ECONOMICS AND SOCIAL ORGANIZATION AMONG THE SO OF NORTHEASTERN UGANDA

by

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Chapter One

Introduction[1]

Graduate students in anthropology often say that the doctoral dissertation is merely an exercise, or a hurdle - an irrelevant irritant on the road to the Ph.D. There seems little doubt that many dissertations may be characterized in this way, and yet I would argue that this need not be the case. Further, in an age which demands increasing relevance from its intellectuals I would argue that this should not be the case (see Laughlin, 1971). The demand for relevance is, in common parlance, the demand for a conceptual bridge between the machinations of social science intellectualism on the one hand and the vital social problems facing the world on the other. I feel a profound respect for this demand and it is in the spirit of relevance, as well as with an empathy which is born only to those who experience devastating and enormous human misery first-hand, that I contribute the present study.

For the most part, the central problem in this thesis was determined by my experience of the economic and social predicament

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[1]The field work upon which this study is based covered the period from October, 1969, to June, 1970.

in which the So find themselves today. The So (singular, Sorat) are a small group of pastoralists and subsistence agriculturalists dwelling on the slopes of three post-tertiary volcanic mountains in Karamoja District, Northeastern Uganda.[2] The mountains are called Moroto, Kadam (or Dadasien) and Napak (see Map 1). The So are surrounded on all sides by semi-nomadic pastoral tribes including the Suk (Pakot) and several Paranilotic groups - the Karamojong, Turkana and Teso. For reasons which will become clear in subsequent chapters, the So are, during the best of times, subsisting on a meagre resource base. When conditions worsen, as they did during my period in the field, members of the tribe are virtually on the brink of starvation. As a result, the core question underlying my field research was how a group faced with seemingly unendurable hardship continues to survive and maintain any semblance of ethnic unity over time.

This dissertation is problem oriented. It is not to be viewed as a general ethnology of the So. Rather it should be viewed overall as an attempt to answer the question raised in the field experience. The study, furthermore, approaches the problem on at least three analytic levels, at times simultaneously:

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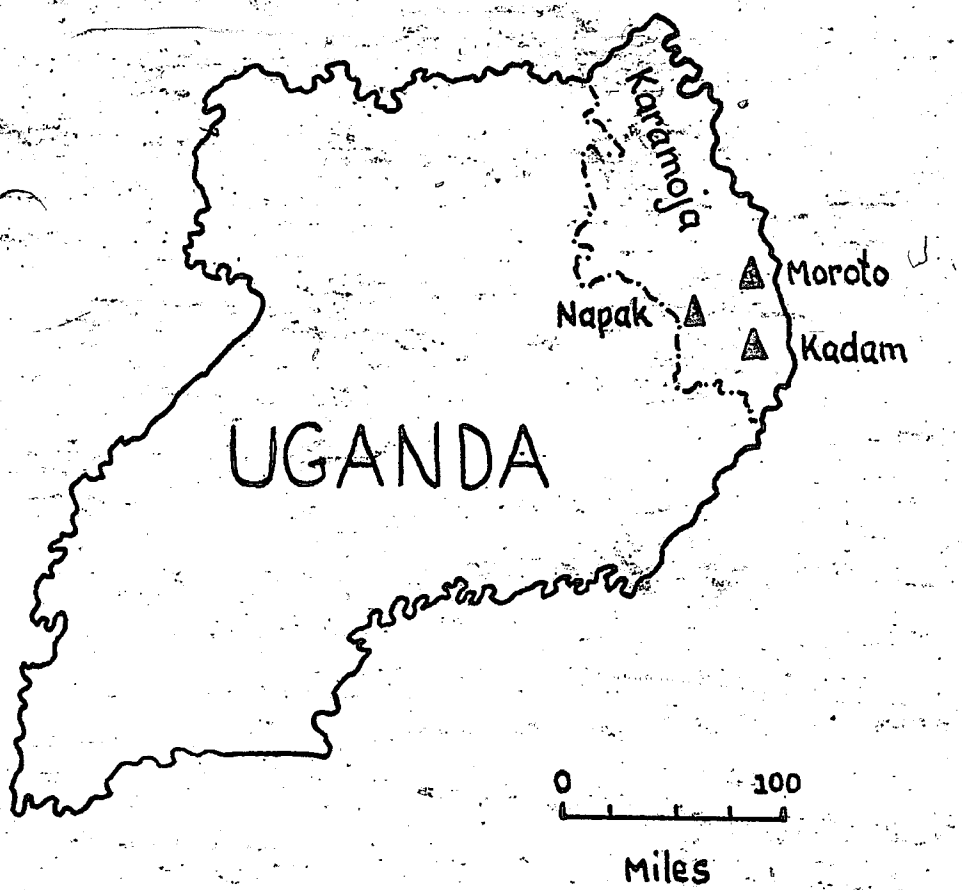
[2]The So are also known as the Tepes (Tepeth), the name given them by the surrounding tribes. For mention of the So in the literature see: Brasnett (1958, p. 115), Cleave (1957) Dyson-Hudson (1966, Pp. 151, 231, 232-34, 237, 245-50), Gulliver (1952, p. 20; 1953, p. 392ff), Leeke (1917, p. 206), MacDonald (1899, p. 135), Tucker (1966, Pp. 392-401).



Map 1. The Three So Mountains.

1. At the most concrete, least analytic level this forms a description of how the So adjust and have adjusted in the past to a set of extremely difficult ecological/economic factors - factors which at times place both individual Sorat and the entire tribe in physical jeopardy. To this end I will trace the history of the So back to the earliest associations to which they can be linked. I will show in Chapter Two that, due to contact with and interference by representatives of Western industrial society, the So have undergone a series of critical economic and social changes which, although adaptive for a time, ultimately left them in the condition in which they are found today. Tracing the history of change for So is not done for the sole purpose of laying the blame for misery, but also to show the enormous ramifications which may occur as a result of seemingly inconsequential administrative acts.

The subsequent section, Chapter Three, will present data descriptive of the general ecological situation in which So society is embedded. I will include not only the traditional sub-topics of climate, topography and geology, but will also include discussion of demography and disease. The major intent of this section is to show the underlying ecological instability contributing to the economic fluctuation in So. It will be later argued that shifts in the availability of basic resources due to the vicissitudes of soil and climate are both periodic and predictable - most emphatically predictable to the So - and that these factors exist as important variables in the economic decision-making of So adults.

The demographic and disease data are of prime relevance to development workers concerned with Karamoja. These are most relevant to the implementation of family planning, although more specific data important to family planning research are forthcoming in Laughlin and Laughlin (1973), and may be found in truncated form in Molnos (1971).

Chapters Four through Six, as well as Chapter 8, present a descriptive account of So social structure and organization today, as well as changes which have occurred in the social structure in the recent past. Changes are shown to be related to the ecological, political and acculturative factors developed in previous sections. Chapter Four specifically offers a statistical, as well as impressionistic, description of the family, lineage and clan. Following that, a discussion of basic settlement patterns centers on the role these patterns play in the process of economic decision-making and maximization.[3] Chapter Five turns to a detailed analysis of So political structure and the nature of So political and jural decision-making. Among other things, I will show the interesting effects of

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[3]The concept of "maximization" will be used frequently in the course of this study. I mean by this term "the area of choice and allocation of scarce resources to alternative goals" (Burling, 1968, p. 179). This definition is broad and refers to the aspect of choice in economic decision-making, rather than the manipulation of material resources. Thus, non-material, as well as material, entities may be maximized. If something is scarce (eg. blessings by the elders) and demand for this something is great, then the choice which results in the allocation of that something will be a maximization. My use of the concept may, or may not, imply quantification, depending upon the situation discussed.

syncretic change upon the age generation system which the So borrowed from the Karamojong some decades ago. I will also briefly explore the ambivalent position of the governmentally appointed, resident administrator in the study area.

Chapter Six completes the general survey of So social organization with a detailed description of the economic and social, as well as political, roles of the kenisan, or ghost cult. The members of the cult form the most important political, economic and religious elite in the tribe. Their ritual activity in the realm of rainmaking and crop protection is seen as the most important single factor maintaining tribe-wide unity at the present time. Chapter Eight, in part, offers an analysis of marriage and post-nuptial residence patterns. Although the section is largely descriptive, an attempt is made to link sociological variables with the general process of economic decision-making. Critical in the latter respect are the selection of mates, negotiations pertaining to brideprice, and selection of location of residence.

Turning directly to the economy itself, I will offer a general description of the major facets of So economic institutions and behavior in Chapter Seven. I will present a great deal of statistical and impressionistic data to paint a picture of agricultural activities (including the annual planting cycle), the economics of pastoralism and distribution of livestock, hunting and gathering activity and patterns of inheritance. This chapter sets the stage for an intense analysis in Chapters Eight and Nine of patterns of production, distribution, and consumption during both a period of economic stress

and a period of relative plenty.

2. The second and more abstract level of analysis which is integral to this study may be characterized as an attempt to construct models, the purposes of which are (i) to offer an explanation of economizing behavior among the So themselves in response to alternating conditions of deprivation and plenty, or, (ii) to generate predictive models, suggested by the So data, and designed to predict economizing behavior in other societies faced with similar requisite conditions described for So, or, (iii) to present models described under (i), I will critically examine the refine Marshall Sahlins' "model of primitive exchange", and will derive a new model which I call the Diachronic Model of Primitive Exchange (see Chapter Nine). I deduce a series of hypotheses from this model which predict behavior pertaining to production, consumption, and especially exchange and circuits of exchange in response to deprivation. These hypotheses were, in fact, tested in the field and data are presented which confirm or disconfirm them.

Another model or more accurately a set of hypotheses suggested by the So data and generated from maximization theory, is presented in Chapter Eight and is intended to relate scarcity of certain basic resources with shifts in allocation of brideprice and in post-nuptial residence. These hypotheses are of the sort described under (ii) above, and are offered for testing in other field situations.

A model of the sort characterized in (ii) is developed in the concluding section (Chapter Ten) of the study. Here I have allowed myself to generate a higher level theory which is intended to subsume the Diachronic Model of Primitive Exchange. I term the general theory "social behavior as adaptation to minimal resource availability". The theory was developed after the field experience and is therefore offered with illustrations and without deductive hypotheses or empirical tests. The study goes theoretically beyond the So data as they exist today, but suggests topics for future concern.

3. The third and most abstract level of analysis presented here is perhaps also the most subtle. Much that is done here may be viewed as an exercise illustrating an approach to scientific model-building which I will call inductive-deductive alternation. With Kaplan (1964) I would argue that science - any science - progresses primarily by this process, regardless of how the process is philosophically rationalized. This is not to say that science at all times progresses. This is far from the case, as Kuhn (1962) has made quite evident. To me, the terms "deductive" and "inductive" are a semantic distinction which in the actual practice of sciencing refer to two poles on the continuum of inquiry. Thus, philosophers of science who argue for an approach based solely upon one extreme or the other, distort reality and are victims of the logical error Korzybsky (1933) called the Aristotelian fallacy - confusing the word with the thing signified.

Anthropologists have often mirrored this fallacious reasoning in their explanations. Some, who have attempted to posit purely deductive theories which purport to explain societies at the macro-level, (eg., Elman Service, 1962; Levi-Strauss, 1969) have actually contributed post hoc and metaphysical formulations which, despite their seductive and compelling qualities, explain (ergo, predict) nothing. Carl Hempel (1959) has probably made this point as clearly as any philosopher of science. Yet advocates of the other extreme in anthropological theory (eg., Driver, 1962; Radcliffe-Brown, 1940) are equally devoid of productive theory and explanation due to the fact they are wed to strict induction.

The approach to theory building that I advocate, and which, in fact, accurately characterizes the approach normally entailed in productive science everywhere, is a sort of alternation between the extreme poles. The approach is, I think, firmly demonstrated in this s' dy, especially in the formulation of deductive hypotheses relating to brideprice and residence shifts (Chapter Eight), in the inductive-deductive treatment of change in modes of production, consumption and exchange as responses to deprivation (Chapter Nine) and in the final development of a comprehensive theory of the relationship between production and exchange on the one hand, and a fluctuating resource base on the other (Chapter Ten).

