,000 BC, and the inscription on the wall of his tomb shaft reads: "Beware! Behold (there is) disaster for you down there" (Hawkins op. cit., p.164).

By the 7th century BC the Greek city-states were well into the process of formation, parallel in many respects to the Mesopotamian (not least in *oikos* and *autarkia*) but differing in the extent of private control of land and most signally in the absence of institutional social-storage, production and allocation, which the Mesopotamian temple represented. The biggest and most powerful Greek city-state was Athens at 2,500 km<sup>2</sup> (Finley 1983:16). It was exceptional in mainland Greece because of the country's small size overall, many mountains and restricted arable land. There were however no such restrictions upon the Roman city-state which, having first subordinated Etruscan central Italy early in the third century BC was able thereafter to proceed down the peninsula absorbing the Greek founded cities by 272 BC, proceeding then to bitter wars with Carthage for control of the West Mediterranean.

Greece was swallowed in the second century BC by which time Rome itself had lost the internal constitution of a city-state. Devastating civil wars lasted until the Republican political forms were transformed into the Principate under Augustus in the first century AD. He, concentrating in one person *auctoritas* and the *mos maiorum*, supposedly on the basis of a *consensus universorum* delegated to the Princeps by the Senate and *populus*, alone wielded *Imperium*, supreme power.

The expansion of the Empire under such forms of government at the centre are too well known to need recounting, it sufficing to remark that by the time of Augustus the whole Mediterranean seaboard had been conquered by Rome, including the Levant. "In the final three hundred years of the Republic there were probably not a dozen when a Roman army was not engaged abroad. For the last two

centuries, it has been estimated that the median of adult male citizens involved in any year was 13%, rising as high as 35% in some years" (Finley 1983:17). This then is the apotheosis of the citizen-militia of the city-state, its phalanxes become Roman legions and its hinterland world empire. Yet despite advances in military technique gleaned from action all over the known world, it has been indicated how little productive technique, technics, advanced other than at the beginning of this period.

Attenuated by its own top-heaviness, over expansion and over-extraction, the Empire, as is well known, collapsed before the very tribes it was wont to keep at bay and indeed to whom for centuries it had taken the fight. But the Dark Ages of almost total illiteracy thus ushered into Europe broke the classical log-jam, allowing a recombination of old, new and borrowed techics to emerge within a new set of social relations (feudalism) that evolved within its own demographic dynamics.

From such Dark Age interludes the old civilisations are never reborn, for from such periods new syntheses emerge subsuming pre-existing elements, social and technical, in a qualitatively new configuration with its own dynamics, contradictions and growth potential. In Mesopotamia we were able to examine the first such decisive crystallisation.

APPENDIX

THE PANTHEON OF THE SUMERIAN CITY-STATE

The following is a simplified outline which minimises the true complexity. Most major deities were worshipped in some or in most, if not all, the cities of Sumer and Akkad. Lesser gods and manifestations, plus much merging and elaboration are here overlooked to highlight the principle actors.

<u>GOD</u>	<u>ROLE</u>	<u>CITY</u> ( & Named Shrine)	<u>OTHER NAMES</u> <u>or ROLES</u>
Nammu	ocean, chaos, primeval fluid		'the mother who gave birth to heaven and earth'
An(u)	sky, the heavens	Uruk (E-anna - the temple of both An and Inanna)	Authority Father of the gods
Inanna	fecundity, plenty 'numen of the storehouse', 'queen of heaven'	Uruk, Lagash, Zabalam (E-anna 'the house of heaven'), Agade	Ishtar, 'Venus/Aphrodite' Peace and War Morning and Evening Star
Enki	sweet (fertilising) waters, 'wisdom', 'knowing' i.e. god of craftsmen	Eridu (Abzu)	Ea (antagonist of Ninhursaga) helper of humans
Enlil	storm, power enforcement, the lower air	Nippur (É-kur)	Brother of Ninhursaga

<u>GOD</u>	<u>ROLE</u>	<u>CITY</u> ( & Named Shrine	<u>OTHER NAMES</u> <u>or ROLES</u>
Marduk	gods' warrior with many of Enlil's characteristics	Babylon (É-sagila)	
Utu	Sun, Justice, Judgeship 'shown with a sword'	Sippar and Larsa (E-babbar in both cities)	Shamash, Babbar
Nanna	Moon	Ur (E-kishshirgal)	Sin, Suen (the result of the rape of Ninlil by Enlil)
Ningirsu	Rainclouds, rainstorms	Lagash (E-Ninnu)	god of hoe
Ninurta	mountain rains, floods	Nippur, Girsu	god of plough
Ninhursaga	'numen of the stony ground', 'lady of the rocks' 'mother earth'	Kish and Adab (E-mah)	called 'Mama' Nintur or Ninmah originally called 'Ki'= Earth (ie mother earth)
Ninsuna	lady of the wild cattle	Uruk (Kullab)	mother of Dumuzi (and Gilgamesh too)
Ninlil	grain goddess	Nippur (Tummal) Shuruppak	wife of Enlil
Nisaba	goddess of scribes (and barley)	Uruk and Eresh	mother of Ninlil
Ninisinna	goddess of medicine and healing	Isin	Bau at Lagash (spouse of Ningirsu)

<u>GOD</u>	<u>ROLE</u>	<u>CITY</u> ( & Named Shrine)	<u>OTHER NAMES</u> <u>or ROLE</u>
Dumuzi	'the divine shepherd', god of flocks	Badtibira, Umma Zabalam, Uruk	hieros gamos with Inanna
Ereshkigal	queen of the underworld		Sister of Inanna

Cf. the 'Nippur' Genesis:

After An, Enki, Enlil and Nintur (Ninhursag) had fashioned the black-headed (people), vegetation luxuriated the earth, Animals, four-legged (creatures) of the plain were brought artfully into existence.

Myths/Gods are, of course, plastic over time and changed circumstances, not least political. Thus Marduk and Ashur were the city gods of Babylon and Ashur respectively, which when risen to overall hegemony with their cities were likewise promoted into a place similar to Enlil's.

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