In schematic form, the inductive-deductive alternation approach amounts to this: A theory (model) is conceived as being comprised of a set of propositions which are about the real world, but which are

incapable of direct testing in the real world. Although they are not directly testable, we need these propositions because, if they are adequate, they will tell us something about the world we could not learn through common sense associations. The key word here, of course, is "adequate" (may be read "valid").[4] Much of what sciencing is all about has to do with making sure that the theoretical propositions generated by scientists are, in fact, adequate for the task of telling us something about the real world. Theories are, for this reason, tested. Yet, as I have said, the propositions making up a theory are in principle untestable by direct observation. This seeming paradox is solved in the inductive-deductive alternation approach by treating the propositions in a theory as premises of a standard deductive argument from which are deduced conclusions that are, in principle, testable in the real world. The conclusions to such arguments we call "deductive hypotheses". These generally take the form of predictions or retrodictions (predicting, in a sense, what must have occurred in the past) which the scientist then proceeds to confirm or disconfirm.

Now, if a hypothesis derived in this fashion is confirmed by careful observation, then it means that the propositions from which it was deduced may be true, and thus the test has added to the credibility of the theory. A true hypothesis, I should add, can never completely

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[4] I mean this in the same sense as Jarvie (1967, p. 17) means with his term "satisfactory".

prove the theory because the propositions from which the hypothesis is deduced as a conclusion can only be sufficient, and never necessary, conditions for the hypothesis. But what happens if the hypothesis turns out to be partially, or totally, incorrect in its prediction? This means, from the present point of view, that one or more of the theoretical propositions from which the hypothesis was deduced are wrong. It might well be remembered that the definition of a valid deductive argument required that the conclusion be true if all of the premises are true.

The process of refining a theory requires a return to the premises from which an incorrect hypothesis was drawn. This is done by first changing the hypothesis - that is, the predictive statements in the hypothesis - to fit the conclusions of the observed data. Then the propositions within the theory are changed or modified so that their truth will again entail the truth of the new, modified hypothesis. The result is a new theoretical formulation from which, had it been derived prior to the field experience, the modified hypothesis would have been deduced and confirmed, rather than the old formulation. The process can not stop here, of course, without committing the post hoc fallacy. New hypotheses must be deduced from the refined theoretical formulations and tested with new data to make certain the manipulation of the theoretical propositions result in a more adequate theory. In practice this process is repeated time-after-time for it is highly unlikely that any non-trivial theory can be derived from any single field test. This is especially the case in the behavioral sciences which deal with

phenomena of such vast complexity. Another practical point is that the process of inductive-deductive alternation may be initiated at either extreme of the inquiry continuum. That is, one may begin from an inductively derived observation, or from some intriging model from which hypotheses are deduced. From the position of progressive science the result is the same.

In the present study, I have proceeded largely from inductively derived observations to the formulation of theoretical propositions which might explain them, and in turn to deductive hypotheses designed to test the propositions. I learned from inductive observation the extreme state of deprivation engaging the So and formulated a theoretical model which would explain how they are able, time and again, to adjust to such conditions. I deduced certain hypotheses (see Chapter Nine) from the model which I then tested in the field.

Over and above these considerations, it is necessary right at the outset, to define several terms which will be used throughout the study. The So domain may be subdivided into two socio-geographical units. The smaller of the two I term an "area", which refers to a region of one or more mountain valleys of relatively high population density. The area studied most intensively during my field experience was the So population living in the Lia and Naukoi Valleys on the western slopes of Mount Moroto, behind the township of Moroto. This area I will refer to as the "study area" or the "Lia area". The concept of area is real in the minds of the So. A man who lives in the study area when asked where he lives, will answer "in Lia".

The So may also be divided into three "sections" corresponding to

the mountains on which they have their permanent residence. I will call these simply the Moroto, Kadam and Napak sections. Again, this concept is real in the minds of the So. For example, a man who lives on Mount Kadam is called a kadama and the place where he dwells, eŏkadam.

I was accompanied in the field by Elizabeth R. Laughlin and to her goes credit and my appreciation for many of the ideas and at least half of the data upon which this study is based. In any team research project it is often impossible to separate the notions originating in the minds of separate participants. Where such separation is unnecessary or impossible I will simply use the pronoun "we".

Chapter Two

Historical Background

As was suggested in the introductory remarks, it is necessary to examine in some detail the historical processes underlying present socio-economic forms in So. There are two reasons for this. In the first place, a major mystery surrounding the So in the literature has to do with their point of historical and ethnic origin. There exists no clear evidence to date which links them closely with any particular general migration, or with any important center of origin. It is important, therefore, to examine closely and evaluate what evidence does exist as a prolegomenon to any future study of the problem.

In the second place, it seems apparent that the socio-economic structure of traditional (pre-contact) times reflected a delicately balanced adaptation to a marginal environment, and that this balance was disrupted by European and other interference in such a way as to result in the miserable conditions that prevail today. It is important to trace the course of this disruption and be able, thus, to understand it. In understanding the process we may hopefully avoid a repetition in the future. At any rate, a careful reconstruction of the post-contact history of Karamoja as it relates to the So is offered as groundwork for a diachronic examination of change in particular economic and social institutions which will be presented later in the study.

Archaeological Evidence

What little archaeological evidence exists for Karamoja suggests that man has been present in the district, and on or near Moroto Mountain itself, since Upper Stone Age times. One site was discovered and excavated by E.J. Wayland at Magosi which lies approximately 26 miles north, northwest of Rupa (on Moroto Mountain) and 5 miles west of the present boundary between Uganda and Kenya. The main portion of the site is an ancient cistern created partially by wind and water action and partially by the efforts of man. A number of stone artifacts were found in the course of excavation and on the basis of these, Wayland and Burkitt (1932, p. 378) dated the use of the cistern between the second pluvial and the first post-pluvial wet phase. The artifacts themselves display characteristics common both to the Kenya Wilton and to the Kenya Still Bay cultures.

No systematic archaeological excavations have been attempted on any of the mountains inhabited by the So. However, J.B. Wilson (1959, p. 13) has collected surface deposits on Moroto Mountain which he feels show Sangoan influences, graduating to characteristics common to Magosian culture. There are no data from either of these sources which definitely link Magosian man with the present day So.

Linguistic Evidence

In order to examine more closely the lexical affinites between the So language (termed simply So) and other languages in the immediate proximity of So, I collected word lists from ten languages while in the field: So, Karamojong, Suk (Pakot), Didinga, Lango, Luo, Lotuko, Acholi,

Katibong and Leptur. In addition to these, I obtained partial lists for Ngangea and Ik (Teuso) from secondary sources.[1]

It is important to place several of these languages in geographical perspective. Katibong is the traditional language spoken by the Ngiporein of northern Karamoja, now dwelling on the plains near Morungole Mountain, and by the Mening, a small remnant tribe living in the southern Sudan just north of the Ngangea Hills. The language is retained only by the old people of these two groups. Leptur is the traditional language spoken by the Labwor. This tongue, likewise, is spoken only by the elders of the tribe. The Labwor now speak Acholi.

The Ik are yet another small remnant mountain tribe living in the valleys of the Rift escarpment between Kamion and the Didinga Hills in northern Karamoja (Gulliver, 1952, p. 20). These people have been described by Turnbull (1967) as being distantly related to the So. The Ngangea are a small mountain group which prior to British interference in the area dwelled in the Ngangea Hills.[2] An attempt was made to obtain a complete list for them, but this was not successful. The Luo list is from the southern Luo of Kenya included by Murdock (1959, p. 329) in his Luo cluster.

The list of morphemes used in this study were from the standard lexicostatistical test list developed by Swadesh (1952) and reproduced

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[1]The Ngangea list was obtained from Driberg (1932, p. 404ff). Professor A.N. Tucker kindly supplied me with his Ik data from which a list was extracted.

[2]I have information that suggests that a small group related to the Ngangea are now found on Mount Rom in northern Acholi.

in Hymes (1960, p. 6). The method of analysis used was a comparison of items on each list with the comparable item on every other list and a count was made of the frequency of shared cognates. A percentage of shared cognates was computed for each pair of languages by dividing the frequency of shared cognates by the total number of comparable word pairs. These scores were entered into a matrix and then seriated by manual manipulation and by inspection. The seriation here conforms to the "C-type seriation" described by Johnson (1968, p. 2). The results of this analysis are presented in Figure 1.

From an inspection of Figure 1 a number of conclusions may be drawn. First, there are two clusters of languages which show a high degree of lexical relationship - the So cluster (including So, Ngangea and Ik) and the Luo cluster (including Lango, Luo, Acholi and Leptur). The scores for the So cluster tend to support Turnbull's findings on the basis of Ik oral history that the So and Ik are closely linked historically. Also, the highest score is between So and Ngangea. Ik and Ngangea are more closely related lexically than Ik and So. I will show later that these findings have some importance in the reconstruction of possible migration patterns for the So.

The high degree of relatedness between members of the Luo cluster offers more of an internal check of the methodology of this study than a source of new information. The relationships are as expected from current reconstructions of Luo migration patterns (see Ogot, 1967). It is interesting incidentally that Leptur, the traditional Labwor language, does conform lexically to the Luo language sub-family.

Second, a generally low score cluster emerged which includes

	So	Ngangea	Ik	Karamojong	Katibong	Lotuko	Lango	Luo	Acholi	Leptur	Didinga	Suk
So	-	86	35	8	7	3	6	7	8	5	1	6
Ngangea	86	-	52	20	17	12	15	12	20	20	20	15
Ik	35	52	-	9	5	9	9	9	7	9	5	5
Karamojong	8	20	9	-	71	28	16	16	14	12	13	12
Katibong	7	17	5	71	-	23	21	21	19	21	14	17
Lotuko	3	12	9	28	23	-	15	15	12	16	13	12
Lango	6	15	9	16	21	15	-	70	85	17	10	12
Luo	7	12	9	16	21	15	70	-	74	69	13	13
Acholi	8	20	7	14	19	12	85	74	-	88	13	16
Leptur	5	20	9	12	21	16	17	69	88	-	12	16
Didinga	1	20	5	13	14	13	10	13	13	12	-	5
Suk	6	15	5	12	17	12	12	13	16	16	5	-

Figure 1. Cluster Analysis, Selected East African Languages, Percent of Shared Cognates.

Karamojong, Katibong and Lotuko with only one high score between Karamojong and Katibong. The latter would indicate a close lexical, if not historical, relationship between the Karamojong and Ngiporein tribes. It is possible that the Ngiporein and Mening comprise remnants of the general Paranilotic migration, the bulk of which moved further south into what is now eastern Uganda. This hypothesis is tentative and will require further cultural research for confirmation.

Third, there exists no significant lexical relationship between the So cluster languages and other languages or language clusters tested. This supports Gulliver's (1952, p. 20) discovery that he could find no East African language which related closely to Ik.

It should be pointed out here that there exists a low rate of cognate sharing between most of the languages in the sample. This is indicated by scores of 20 or less. J.H. Driberg (1932, p. 608) in his lexical analysis of dialects of Lotuko considered Ngangea a member of the Lotuko language group. He reached this conclusion on the basis of a few selected cognates; certainly a number insufficient to obtain a significant percentage required by the present study. I would call attention to the 86% rate for So/Ngangea and the contrasting 12% rate for Lotuko/Ngangea. The difference in methodology between Driberg's and the present study clearly underscores the hazards of basing lexico-historical conclusions solely on the grounds of a handful of shared cognates.

Professor A.N. Tucker is the first analyst to attempt to group East African languages using grammatical variables. Of relevance here is his inclusion of So and Ik as well as Mbugu, Burunge and Iraqw with a number of the "Cushitic" languages of Abyssinia (Ometo, Janjero and

Kaffa). He calls his grouping "Fringe Cushitic" (1967a, p. 665). His conclusions are based upon common elements of the pronominal system in each language, including conjugational patterns and gender. He finds, for example, that the Fringe Cushitic group differs from the Orthodox Cushitic in the lack of third person singular gender. My own analysis of So grammar confirms the lack of pronominal gender. However, in the absence of more conclusive evidence in the form of standard word lists from any of the languages concerned (and as yet unrecorded), or a more comprehensive coverage of the grammatical aspects of those languages, I would urge caution in the acceptance of Professor Tucker's typology. The very same criticism leveled above vis-a-vis Driberg's methodology may be applied here. The comparison of aspects of the pronominal system should either be extended to a large sample of East African languages, or the pronominal evidence should be combined with a more comprehensive examination of grammar in all of the languages concerned. A combination of both approaches would be ideal. As they stand, Tucker's findings could well be explained by chance.

In another paper (1967b), and using the same methodology, Tucker finds that "The pronominal and conjugational system of Ik (and by implication, So) bears an unexpected resemblance to that of Ancient Egyptian, even in the absence of feminine gender representation". (p. 21) He is inclined to group Ik, and I assume, the rest of the Fringe Cushitic cluster, into the Erythraic language family on the grounds of this evidence.

Evidence from Oral History

The So offer two responses when asked the place of their origin. Most will reply that they were placed upon the mountain by god (belgen) or that they have "always been here". Others, however, repeat the story of a migration which occurred "long ago before the Europeans came" and which originated "in a place beyond Kadam" (probably the slopes of Mount Elgon where the Sabei now dwell). The migration passed first Mount Kadam and ended at Mount Moroto.

Despite the absence of conclusive linguistic or archaeological evidence, it seems most likely that the So originated at some place in the south, at least prior to their last migration, which no doubt occurred before the general Paranilotic migration from the north. That they did not sift in from the north is suggested by the common belief that the Ngangea, whom the So describe as "brothers", are an off-branch of the Moroto So. In response to a devastating epidemic, so the story is told, and in response to the resultant death of "a very important man", the Moroto tribe decided to travel north for safety. The first contingent to leave reached the Ngangea Hills and settled there. Those who began their migration later found their way blocked by a river called Nangololapolon, "big river", which had swollen due to heavy rains. These So were forced to return to Moroto where they remained. A number of our informants have been to Ngangea to hunt leopard and they maintain that the Ngangea "speak So". The linguistic data confirm this assertion to a large extent.

Another fact which tends to indicate a progressive migration north is that for many purposes Kadam is considered the major center of So religious life (see Chapter Six). The So of the Moroto section and

(at times) those of the Napak section must send representatives to Kadam Mountain in order to participate in the most important rainmaking ceremony during periods of extreme drought.

I have so far avoided discussing the origin of the So on Napak Mountain, as this presents an interesting problem in itself. The Moroto So state definitely that the present inhabitants of the Napak area are recent migrants and that the Tungio (as the Napak So are called) moved to the area from Mount Moroto only after the former inhabitants of Napak had all succumbed to an epidemic. Rada Dyson-Hudson (personal communication) noted in her brief survey of the Napak So in 1959 that there were no individuals who appeared to be over 50 years old. Tungio informants relate the same story as do the Moroto So.

Other evidence of the recent migration of the So to Mount Napak is offered indirectly in the memoirs of explorer, Major Powell-Cotton. He passed through Karamoja in 1902:

> To the south-west of camp lay the striking group of hills Kisima, Kamalinga, and Nopak (sic). The two former had been rent asunder from top to bottom, leaving but a narrow rift between the sheer sides, while the northern flank of Nopak, and the western flank of Kisima, presented almost unbroken walls of rock. The hills lie on the edge of the Kisima country, and are apparently uninhabited, for my glasses failed to reveal any trace of either villages or cultivation, and the natives of the district assured me that no one dwelt there.
>
> (1904, Pp. 322-3, emphasis mine)

There are a number of reasons for giving credence to Powell-Cotton's

observations. In the first place, he was a first rate observer who recorded his findings in great detail. In the second place, he was being guided by Karamojong tribesmen who, earlier in his trip, had informed him of the existence of the Kadama. He was able to see both the villages and the garden plots of the Kadama at that time. Later, his guides led him to the Moroto So, of whose existence they were aware. Likewise, Leeke (1917) does not mention the presence of the Napak So, even though he passed quite close to the area.

I think it likely that the mountain was re-inhabited sometime during the second or third decade of this century, as I have reliable accounts from older informants claiming that So were living on Napak during the 1920's. The reason offered by these informants for the migration from Moroto is consistently "hunger" - that is, a contingent of So left Moroto for Napak during a period of famine to seek better grazing and cultivable land.

The question remains, of course, who were the original inhabitants of Napak and what happened to them. Some of our informants were of the opinion that they, likewise, were So. Others maintain they do not know. It is suggestive that a series of serious blights occurred during the last three decades of the 19th century (Turpin, 1948, Pp. 162-3). A rinderpest epidemic occurred in 1876, followed in 1887 by an outbreak of pleuropneumonia. In 1885 locusts destroyed most crops and the following year a drought occurred combined with a stock disease called emitina (likely Sarcoptic mange). All combined, these caused a massive famine throughout Karamoja. Later, in 1894, there was another attack of rinderpest. It seems possible, despite the fact that Turpin's

informant was a Karamojong, that these blights could have decimated the So population on Napak as it did the Karamojong. The Moroto So as well, speak of an almost legendary famine long ago which caused widespread suffering and death.

History of European Contact

Karamoja District is one portion of a much larger colonial territory which was once termed the "Northern Territories of the Uganda Protectorate" (Leeke, 1917). This was one of the last areas in British East Africa to be explored and the last to come under effective colonial control. James Barber (1968) has recently completed an excellent history of Karamoja and I will not attempt to duplicate his work save to sketch a brief survey of European contact as it affected the So; especially as it affected So settlement patterns, social organization and economics.

The early years of contact (between 1880 and 1910) between the peoples of Karamoja and outsiders, were years dominated by the ivory trade and characterized by a total lack of effective administrative or military control. The first ivory traders to enter the district were probably Swahili (ibid, p. 91). The trade was at first sporadic, but quickly accelerated during the 1890's and early 1900's with "Europeans, Ethiopians, Indians, local Africans, Swahilis, Goans and various cross breeds of these groups" taking part (ibid, p. 97). It is certain, according to my own data, that many of these traders dealt with the So. During the early days of the era traders depended almost entirely upon the efforts of local hunters for ivory.

At the beginning of the ivory trade, the plains of Karamoja were rife with elephant, as well as numerous other species of game.[3] One observer of the day, an official named Ormsby, wrote "I have seen herds on the plains below Save (Mount Elgon) in which the total number of elephants would well reach 2,000".[4] As the trade became more intense, hunters, in blatant disregard for the terms of their hunting licenses, were shooting whole herds at a time (see Bell, 1923; Rayne, 1923). It did not take long for the district to feel the effects of this enormous onslaught. By the end of the ivory trade era, a period of but thirty short years, there were practically no elephant left in the entire district. Nor was elephant the only species to be decimated. Few of the large game animals retained a population sufficient to maintain itself in the district.

Prior to the turn of the century, the So subsisted primarily upon agriculture and upon game. During periods of extended drought when the water courses dried up on the plains, the large herd animals moved to the mountain areas were surface water was available year-round. It was during such periods that the So depended the most upon game to supplement the paucity of agricultural produce due to crop failure. As I will show later in this monograph, the rapid loss of game resources had a

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[3]Among the species of game given for the district in the Uganda Atlas are leopard, buffalo, reedbuck, bushbuck, greater kudu, impala, lesser kudu, dikdik, Chandlers gazelle, giraffe, oryx, Bright's gazelle, eland, Jackson's hartebeest, topi, zebra, ostrich, and lion.

[4]Entebbe Archives 106/1910, DC Nimule-PC Hoima, 15 February, 1911.

direct and enormous effect upon Karamoja economics.

The colonial government passed laws designed to protect the game resources of Karamoja at around the turn of the century. It is obvious, therefore, that government officials were aware of the potential harm that might be done to the area by over-hunting. It is also clear that they were aware of the frequent infractions of the licensing laws during the period of the ivory trade. They were, however, hampered by a policy of non-interference which applied to all the northern territories. This policy had been developed by Hesketh Bell, Commissioner and Governor of Uganda from 1906-1909, in response to what he felt to be the realities of colonial financing (ibid, p. 54ff). He reasoned that as the northern territories offered no exploitable natural resources, his own limited financial reserves and staff should be concentrated upon portions of the colony promising the greatest return in terms of wealth (i.e., Baganda). As a result of this policy, practically no attempt was made prior to 1910 to impede the rapid destruction of the game resources of Karamoja. Likewise, no effective control was brought to bear upon intertribal raiding which, during the early years of the century, had increased due to heavy importation of firearms from Abyssinia.

Military control over Karamoja began only in 1911 in response to clear attempts by Ethiopian adventurers to absorb the northern part of the territory (ibid, Pp. 115 and 120). Patrols were sent into the area and any danger from Ethiopia was eliminated. One of the British officers leading these patrols, Captain H.M. Tufnell (1872-1952), was made District Commissioner of what was then called the Rudolf Province (ibid, p. 122).

The early period of effective government (1911-1921) was essentially one of martial rule. The charge of the military administration was to reduce and finally eliminate inter-tribal raiding. Still adhering to the Bell policy of non-interference, the Uganda government felt this to be its only function in the northern territories. Yet this decade of military rule offered to the So and other tribes in the district their first taste of colonial rule. The recognition of the presence of a superior authority among these peoples was not immediate, nor was it painless. Barber (ibid, Pp. 126ff) describes a number of incidents which occurred between the King's African Rifles and various Karamojong tribesmen, and members of the mountain tribes, including the Ngangea, in northern Karamoja. I have been unable to find reference to any such incident, either in the literature or in oral history, which involved the So. This may be due in part to the fact that a major post was established in the Lia Valley of Mount Moroto in 1914 (ibid, p. 141).[5]

At the beginning of the decade cattle raiding, especially between the Turkana, Suk and Karamojong, was rampant. By the end of the decade raiding had been all but eliminated throughout Karamoja. The early flurry of raiding rarely if ever involved the So, but as we shall see, the cessation of raiding activity did have important economic ramifications for the tribe.

The year 1921 saw a change from military to civilian administra-

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[5]The original post was established further up the valley than the present site of Moroto township and its remains are still evident. It is no doubt the post mentioned by Rayne (1923, p. 141) and which he visited during an expedition in 1917.

tion in Karamoja and with the shift came a different policy regarding the role of government in the district. The civilian authorities began to see the necessity for at least partial development and as a result they strengthened the already extant system of appointed chiefs. The chiefs were now charged with the arrest of lawbreakers, imposition of fines and the collection of taxes (ibid, p. 203). These new functions were in addition to those defined under the previous administration - provision of food and porters for government sponsored expeditions. As there did not exist a traditional role in the least approaching that of "chief" among any of the tribes involved, the new responsibilities of government appointed chiefs only enhanced a growing antagonism on the part of the elders toward government. Antagonism occasionally erupted into overt violence, exemplified by the killing of the Karamojong chief, Acia, in 1923 (ibid, p. 205), an incident well remembered by the So today as many of the elders witnessed the public execution of three of Chief Acia's killers in February, 1924.

The killing of Chief Acia had marked remifications for future policy in Karamoja. The Uganda government concluded that, among other things, administration should be advanced slowly and that the elders themselves should regulate affairs internal to their "clans" as far as possible. Emphasis was placed upon pacification with gradual development in the area of cattle marketing. Pacification was carried through successfully in the years to come - the KAR continued to guard the passes leading to Turkana until 1937 - but although a few cattle were exported from Karamoja in the pre-war period, no serious stock improvement program was implemented. This was despite almost constant demands

by succeeding district commissioners for the initiation of veterinary services.

Official policy continued in this vein until the end of the 1940's. The one major change was the substitution of police patrols for the KAR in 1937 due to the increased need on the part of the British government for troops in other areas of East Africa.[6]

Karamoja experienced relative freedom from raiding activity from the period prior to civilian administration until the early 1950's, when strife broke out again between the Turkana, Suk and Karamojong - and this time involving the So. Barber (ibid, p. 217) reasons that increased intertribal raiding was caused both by an increase in human and livestock populations - a direct result of some thirty years of peace - and a fundamental shift in administrative policty. Government response to raiding in the early years was swift, vigorous and, at times, ruthless. By the early 1950's, patroling and law enforcement was in the hands of the police and response to raiding was judicial rather than retaliatory. Barber feels that the new policy did not offer an adequate deterrent to tribesmen who respect only a military force considered by them to be superior to their own. I would agree with Barber's conclusion while at the same time underlining an essential dynamic of intertribal raiding among most East African pastoralists: raids are usually viewed by those who initiate them as retaliation for prior attacks directed toward them. Raiding in Karamoja is a vicious circle.

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[6] Three So males were drafted into the KAR at this time and they served with British forces until 1945.

Regardless of the initial stimulus for raiding (competition for limited grazing or enlarging depleted herds) the incidence tends to mount to acts of revenge. The Dyson-Hudsons (personal communication) report that during their stay in Karamoja during the late 1950's raids were occurring at the rate of at least one a day.

The 1950's and 1960's also saw a change in government development policy. Full-time veternary officers were finally stationed in the district and effective innoculation programs initiated. The Moroto hospital and outlying dispensary units were expanded together with the initiation of full-scale smallpox innoculation and preventive medicine programs. A serious attempt was made to increase the marketing of cattle from the district and the quantity exported per year has, in general, increased to the present time.[7] Catholic and Anglican missions which had been operating in the district since the mid-1920's (ibid, p. 219) accelerated their programs, increasing the number of their converts and the number of children studying in their schools. Moroto township, a small administrative center during the 1940's, grew after 1950 with increased commerce and social services until in 1969 the population of the town was 10,000 (5,000 civilians and 5,000 Uganda Army).[8] Of particular importance to a study of So economics, was the creation in

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[7] Karamoja District Veternary Officer's Annual Reports for the past 15 years.

[8] Annual Report for Moroto Hospital and Karamoja District: 1st July, 1968 - 30th June, 1969.

Moroto of a major prison facility and an agricultural experimental station. One major function of the latter facility has been the distribution of famine relief. Also important is the remarkable increase in the last 20 years of the number of Asian and Swahili operated dukas (shops) in the town. Prior to 1930 few traders were allowed into the district, and then only for the purpose of serving the needs of government personnel. A few traders were subsequently permitted licenses for general commerce during the 1930's and 1940's, but only after the shift in development policy in the early 1950's were traders allowed to operate in the district more or less freely.

Probably the most important and far-reaching contact between the So and the colonial government was via the Forestry Department. All three of the So mountain areas came under the jurisdiction of that department during the early 1930's when they were declared to be "crown forest reserves".[9] Prior inhabitants of these areas were defined at that time as having "no rights" within the reserves, but rather having "privileges" permitted at the discretion of the government.

In fact, since the very beginning of civilian colonial rule in the district, the So have been waging a continual struggle to retain their traditional homeland. Very early, the colonial administration evolved a policy toward the tribe which essentially defined them as "encroachers", on the questionable assumption that maintenance of

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[9] Working Plan for Moroto, Kadam and Napak Central Forest Reserves, Karamoja District, Northern Province, Uganda.

forest watersheds and cultivation by native Africans do not mix.[10] The Uganda government of today inherited this policy at independence and it has, at least in theory, remained in effect to the present time.

Beginning in 1933, the colonial government attempted from time to time to remove the So from all three mountains, at times by force.[11] This procedure was totally effective for a time on Kadam Mountain, but only partially successful on the other two mountains. However, the forestry officials were successful in requiring the So to move down from the higher slopes, where they had built their compounds traditionally, to the valley floors where their compounds are usually located today. A major effect of this forced migration, as we shall see, was to place the So in a position of direct competition with Karamojong herdsmen for prime dry season grazing and water resources, and this intensified an already growing hostility between the tribes.

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[10] Entire series of Karamoja District Forest Officer's annual reports. Most make reference to the "encroachment problem". For a cogent critique of this policy see Wilson (1959).

[11] Working Plan for Kadam Central Forest Reserve, Karamoja District, Northern Province, Uganda for the period 1957-1966, p. 6.

Chapter Three

Ecology

As the preceding section indicated, the historical tenure of the So in Karamoja was no doubt long and, until contact with the West, well established. Contact did occur, however, and change - rapid change - was initiated in traditional socio-economic forms which was ultimately to wreak havoc with the tenuous balance of So adaptation to the Karamoja environment. It is impossible to continue with the discussion of change and present adaptation without examining closely the characteristics of the environment which the So must confront day-by-day. Only after a more comprehensive understanding of So ecology may one proceed to a fuller understanding of social structure and organization.

Topography

Karamoja District consists for the most part of a semi-arid plain which extends west from the Suam-Kyoga watershed to the eastern boundary of the Labwor Hills. From north to south the district extends from the Dodos-Kapeta watershed to approximately 30 miles south of Kadam mountain. The plain is remarkably flat and relatively featureless although it tends toward greater irregularity in the north-northeast (Wilson, 1959, p. 5). Elevation from sea level varies from 3,400 feet near Lake Opeta to around 5,000 feet above Kaabong.[1] The average elevation for the

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[1]For a more complete description of Karamoja topography see Wilson (1959, Pp. 5ff) and Dyson-Hudson (1966, Pp. 22ff).

district according to Dyson-Hudson (1966, p. 23) is between 3,700-4,500 feet.

Rising abruptly out of the plain in southern and central Karamoja are four, post-tertiary volcanic peaks: Moroto (10,116 feet), Kadam (10,067 feet), Napak (8,330 feet) and Toror (6,382 feet). All of these massifs are described as being of the single cone, radial type (Wilson, 1959, p. 10). Due to advanced dissection Napak mountain is actually a series of massifs named Kodokori, Kocemaluk, Lokeru, Opopwa and Akisi, which all are portions of what once was a single volcanic rim (Rada Dyson-Hudson, personal communication). Elevations above the plain floor for these four peaks are: Moroto (5,000 feet), Kadam (4,500 feet), Napak (4,000 feet) and Toror (2,500 feet).

Moroto mountain, the area covered most intensively in this study, is the largest and most easterly of the four. It measures approximately 15 miles from north to south and 8-10 miles from east to west. The geomorphology of Moroto is best described by J.G. Wilson:

> Moroto mountain...rests on a Basement Complex surface which varies in altitude from about 4,600 to 5,000 feet...As it stands today, it is a roughly circular, much dissected shell, of what must once have been a much larger cone, but no trace of the crater remains. It is apparent that dissection has followed a differential pattern. The perimeter from near Nakiloro, proceeding west around the residual hill of Sogoliman, exhibits a number of very steep-sided, truncated spurs, with terminal scarp faces being 200 to 300 feet above the level of the pediment. These scarps are cut vertically or near vertically down through the volcanic and pre-

volcanic rocks, as one face, or occasionally with a differential scarp. The upper volcanic rock is cut slightly further back than the lower basement rock, producing a slight stepped effect. Between the spurs extending well back into the mountain are fairly wide U-shaped valleys becoming V-shaped in their upper reaches. The perimeter of Moroto mountain from Sogoliman on the Kitale road around in an easterly direction consists of somewhat elongated, radially arranged, rounded spurs which enter the pediment surface with a gentle terminal scarp or no scarp at all. The valleys between the spurs are again U-shaped at their mouths but rapidly become narrow with convex walls. The extreme eastern side, bordering the Turkana escarpment, shows marked truncation, and the development of a very steep scarp face from about 4,800 feet, with significant valley formation. The uneven pattern of the basal perimeter can well be explained by differences in altitude of the surrounding pediment and plain. On the north and west sides of the terminal scarps end at an elevation of about 4,500 - 4,600 feet where the pediment begins, the pediment itself being gently lowered to the plain level. On the south side, the pediment level extends up to, or almost up to, the top of the pre-volcanic surface at a level of about 5,000 feet and as a result erosion inducement has been slower. On the Turkana or eastern side, the retreat of the Turkana escarpment to a base level of about 3,000 feet has had the effect of producing a very steep, high scarp face with valleys playing little or no part in the retreating process.

(1959, Pp. 10-11)

Moroto mountain is shown, then, to be an elongated, L-shaped massif which, due to the radial pattern of volcanic ridges, is ringed on three sides by fertile or semi-fertile valleys. From the point of view of subsistence, these valleys may be seen to have two levels: the upper slopes above the scarp faces which again become gently rising grassland and forest where once the So located their compounds and gardens, and the valley floors below the scarp faces where So compounds and gardens are located today. The upper slopes are still important to So economics as they provide dry season grazing. At one time or another the So have inhabited and cultivated most of these valleys. Today, however, they are concentrated in the north around Kakingol, on the western side near Moroto township in the Lia and Naukoi valleys, and in the south near Katikekile, ranging easterly toward Karasuk. The reasons for this gross pattern of settlement are social and will be discussed later. The So do not (and as far as the data suggest never did) inhabit the northeastern quadrant of the mountain. The geomorphological nature of the Turkana escarpment precludes agriculture of the sort carried out by the So. The Turkana themselves are seen by the So as perpetual enemies and during traditional times the escarpment has offered them an all but inpenetrable barrier to attack from Turkana.

Soil

The soils on Moroto are predominantly clays and loams formed rather rapidly by the action of rain and river between the radial spurs. Explaining the soil production on all four Karamoja massifs, J.G. Wilson

> The influence of altitude at elevations over 7,000 feet on rainfall precipitation is very marked on all the higher mountains in Karamoja. The increased rainfall in itself induces luxuriant forest vegetation. In turn the combination of altitude, rainfall and vegetation type combine together to produce surface litter and deep humus topsoil. In turn the humus topsoil allows quick absorption of rainfall and passage into the soil, at the same time providing humic acids which hasten breakdown of mineral matter. The combination of abundant water entering the soil with the addition of humic acids results in a very complete and possibly accelerated weathering process which produces a deep profile of red clay on volcanic mountains. In the case of genesis from igneous and metamorphic rocks the soil appears to be more orange coloured.
>
> (1962, p. 15)

Soils are of two types on Mount Moroto. The first which Wilson (1962, p. 21) terms the Moroto Series is found at elevations between 7,000 and 10,000 feet and is overlain with either dry montane forest or grassland. Dark humus loam to a depth of 14 - 25 inches associated with montane forest overlies reddish, granular clay which, itself, extends to a depth of as much as 10 - 12 feet with a mean depth between 3 - 4 feet. Humus underlying grassland cover tends to be somewhat shallower. These soils are not laterine, but murram is often found. Wilson completed one soil profile with characteristic plant communities for the Moroto Series which 15 presented in Appendix I. It should be noted that this series is found also on Kadam and Napak mountains.

The second soil type which Wilson (ibid, Pp. 21-22) terms the Nadiket Complex is found between elevations of 4,500 and 7,000 feet and consists of a fairly uniform layer of brown to grey clay or clay loam to a depth of between 1 and 15 feet. Overlying this soil is found either broadleaf savanna woodland or grassland. The depth of soil is highly variable as it is extremely vulnerable to erosion. Again, two soil profiles taken by Wilson for the Nadiket Complex are presented in Appendix I along with characteristic plan communities. These reflect the condition of soils most often used by the So in present day agriculture.

It was determined in the field that a more accurate study of nutrients present in the topsoil found in the study area would be advantageous. Therefore, soil samples were taken from the periphery of twelve different So garden plots at random. These form a fairly even coverage of cultivable topsoil from both the Lia and Naukoi Valleys and from elevations between 4,500 and 6,000 feet. Samples were taken uniformly to the depth of 6 inches after first removing the loose top humus. No attempt was made to determine soil profiles as it was clear from the work of Wilson that these vary enormously due to the extreme vulnerability of these soils to surface erosion. Actual soil analysis was carried out upon return from the field.[2]

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[2]The author wishes to thank J.G. Wilson for his advice in actual sample collection. Soil analysis was completed by Mr. Thomas Greweling, Director of Laboratories, New York State College of Agriculture, Cornell University. The author also wishes to acknowledge the assistance of Professor Gerald Olson, Department of Agronomy, Cornell University.

Physical analysis of the sample soils remains incomplete at this writing. Partial analysis, however, concurs with the description given by Wilson for his Nadiket Series. Individual samples vary considerably from reddish clay to brown clays and clay loams. Texture also varies due to fluctuation in particle size.

The results of chemical analysis are presented in Appendix II. The most important general factor apparent from this analysis is that soils in the study area vary greatly in the amount of exchangeable cations, organic material and soluble salts present. The pH of these soils vary as well from very basic to very acidic. Variation of all parameters, in fact, is much more extreme, at least in topsoils, than is indicated by Wilson's data for Moroto mountain. Such variation no doubt has a determinant effect upon the number of plantings possible in any particular garden plot and, hence, the duration of settlement in any particular area. It was also noted in the field that the qualify of crops, even within a single garden plot, will vary from extremely lush to quite stunted.

Climate and Water Resources

There exist no accurate temperature or relative humidity figures for Karamoja District. The closest data are those from Soroti which lies approximately 90 statute miles south, southwest of Moroto. Soroti records a mean daily relative humidity of 36% at 2:30 PM during February, the driest month. The mean daily maximum temperature during the same month is 92°F. Mr. N.S. Philip has suggested that it is drier in Moroto township than in Soroti due to the dry winds which enter the

area from Turkana during the dry season.[3] J.G. Wilson (1959, p. 2) states that the temperature during the dry season will climb as high as 96°F in the shade in Karamoja with a usual high of over 90°F during the months of January, February and March. Temperatures during the rainy season do not usually exceed 85°F in the shade. Night temperatures often fall below 60°F. It is my own impression that the temperature is somewhat lower on the slopes of the mountain than on the plain. This may be due in part to the effect of a cloud layer which often covers portions of the mountain during the day.

The So distinguish two seasons of the year, the wet season (muyit) and the dry season (koro). These are, in fact, meteorologically distinct, with most of the annual rains falling during the months between April and September. A protracted dry season usually falls between the months of October and March. The average annual rainfall for the drier parts of the Karamoja plains is 25 inches (Dyson-Hudson, 1966, p. 30) with an average for the higher elevations near the mountains of 35 inches. These figures are based upon data collected for years prior to 1958. On data collected from 1958-1969 I computed an overall mean rainfall incidence of 31.98 inches per annum for the entire district with an average of 69.71 days of rain per annum.[4]

Average rainfall figures, however, can be quite misleading for

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[3] Working Plan for Moroto Central Forest Reserve, Karamoja District, Northern Province, Uganda, 1955-1964.

[4] Data from 1958-1969 were obtained from the Annual Reports, District Agricultural Officer, Karamoja District Uganda.

Karamoja. In the first place the incidence per year will vary enormously. From the figures presented in Table III-1 it can be seen that over a twelve year span the mean incidence varies from a low of 21.99 inches to a high of 45.26 inches. Secondly, the incidence will vary even more over the years at any particular location within the district. At the Latome station the annual rainfall over a 17 year period varied from 16.16 inches to 42.13 inches and at the Moroto township station over a period of 35 years the variation was from 18.17 inches to 58.14 inches (Dyson-Hudson, 1966, p. 30).

Finally, the incidence of rainfall will rarely be well distributed over the entire "rainy season". Rainfall is usually sporadic at best, with a great deal of rain falling during one month and little falling the next.

The amount of rainfall on Moroto mountain itself can only be determined indirectly as no accurate figures are available for any of the mountain areas. It is likely that the incidence here is as episodic as elsewhere in the district. J.G. Wilson has estimated on the basis of precipitation requirements of plant communities that Moroto mountain receives at least a per-annum average of 40-50 inches for elevations above 7,000 feet and 30-40 inches below 7,000 feet. These are minimum estimates and should, considering the averages for the district as a whole, be considered conservative.

As a result of the remarkable fluctuations in climate, we estimate that the So may expect at least a partial crop failure once in every three to four years, either due to drought or due to fungal disease resulting from an overabundance of rain.

Table III-1. Mean Annual Rainfall and Mean Annual Number of Days of Rain For Karamoja District, Uganda, 1958-1969
(inches)

Year	Rainfall	Days
1958	30.27	63.06
1959	30.50	71.35
1960	29.43	63.91
1961	45.26	89.17
1962	31.83	75.07
1963	35.50	72.23
1964	32.71	70.64
1965	23.70	62.72
1966	21.99	50.96
1967	44.00	88.92
1968	29.65	65.15
1969	28.92	63.34

Turning now to riverine water resources, So informants maintain that prior to 1966 water was to be found year round in the Lia River and its tributaries. This river has its origin in the upper reaches of the Lia Valley where, even today, the water flows throughout the dry season. Statements by long time residents of Moroto town also indicate that prior to 1966 the river was capable of supporting a large swimming pool built at the mouth of the valley for the use of European inhabitants of the town. During 1966 the Uganda government completed the last in a series of water pumping stations in the valley to service the demand for water in the town. The disappearance of the water in the river during the critical dry season is due in large measure to the combined effect of the pumping stations. The water table in the valley has been lowered to the point that water entering the system in the upper reaches seeps into the soil before it reaches the floor of the valley.

As a result of the lowered water table the So have been forced to dig wells in river beds similar to those constructed by the Karamojong (Dyson-Hudson, 1966, Pp. 25 and 219). Unlike the Karamojong, however, wells belong to the entire tribe and may be used by anyone, both for cooking and for watering livestock. During the height of 1969-70 dry season, the level in one well near the mouth of the Lia Valley was some eight feet below the surface of the river bed. Another well in the lower reaches of the Naukoi system was 6 feet below the surface. Water is collected for domestic use on the average of once per day by each household and the carrier may have to walk as far as two miles to reach a viable well.

Demography

A complete census of the study area, including both the Lia and Naukoi valleys, was carried out in the field during the latter quarter of 1969. The gross population figures grouped by age and sex are presented in Table III-2. Ages of individuals under 20 years were estimated by relative degree of physical maturation and by comparison with other individuals whose ages had been estimated in that fashion. Because relative seniority of birth is important to the So, reliance upon ranking by age of siblings was considered accurate.[5] No attempt was made in the general census to determine the precise age of adults. All married males and females were recorded as adults. In the case of males this practice no doubt reflects reality as few males are apt to marry prior to their 25th year. However, in the case of females the practice caused a distortion in the data as females often do marry prior to their 20th year. This explains the abnormally low proportion of females to males, 16-20 years, in Table III-2. The distortion is largely corrected by the random sample data presented below.

The abrupt dropoff of frequencies in the 11-15 and 16-20 categories for both sexes may be explained in part by two factors: (i) There is a rapidly increasing tendency, evident to medical officials in the district, for both Karamojong and So mothers to bring young babies

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[5] If a female child were judged to be 14 on the basis of breast development, length of time since inception of menstruation, etc., then an older sibling might have been recorded as being 16 because the latter was born two years prior to the former.

Table III-2. Population of Lia and Naukoi Valleys, Moroto Mountain, Karamoja District, Uganda, By Age and Sex (Frequency of Persons and Percent of Total)

Age Category	Male	Percent	Female	Percent	Sex Unknown	Percent	Total	Percent
0-5 Years	171	10.4	180	10.9	3	0.2	354	21.5
6-10 Years	111	6.7	106	6.4	0	0.0	271	13.2
11-15 Years	62	3.8	73	4.4	0	0.0	135	8.2
16-20 Years	54	3.3	19	1.2	0	0.0	73	4.4
Adult	359	21.8	485	29.4	0	0.0	844	51.2
Age Unknown	14	0.9	9	0.6	3	0.2	26	1.6
Totals	771	46.8	872	52.9	6	0.4	1649	100.0

into the dispensaries for treatment. Presumably this shift would be reflected somewhat in the demographic data. (ii) Also, a number of young males and a few young females in this age range were gone from the valleys during the census period and were located in cattle camps elsewhere on the mountain. They were, therefore, not counted.

The total population of the study area was 1649 persons with a male to female ratio of 0.88:1. The data are insufficient to determine the existence of an accurate differential death rate for males and females. Genealogical data, however, do suggest that many more men than women die by violence, principally in cattle raids. As mentioned a moment ago, an indeterminantly small number of boys were resident in cattle camps and remained uncounted. Differential death rate and sampling bias, then, would explain, at least in part, the difference evident in the sexual ratio. John Cleave (1957) estimated in a survey of Moroto mountain a male to female ratio of 0.75:1. As no information is available pertaining to his methodology, I can not explain with any certainty the difference in our respective figures. I suspect, however, that he failed to survey So cattle camps whereas the more accessible camps were covered in my census. Data collected relative to settlement patterns will be presented and discussed in a later chapter.

A random sample of So households was taken using the general census as a universe.[6] More detailed data were gathered from this sample and conclusions may be generalized to the study area. The

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[6]The methodology used in developing this sample is discussed in Appendix III.

The distribution of offspring of the sample households by age and sex is given in Table III-3. The same methods were used to establish the age of offspring in the sample population. Again there exists the distortion in the female, age 16-20, category as married females were recorded as being adults. The disproportionately higher number of females in the 0-5 category is probably due to sampling error, but as the discrepancy was not discovered while in the field, no other explanation can be offered. As may be seen from Table III-4, the proportion of nursing to weaned children in the 0-5 age category is equal.

Data were also collected on children who, born to sample mothers, subsequently died. These are summarized in Table III-5. These figures dramatically demonstrate that most children who die do so within the first five years of life (76.9% including both sexes and sex unknown). Furthermore, as Table III-6 shows, 45.0% of those who die in the first 5 years of their lives, do so prior to weaning, or within 1 1/2-2 years after birth. It is my impression from discussions with medical personnel familiar with Karamoja that most nursing children die from a combination of malaria, dysentery and resultant dehydration. We observed a number of such deaths in the field. Deaths of this nature clearly increase in incidence during periods of famine. The Sō themselves are aware of this increase and take certain ritual steps to reverse the trend.

The figures in Table III-6 also add support to the generally held notion that the second most dangerous period for children in areas of marginal subsistence is during the period following weaning. This is a

Table III-3. Living Offspring of Random Sample of Mothers, Lia Valley, Moroto Mountain, Karamoja District, Uganda, By Age and Sex (Frequency of Persons and Percent of Total)

Age Category	Males	Percent	Females	Percent	Total	Percent
0-5 Years	2	2.9	14	20.6	16	23.5
6-10 Years	6	8.8	4	5.9	10	14.7
11-15 Years	5	7.4	3	4.4	8	11.8
16-20 Years	8	11.8	2	2.9	10	14.7
Adult	11	16.2	13	19.1	24	35.3
Totals	32	47.1	36	52.9	68	100.0

Table III-4. Nursing and Weaned Children of Random Sample of Mothers, Lia Valley, Moroto Mountain, Karamoja District, Uganda, Ages 0-5 Years. By Sex
(Frequency of Persons and Percent of Total)

	Male	Percent	Female	Percent	Total	Percent
Nursing	1	6.2	7	43.8	8	50.0
Weaned	1	6.2	7	43.8	8	50.0
Totals	2	12.4	14	87.6	16	100.0

Table III-5. Deceased Offspring of Random Sample of Mothers, Lia Valley, Moroto Mountain, Karamoja District, Uganda, By Age and Sex (Frequency of Offspring and Percent of Total)

Age Category	Male	Percent	Female	Percent	Sex Unknown	Percent	Total	Percent
0-5 Years	8	30.8	10	38.5	2	7.7	20	76.9
6-10 Years	1	3.8	1	3.8	0	0.0	2	7.6
11-15 Years	2	7.7	1	3.8	0	0.0	3	11.5
16-20 Years	1	3.8	0	0.0	0	0.0	1	3.8
Adult	0	0.0	0	0.0	0	0.0	0	0.0
Totals	12	46.1	12	46.1	2	7.7	26	99.8

Table III-6. Mortality Among Nursing and Weaned Children of Random Sample of Mothers, Lia Valley, Moroto Mountain, Karamoja District, Uganda, Ages 0-5 Years, By Sex (Frequency of Children and Percent of Total)

	Sex							
	Male	Percent	Female	Percent	Unknown	Percent	Total	Percent
Nursing	4	20.0	5	25.0	0	0.0	9	45.0
Weaned	4	20.0	5	25.0	2	10.0	11	55.0
Totals	8	40.0	10	50.0	2	10.0	20	100.0

period of metabolic inefficiency during which the child no longer obtains milk from its mother and yet can not fully metabolize adult food - food which in the case of the So is, at best, much lower in essential nutrients than mother's milk.

A number of other important computations were made with respect to child and child mortality statistics in the study area, based upon the random sample. A total of 94 children had been born to the 20 sample mothers. Of these, a total of 68 remained alive in 1970 while 26 had died. The average number of children born to each mother, then, was 4.7. The average number of children (all ages) remaining alive per mother was 3.4 and the number of dependent children was 2.2. Breaking this down further, the number of living children, aged 0-5, per mother was 0.8 while the number of living, and nursing children was 0.4. The child mortality rate for all ages is 27.7%, for the 0-5 years range is 21.3% and for the nursing range is 9.6%.

Turning now to the adult population of So, the random sample provides other important demographic data. Table III-7 shows the

Table III-7. Proportion of Random Sample of Women Belonging to Monogamous and Polygynous Families, Lia Valley, Moroto Mountain, Karamoja District, Uganda

Family Type	Number	Percent
Monogamous	9	45.0
Polygynous (with 2 wives)	6	30.0
Polygynous (with 3 wives)	4	20.0
Polygynous (with 4 or more wives)	1	5.0
Totals	20	100.0

proportions of married women in the study area who belong to monogamous families or polygynous families which contain two, three, and four or more wives. From these figures it is possible to compute the proportion of married men who have one or more wives. These data are presented in Table III-8. The proportions for married males had to be computed, rather than merely counted, as the sample selection process created a marked bias in favor of males with more than one wife.

Table III-8. Computed Proportion of Married Men Having One or More Wives, Lia Valley, Moroto Mountain, Karamoja District, Uganda

Family Type	Number	Percent
Men with 1 wife	9.00	66.3
Men with 2 wives	3.00	22.1
Men with 3 wives	1.33	9.8
Men with 4 or more wives	0.25	1.8
Totals	13.58	100.0

Summarizing, most married women in So have co-wives, whereas most married men are monogamous. Further, the ratio of married men to married women is 0.68:1. The differential proportion by sex of married persons is best explained by differential mean age at first marriage, the practice of wife inheritance (levirate) and an earlier mean longevity among the males. The latter factor would mean more old widows would be reflected in the data than old widowers. Also, the frequency of concubinage is high but is not reflected in the demographic evidence. Marriage in So will be discussed in detail later and further demographic data will be offered at that time.

It is possible to compute from the sample data the proportion of males and females over and under the age of 20. This procedure requires some manipulation of the data and the methodology is not readily obvious, so I will describe the computations step by step. Of the 20 married women in the sample, 18 are above the age of 20. Adding the two women under 20 years to the total number of living, unmarried female offspring in the sample, we derive a total of 25 females under 20 years of age.[7] The total number of females of all ages is 43. Assuming the male to female ratio of 0.88:1 to be reasonably accurate, then for every 43 females in the population there are 37.84 males of all ages. The data show that there are 21 males in the sample who are under 20 years. Subtracting this number from the computed number of males of all ages, we are left with a probable number of males over 20 years of 16.84.[8] The proportions of males and females, over and under 20 years of age, are presented in Table III-9. A significant majority of the population of So is under the age of 20. Obviously, a much larger majority of So are under 25 years of age.[9]

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[7]Married female offspring were dropped from the computations as they are members of the universe of married females from which the sample of households was drawn. Their inclusion would have created a bias.

[8]Adult married males in the sample could not be included in these computations as the sampling procedure created a bias in favor of polygynous males.

[9]These figures were not derived from the general census data as the census did not control for offspring absent from the study area.

Table III-9. Proportions of Population Over and Under 20 Years, Lia Valley, Moroto Mountain, Karamoja District, Uganda, By Sex (Computed Frequency of Persons and Percent of Total)

Age	Male	Percent	Female	Percent	Total	Percent
Under 20 Years	21.00	26.0	25.00	30.9	46.00	56.9
Over 20 Years	16.84	20.8	18.00	22.3	35.84	43.1
Totals	37.84	46.8	43.00	53.2	80.84	100.0

As the random sample was selected from a population which included all married females in the study area regardless of their ethnic background, it is possible to compute the proportions of households within the study area which are of non-So, part-So and full-So in origin. A non-So household is defined as one in which the parents of both the wife and husband were considered to be from other tribes. A part-So is one in which one of more (but not all four) of the parents of the wife and husband were considered to be from another tribe. A full-So household, of course, is one in which all parents of wife and husband were considered to be So. The proportions of these household types are given in Table III-10. It is highly relevant to mention here that the

Table III-10. Ethnic Composition of Random Sample Households, Lia Valley, Moroto Mountain, Uganda (Frequency of Households and Percent of Total)

	Number	Percent
Non-So	1	5.0
One Quarter So	0	0.0
One Half So	5	25.0
Three Quarters So	5	25.0
Full So	9	45.0
Totals	20	100.0

influx of non-So households, principally Karamojong in origin, into the study area is recent and, if left unchecked will accelerate due to the attractive resources available on the mountain in greater abundance than on the plain. There exist at the present time several completed or partially completed Karamojong compounds located at the mouth of the Naukoi valley. At least one of these is the compound of a Karamojong

elder who married a So woman, the daughter of a So elder whose compound is likewise located near the mouth of the valley. The ethnic mixing reflected in Table III-10 is primarily due to So-Karamojong intermarriage (usually Karamojong men married to So women), with a few cases of marriage between So on the one hand and Suk, Dodos and Turkana on the other. Although not apparent from the data, there are a few full-Turkana households located in the study area as well.

Although we have reason to believe that many of our computations are generalizable beyond the study area, indeed to the entire tribe, there exist little accurate demographic data for the So tribe as a whole. The earliest census was completed for Moroto mountain in 1919 by the colonial administration for the purpose of defining the tax-paying population (Cleave, 1957). This count recorded 167 tax-paying adult males and estimated the entire population on the mountain to be 668, simply on the basis of multiplying the number of adult males by four. The data do not give evidence of ethnic mixture, if any existed, on the mountain at that time. John Cleave in his census of Moroto mountain (1957) counted 1,264 adults; 544 males and 720 females. Using the same technique as was used in the earlier census, Cleave derived a total population of 2,176, in indication that the population of the mountain had tripled in under 40 years. This extimate of population growth should be considered rough at best, as there is no record in the 1919 report of the criteria used to define "tax-paying adult male" and no indication of the thoroughness of the survey. Cleave also computed what he felt to be a more realistic estimate of the mountain's population by assuming two offspring per married female, which, when added

to the adult census figures, increases the estimate to 2,704. Using the 2.2 dependent offspring per married female computation derived from my own data and applying it to Cleave's adult census figures, I would estimate the population of Moroto mountain during the latter 1950's to be approximately 2,850. I would further estimate that the population of the mountain in 1970 was around 3,500 persons.[10]

Of the 161 compounds surveyed by Cleave (1957), 32 were immigrant Suk from Upe. These were located for the most part on the southern slopes of the mountain, the side closest to Upe. His figures support the common notion that, taking Soland as a whole, the largest influx of population is from the Suk. From other, more informal, information it is clear that a major influx of Suk is present on Mount Kadam as well.

The only census figures available in the literature for the So on Napak mountain are those recorded by the District Forest Officer in 1955.[11] The count was 144 persons: 40 adult women, 36 adult men, 40 juvenile males and 28 juvenile females. Assuming the survey to have been casual and again utilizing the 2.2 dependent offspring per married woman factor, I would correct the population figure to a total of 164. Either figure should be taken as approximate. Again, there is no

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[10] A Uganda government census was completed for Karamoja and other districts in 1970. However, the Ministry of Planning did not distinguish between the So and the Karamojong. Thus, no accurate figures were obtained for Soland.

[11] Communication from the District Forest Officer, Karamoja District to the Provincial Forest Officer, January 25, 1957 as reported by Dyson-Hudson (personal communication).

indication of precise category definitions and survey thoroughness. Also, the count may well have included only those individuals actually present within the forest reserve at the time of the survey. The important fact is that there are today no more than 300 So on Napak mountain, a fact that adds indirect evidence of a recent migration to the area.

The evidence pertaining to population characteristics on Kadam mountain is even more discouraging. No accurate census has ever been completed for the area. Furthermore, the early attempts to resettle the Kadama on to the plains seems to have been largely successful. According to a report by M.S. Philip, they were forced off the mountain very soon after the policy came into effect in 1933.[12] A tremendous change in traditional settlement and population characteristics no doubt resulted from this action. However, in the intervening years many of the Kadama returned to the slopes when enforcement of the policy became less strict. Today, the total population of Kadam mountain probably does not exceed 1,000 persons, and of these, an unknown but significant proportion are Suk immigrants.

Considering the estimates I have made for all three mountains, the total population of Soland should not exceed 4,800 at the present time.

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[12] Working Plan for Kadam Central Forest Reserve, Karamoja District, Northern Province, Uganda. For period 1957-1966, P. 6.

Disease

Karamoja is not only a land of unpredictable, and often unproductive, climate, but it is also a land of numerous diseases. As is often the case in the tropics, many So are infected with a combination of parasites and diseases most of the time. Some diseases, like malaria, have no doubt been endemic to the area since man first came to Karamoja. Others, like gonorrhoea, have been introduced quite recently. Because official medical records in the district do not distinguish between Karamojong and So, there are no accurate data pertaining to the existence of differential incidence of disease between the two populations. It is likely, however, that the So are infected with the same diseases as are the Karamojong, and to roughly the same degree. The most prevalent health problems reported for Karamoja, and especially for the Moroto area, are as follows:[13]

1. Malaria with occasional cases of cerebral malaria.
2. Upper respiratory infections, both viral and bacillary.
3. Eye infection, usually the conjunctivitis, trachoma, entropion sequence.
4. Protein-caloric malnutrition.
5. Gastro-intestinal infections, both viral and bacillary.
6. Infectious hepatitus (endemic, but sporadic).

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[13] I am deeply indebted to Dr. Sung Joon Kim, a Korean MD and ECFMG certificate holder, for this estimate of principal health problems in Karamoja. Dr. Kim spent three years as Medical Officer in the district.

7. Liver cancer.
8. Epithelial cancer, usually progressing from tropical ulcer.
9. Hydatid cyst of the liver endemic, though only reported in the literature for southern Sudan.
10. Chicken pox frequent, but smallpox rare.
11. T.B. respiratory suspected of having wide incidence.
12. Parasites including askaris, ancylostoma, strongyloid, bilharzia (usually mansoni group as haematobium is very rare) and beefworm.

The diseases and health problems most responsible for infant and child mortality among the So are malaria; diarrhea and resultant dehydration; upper respiratory infections; and poor nutrition. RS viral infections are suspected as having great effect in the area but laboratory facilities in the district are unequipped to confirm the presence of this pathogen in most cases. It should be emphasized that even the simplest case of diarrhea in an infant in this part of the world is sufficient to cause fatal dehydration.

Humans are not alone among carriers of disease in Karamoja. Livestock as well are infected by a variety of maladies, some of which cost the district thousands of head per year.

East Coast Fever was introduced quite recently into Karamoja (1934) via cattle migrations. The core of the infection centers around Kadam mountain where the tick, Rhipicephalus appendiculatus, which is the vector, is found in abundance (Dyson-Hudson, 1960, p. 255). ECF continues to be a major concern in the district although it tends to be isolated to southern Karamoja. I have no data

pertaining to the incidence of EGF among So livestock, but it is likely to be endemic.[14] Serious outbreaks of the disease occurred in 1965, 1966, 1967 and 1968.

The major disease problem among livestock today is pleuropneumonia as it has been the major problem for the past decade or longer. Outbreaks of serious proportions have occurred yearly from 1965-1969. Other infections prevalent in the area, along with the years of serious outbreak, are: rinderpest (1963, '65, '66), foot and mouth disease (1969), trypanosomiasis (1968, '69), heartwater (1966), anthrax (1965, '66), blackquarter (1966). It is the feeling among veterinary officers that tuberculosis is extremely widespread among Karamoja cattle. Also, according to tests run on exported cattle in 1965, 17% of cattle are infected with cysticercus bovis and 55% with fascioliasis, a liver infection.

Communicable diseases are extremely difficult to control in Karamoja due to shifting livestock. One major cause of disruption among human and livestock populations is cattle raiding and resultant police operations. When faced with heavy raiding and police reprisals, many people will migrate to other areas outside the district. Also, drought in one area will not only cause an increase in the actual incidence of communicable disease, but will likewise cause migration to areas offering more abundant water and grazing. Migrations of Turkana

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[14] Data pertaining to the incidence of livestock disease was obtained from the Annual Report, Karamoja District Veterinary Officer, for the years 1963-1969.

and Suk herdsmen into the district are a constant occurrance and difficult to control. Finally, the smuggling of livestock into the district is significant to the spreading of disease. The result of these factors is to make the quarantine of infected cattle difficult and often impossible.

Although again there are no clear data indicating a differential incidence of livestock disease among the So, it is likely that their livestock fall victim to most, if not all of the above maladies. Control, however, is to some extent more certain as the So will not often leave their mountain ranges in search of resources. Furthermore, their response to cattle raiding is a tendency to relocate near police and army detachments for increased protection. Innoculation procedures are more certain of coverage for this reason. However, the So continue to obtain livestock from the plains tribes either through outright purchase or raiding (rare). Livestock is also being exchanged between tribes by virtue of brideprice. Hence, epidemics continue to be a major factor in So economics.

Chapter Four

Social Organization

This work is primarily a study of the economic adaptation of a group of people who are confronted periodically with extreme hardship. The layman, accustomed as he is to the ease with which Western economists compartmentalize the study of their subject, may well ask at this point, "When will you get to the economy?" The answer, as Karl Polanyi (1944) and his followers have long pointed out, is that the student of primitive, non-Western economics is forced, by the reality of his subject, to consider the economy in a more organismic or holistic fashion. In primitive society the economy is intimately involved with the social structure, the latter usually providing the institutional circuits through which production is regulated, labor is allocated and goods and services are distributed and consumed. In a very real sense then, the economy is the social structure and vice versa.

My view of the general nature and function of the economy in primitive society is similar to that of Talcott Parsons. Parsons (1966, p. 28) sees the economy as the analytically abstracted aspect of the social system which is mainly concerned with the physical survival and adaptation of the societal community. The economy is, more specifically, the institutional connection between the societal community on the one hand and the ecology on the other. A primary function of primitive social structure in Parsons' terms is the integration and maintenance

of an adaptive continuity through time. He would hold, as I have myself indicated, that the study of economics in any primitive society must include a study of the ecology, the social (integrative) fit of the community in relation to the ecology, and the change in that fit over time. I have so far covered the ecological and temporal aspects of the study. It is now time to turn my attention to the structure of So society.

Any Sorat finds himself embedded in a matrix of relationships imposed upon him by the structure of his society. The total picture of those relationships is complex indeed, and is much too lengthy a topic to be covered in a single chapter. In the present chapter I will describe general family, lineage and clan structure, as well as the basic settlement unit, the eo. Overall settlement patterns will also be examined. In the subsequent two chapters and in Chapter Eight a number of other topics related to social organization will be discussed, including the socio-economics of marriage and residence, the age generation system and political structure, and the role of the ghost cult in the structure of So society.

Family, Lineage and Clan Structure

The So recognize the existence of the nuclear family (irakon) which usually consists of a "married" adult male and female and their offspring. The nuclear family may be and usually is coterminous with the household, the economic functioning of which will be discussed in a later chapter. Although the family is recognized as a distinct conceptual and kinship unit, it nowhere exists in isolation from ex-

tended kin relationships, socially, economically, or residentially.

Most members of the family belong to a single corporate patrilineage (eote) which may be subdivided conveniently into a maximal lineage and several minimal lineages.[1] The maximal lineage is dispersed and is called by the name of the eldest male member who, for certain purposes, may be considered the lineage head. The minimal lineage is localized and forms the core of the residential unit, the eo, which will be described in detail below.

An attempt was made to obtain a complete genealogy for every adult member of the sample households. We succeded in eliciting 34 genealogies and data from these have been quantified in terms of frequency of kinsmen per category of affiliation; i.e., patrilineal consanguines, patrilineal affines, matrilineal consanguines, matrilineal affines and kin not related through the descent system (i.e., children of female informants). These data are presented in Table IV-1. Data from other genealogies collected on a judgemental sample basis are not included in these figures.

A number of interesting trends may be abstracted from the data. As might be expected in a patrilineal society, there exists a clear tendency for informants to selectively remember more kinsmen, living and dead, in the patriline than in the matriline. Table IV-2 offers the average frequency of kinsmen in the various affiliation categories and shows that patri-consanguines and - affines combined account for 68.0%

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[1]This division is partially analytic and is not emically valid in terms of So vocabulary.

Table IV-1. Kinsmen of Ego, Grouped by Category of Affiliation, Sample of 34 So Genealogies, Lia Valley, Moroto Mountain, Karamoja District, Uganda*

Ego's Sex	Patrilineal						Matrilineal						Other		
	Consang.			Affines			Consang.			Affines					
	A	D	T	A	D	T	A	D	T	A	D	T	A	D	T
F	14	3	17	20	2	22	8	2	10	18	0	18	2	0	2
M	11	3	14	5	2	7	5	1	6	2	1	3	1	0	1
F	40	11	51	34	6	40	8	4	12	7	1	8	2	0	2
F	7	2	9	43	8	51	5	5	10	76	6	82	8	1	9
M	31	11	42	36	14	50	0	3	3	17	3	20	1	0	1
M	36	11	47	68	15	83	2	3	5	1	3	4	2	0	2
F	27	3	30	26	3	29	7	2	9	3	2	5	5	1	6
F	2	9	11	48	11	59	0	3	3	13	3	16	12	4	16
F	39	9	48	84	11	95	12	1	13	29	4	33	2	0	2
F	16	1	17	19	1	20	2	1	3	13	1	14	4	5	9
M	15	6	21	9	1	10	0	3	3	0	1	1	2	0	2
F	0	2	2	0	0	0	23	9	32	51	9	60	9	1	10
M	19	2	21	34	6	40	10	3	13	13	2	15	3	0	3
F	21	5	26	29	3	32	1	1	2	0	1	1	3	1	4
M	52	16	68	52	8	60	0	6	6	0	5	5	5	0	5
F	117	8	125	96	25	121	0	5	5	1	1	2	22	3	25
F	10	10	20	15	10	25	0	2	2	0	2	2	26	3	29
F	17	7	24	8	3	11	1	2	3	0	1	1	22	3	25

*A = alive, D = dead, T = total

Table IV-1. Kinsmen of Ego, Grouped by Category of Affiliation, Sample of 34 So Genealogies, Lia Valley, Moroto Mountain, Karamoja District, Uganda*

Ego's Sex	Patrilineal						Matrilineal						Other		
	Consang.			Affines			Consang.			Affines					
	A	D	T	A	D	T	A	D	T	A	D	T	A	D	T
M	14	5	19	12	3	15	0	2	2	0	0	0	1	0	1
F	10	9	19	17	5	22	1	2	3	1	1	2	5	2	7
M	26	16	42	29	6	25	0	3	3	16	2	18	2	0	2
F	28	6	34	16	9	25	3	2	5	24	3	27	2	0	2
M	5	3	8	16	1	17	1	1	2	0	1	1	3	0	3
F	43	10	53	22	6	28	1	3	4	19	1	20	3	2	5
M	14	9	23	20	7	27	0	2	2	0	0	0	2	1	3
M	9	7	16	5	0	5	2	1	3	3	0	3	1	0	1
F	9	3	12	2	1	3	2	0	2	1	0	1	4	3	7
M	2	2	4	0	0	0	22	3	25	50	4	54	1	0	1
F	23	4	27	10	4	14	21	1	22	25	1	26	3	1	4
M	49	3	52	49	6	55	5	2	7	10	1	11	1	1	2
F	20	9	29	28	3	31	16	1	17	8	1	9	1	0	1
M	24	5	29	15	2	17	3	1	4	13	0	13	1	0	1
F	2	2	4	1	2	3	8	3	11	3	1	4	2	1	3
F	25	11	36	39	9	48	13	5	18	39	2	41	3	1	4

*A = alive, D = dead, T = total

Table IV-2. Mean Frequency of Kinsmen of Ego, Grouped By Category of Affiliation, Sample of So Genealogies, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Computed Frequency of Persons and Percent of Total)

Kinship Category	Living	Percent	Dead	Percent	Total	Percent
Patri-consanguines	22.85	25.1	6.56	7.2	29.41	32.4
Patri-affines	26.68	29.4	5.68	6.2	32.35	35.6
Matri-consanguines	5.35	5.9	2.59	2.8	7.94	8.7
Matri-affines	13.41	14.8	1.88	2.1	15.29	16.8
Other	4.88	5.4	1.00	1.1	5.88	6.5
Totals	73.18	80.5	17.71	19.5	90.88	100.0

of kinsmen, living and dead, recorded in the genealogies. Matri-consanguines and - affines combined only account for 25.5% of the total. The figures in both the above tables tend to obscure the great ranges in frequency in all categories. Although the average size of genealogies is 90.88 individuals, the range varies from a low of 25 to a high of 278 and the standard deviation from the mean is 52.52.

Computations indicate a relatively high rate of loss from memory of kinsmen after death. Some 80.5% of kinsmen recorded in all genealogies were still living. The So usually trace their descent back no farther than G2. The majority (79.5%) of the sample traced their descent line back to direct ancestors in G2 in both the patriline and the matriline. A few were able to remember long dead kinsmen at G3, but these were always in the patriline - a fact which again indicates the greater importance of the patrilineage.

So patrilineages at the maximal level are loosely organized today, although there is some indication in oral historical accounts that lineage structure was more precisely defined and more important in terms of political function prior to the inception of the age generation system. Lineage elders today do, however, play an important role (as lineage elders) in the settlement of disputes internal to the lineage, in the accumulation, control and distribution of important wealth. The lineage forms the largest corporate kin-based group within So society which actually acts as a unit both at ceremonial occasions and, rarely, in the need of mutual defense. Patrilineages are strictly exogamous at all levels.

Because descent is usually traced back only to G2, long dead kinsmen are rapidly forgotten. Informants, moreover, are rarely able to remember the names of the siblings of their direct ancestors, even at G2. Some few informants exhibited a reluctance to utter the names of dead ancestors, a trait borrowed from the Karamojong, but in time they lost any such reluctance in speaking with us. The result of this rather short genealogical memory span is that maximal lineages bifurcate rapidly, fission occurring with the passing of each generation. Patrilineages are not, and as far as the data indicate never were, arranged hierarchically vis a vis political functions.

Lineages are organized into named, dispersed patriclans (also called eote). Clan names and clan affiliation present certain difficulties for analysis due to the fact that the two depend entirely upon the language being used by the informant. With the shift from So to Karamojong as the primary language spoken, there was a corresponding and interesting shift in clan nomenclature. This was not a simple transformation of names from one language to the other, but rather an identification of one or more traditional So clans with a Karamojong clan. A list of all So clans with their Karamojong clan equivalents is given in Figure 2. Also given are the So clan name meanings where they were remembered. It is immediately apparent that some So clans are equated with more than one Karamojong clan as well; e.g., eome is equated with both ngikaruwok and ngikamukea. An example of a single Karamojong clan which includes more than one So clan is ngikilipa which is associated with eosangwes, eoropom and eopaga. The clear tendency in change is the gradual submersion of the So clans into their respective Karamojong

So Clans	Karamojong Equivalents	Translation of So Clan Name
eopurito	ngikatekok, ngipureto	"Place of people who think great thoughts"
eokou	ngingangea	
eosangwes	ngikilipa, nginwei	
eoropom	ngikilipa, ngioropom	
eopaga	ngikilipa	
eori	ngikatap, ngingariama	"Place of the wind"
eokupukeny	ngimaito	"Place of the people of the baboon skin cape"
eome	ngikaruwok, ngikamukea	"Place of the tortoise"
eokomin	ngisigar, ngilobal	"Place of night"
eowamice	ngikadanya, ngikaruwok	"Place of the old people"
eoyogel	ngikomolo	"Place of green"
eobejik	none	"Place of white headed people"
eokojan	ngikurio	"Place of the giraffe"
none	ngilukumong	
none	ngicak	

Figure 2. So Clan Names With Translation and Karamojong Equivalents.

clans. This will likely result in the complete loss of traditional So clan distinctions.

Not all Karamojong clan names as recorded and reported by Dyson-Hudson (1966, Pp. 87-89) are utilized or known by the So. Of those listed by Dyson-Hudson, ngititimarono, ngiribo, ngimiiro, ngitengor, ngikapwo, ngikapwer and ngingorokomuk are not found in So. However, a number of names given by So informants as being Karamojong in origin are not present in his report; e.g., ngipureto, ngingangea, ngimaito, ngikamukea, ngikomolo and ngikurio. This causes a puzzling problem. The question arises as to whether all or some of these latter names are in fact Karamojong clan designations undiscovered by the Dyson-Hudsons during their work in the area, or whether some of the names are not actually traditional So clan designations which have in some fashion become confused with Karamojong nomenclature. It seems clear to me in the case of at least two of the names (ngipureto and ngingangea) that the latter explanation is the case. Eopureto and ngipureto are cognate and the So word pureto translates "people who think great thoughts". The fact that the word belongs to the traditional language leads me to believe that the borrowing occurred at some point from So into Karamojong. The reader will also remember that the word Ngangea is also the term used to refer to the group of closely related people living in the Ngangea Hills (see Chapter Two). It is entirely possible that the group of So who migrated to Ngangea belonged to a single clan called eongangea. This is based upon the indication that, although So clans are today dispersed in terms of settlement, they

might possibly have formed a residential unit far in the past.[2] Beyond this, I have no explanation for the remaining "Karamojong" clan names not listed by Dyson-Hudson, and offer the suggestion that caution be exercised in treating them as, in fact, Karamojong.

So clans do not form a corporate unit in any sense of the term. There are no clan leaders, the clan does not hold usufruct or property rights to land or any other form of wealth, there are no clan level judicial procedures, there are no clan level ritual activities and the clan in no way forms a mutual defense unit. Furthermore, there exists no occasion, ceremonial or otherwise, upon which the clan meets as a whole (as a clan). Clan members of most So clans are, in fact, scattered residentially on all three mountains. Clans do not conform to the classical definition of "clan", as descent is not traced to a mythical ancestor. A person (male or female) belongs to a particular clan because "it is the clan of my father".

The clan is usually important in So in only one of two ways: in determining marriage eligibility (see below) and in the type of address and attitude between members of the same clan. Two individuals who are unable to trace their kinship relations at the maximal lineage level,

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[2] The So word eo refers specifically to a compound. Yet it has greater connotation than an architectural concept. It may be translated as "the home of" or "the place of" when placed as a prefix to a noun or proper noun. Examples are eolokeris, "the home of Lokeris", and, in terms of clan names, eori, "the place of the wind". I am arguing, therefore, that So clan designations once might have located geographically a core group of patrilineally related individuals.

but who are yet members of the same clan may often call each other by sibling terms, oja ("my brother") or dakwasa ("my sister"). These terms are used, however, quite loosely in this instance and behavior between such individuals will not be that characteristic of the relationship between classificatory siblings at the lineage level.

The Eo and Settlement Patterns

The minimal lineage in So is localized and forms the organizational core of the settlement unit - the eo (plural, eoek). The eo itself is a small palisaded compound which is similar in most respects to the Karamojong ere (Dyson-Hudson, 1966, Pp. 105ff). Each adult, married female in the eo builds and owns a sleeping hut (ir), often a fenced cooking area (lotem) located near her hut, and may build and own one or more granaries (moiot) also located in proximity to her hut. There may also be huts built by and for the use of post-pubertal girls. Several related or unrelated girls may sleep in each hut which is generally "owned" by the mother of one of them. The wife of a very important elder builds a "visitor's hut" for use by transient kinsmen and friends of her husband or herself. The entire compound is usually surrounded by an 8-10 foot fence constructed of thorn bushes for protection against marauding animals and warriors. Access to the eo is gained through one or more low portals, which are closed during the night simply by dragging thorn bushes into the opening.

The eo is founded by a man, usually an elder and his family or families. The compound is named for the founder (e.g., eodengel, "the eo of Dengel") and will retain that name even when the population of

the compound increases due to an influx of other families. New arrivals find space in the eo by the simple expedient of enlarging the compound fence. After the death or permanent departure of the eo founder, the name of the eo will gradually change to that of the senior male of the core minimal lineage in residence there.

Most persons dwelling in the eo will be closely related kinsmen and the eo head will also be the senior male member of the predominant minimal patrilineage. The lineage head, then, becomes the most important elder in the compound. He will judge disputes internal to the eo, often in consultation with other eo elders. He will make decisions with respect to physical repairs, location of new huts and granaries, location of additional cattle kraals, and migration to a new eo when the old one is judged beyond repair. As lineage head, he controls and makes decisions pertaining to livestock wealth. For example, he will each morning direct the young herders as to where they are to drive their respective herds for grazing and watering.

Eoek are extremely varied demographically. Our general census of the Lia area shows 51 eoek with a total resident population of 1580.[3] The mean eo population is 30.98. However, it is apparent from the standard deviation of 22.15 that size of the eoek varies greatly. The total range of eo population lies between 2 and 89. The total number of households recorded for all eoek is 476. The mean number of house-

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[3]This figure does not include the total population of the Lia area. Persons living at that time in cattle camps were not included in the computations. Consideration of household population figures should include the fact of polygyny, which tends to deflate the computations.

holds per eo is 9.33. Finally, the average household size is 3.32 (this includes single person households and widows or widowers with their offspring).

In terms of traditional settlement patterns, all evidence available indicates that the eo is an independent unit. An eo often moves as a unit to find greater local resources. Presently, although the eo remains in theory an independent unit, compounds tend to be located in clusters within valleys close to government installations for protection. A cluster of eoek will often be distinguished by the name of the slope upon which it is located; e.g., Nabuin, a slope in the Lia valley upon which seven eoek were located - translated "the place of the hyenas".

Population movement in So is extremely fluid. John Cleave (1957) wrote, "The life of a manyatta (eo) appears to vary from about 4-10 years. The average life is probably about 7 years. New manyattas are generally built within about 200 yards of the old, the wood of which is used in the new building or as firewood". Cleave was, of course, speaking primarily of short moves necessitated by the physical deterioration of the eo itself. The decision to shift eo location is made by the eo head and work will begin immediately, utilizing the labor of all productive members of the compound.

Although physical deterioration is probably the single greatest incentive for a shift of location, it is not the only reason for migration of eoek. Data were collected pertaining to the causes of gross migrations. A "gross migration" is defined, for the purpose of this study, as the move of an informant due to the migration of his entire eo for reasons other than mere physical deterioration of the compound.

One adult member of each of all but two of the sample households was asked the reason for all gross migrations involving that member from the present time back to his or her birth. The responses are grouped according to reason in Table IV-3. The evidence for economically motivated gross migration is overwhelming. Of the total causes cited, 79% are primarily economic in concern. People move in response to cattle raiding by the Karamojong and Turkana, not only to protect their own lives (there are usually relatively few persons killed in cattle raids), but primarily to avoid the loss of livestock. Also, from year-to-year and

Table IV-3. Causes of Gross Migrations, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Frequency of Households and Percent of Total)

Stated Cause	Frequency	Percent
1. Response to cattle raiding	18	47.4
2. To seek better cultivation	7	18.4
3. To seek better grazing	3	7.9
4. To be closer to garden	1	2.6
5. Government necessitated move	5	13.2
6. To be closer to husband's employment	1	2.6
7. Other	3	7.9
Totals	38	100.0

from decade-to-decade the quality of grazing will change in various localities on the mountain, necessitating at least seasonal migration. Finally, the fertility of garden plots will be depleted every 6-10 years, depending upon the location. When a shift in the location of garden plots is required, a move in residence may also be required which may involve the entire eo. Although land in general is not scarce

on Moroto, land in any particular valley may be scarce due to population pressure or government prohibition and new plots may have to be created miles from the old site. So like to place their plots within a few hundred yards of their eoek where possible.

The most pronounced effect of cattle raiding on settlement has occurred in recent years as a result of actions by the Turkana. Turkana warriors are now heavily armed with rifles obtained by trade with Ethiopians. The arms have emboldened these raiders, as they are often a match for expeditionary forces sent against them by the police and/or army. Despite increased air surveillance by the police of the Karamoja/Turkana border, the incidence of cattle raiding has increased alarmingly in the past half-decade. Around 1965, the So inhabited most of the cultivable valleys on Moroto mountain. Nadiket Valley was evacuated after a series of raids by the Karamojong in 1967. Most of these So migrated either to the Lia area (just north of Nadiket) or south to Tapac (close to the police detachment at Katikikele). The year 1968 saw a series of three devastating raids by the Turkana on the northern valleys of Kakingole and Kokiliokit in which several men were killed and most of the cattle were stolen. Most of the So in these valleys migrated in that year first to Mosupo (just north of the Lia area) and finally to the Lia area. There remain at the time of this writing only two eoek in Kakingole valley and none in Kokiliokit. No cattle or other livestock are now kept in that area. A major result of these protective migrations has been to intensify population pressures in the few areas where habitation is safe. This increase in concentration has accelerated the already alarming problem of overgrazing which, over the

recent years, has caused remarkable erosion of Nadiket and Moroto series topsoils. It is difficult to over-emphasize the long term destructive effects of raiding in Soland and in Karamoja district generally.

As I stated at the beginning of this section, the core of the eo as a social unit is the minimal patrilineage. There is ample evidence that in the past most adult males living in any eo traced their descent through the eo head. That is, the eo was a patrilineage with the addition of primarily affinally related kinswomen. Female members would leave the eo after marriage to live in the eoek of their husbands. However, for reasons best reserved for my discussion of residence per se below, this picture has somewhat changed. In a close study of the eoek in which our random sample of households lived, we found that only 56.7% of all the households residing within all of the eoek were either families of the eo head or could trace patri-descent from husband to eo head.[4] We also found that 38.0% traced their kin-link with the eo head either through the wife's patriline or matriline.

Another aspect of settlement patterning which was tested by careful analysis of sample genealogies (n=34) was the tendency toward patrilocality at the area level. Patrikinsmen (not including affines) recorded as still living for each genealogy were stratified according to male (n=14) or female (n=20) ego and then were grouped according to

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[4]The sample was 14 eoek. This sample can not be considered random due to the fact that the procedure for selecting households at random also created a bias in favor of large eoek. Thus, we obtained a mean population figure for sample eoek of 46.07 as compared with the mean of 30.98 derived from the general census. This provides an excellent example of the danger of systematic bias.

distance of dwelling from the residence of ego, i.e., residing in the same eo as ego, residing in the Lia area but not in the eo of ego, and residing on Moroto mountain but not in the Lia area (this stratification should be kept in mind as it will again be used later in this study). These grouped figures are presented in Table IV-4. There exists a remarkable tendency for both males (68.3%) and females (73.5%) to reside close to patrikinsmen, a fact which may in part indicate a tendency

Table IV-4. Proximity of Residence of Patrikinsmen By Distance From Residence of Ego, Sample of So Genealogies, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Frequency of Persons and Percent of Total)

	Eo	Lia	Moroto	Totals
Males	77 (30.9%)	93 (37.4%)	79 (31.7%)	249 (100%)
Females	59 (15.7%)	218 (57.8%)	100 (26.5%)	377 (100%)

toward endogamy at the area level. Yet, although the proportions of kinsmen living in proximity at the area level are roughly equal for both married males and married females, there is a significant tendency for males related patrilineally to coreside at the eo level.

Finally, sufficient data were collected in sample genealogies to determine the relative proportions of genealogically traceable kinsmen dwelling at all possible locations, both within and without Soland. These data are offered in Table IV-5 and include both patri- and matrikinsmen of both male and female informants (n=34). It should be noted from these figures that, as would be expected from other data pertaining

to the history of So migrations, genealogical links with the Napak section are more numerous than for the Kadam section. Also interesting is the high proportion of kinsmen living among the Karamojong, due to intermarriage. The somewhat lower proportion of So living in Upe

Table IV-5. Frequency of Kinsmen of All Categories of Affiliation to Ego Residing in All Localities, Sample of So Genealogies, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Frequency of Persons and Percent of Total)

Location	Number	Percent
Same eo as ego	364	14.8
Lia area (excluding ego's eo)	945	38.3
Moroto mountain (excluding Lia area)	666	27.0
Karamojong	213	8.6
Napak mountain	100	4.1
Upe	93	3.8
Moroto township	58	2.4
Kadam mountain	14	0.6
Jie	8	0.3
Dodos	3	0.1
Turkana	3	0.1
Totals	2,467	100.0

is misleading at the tribewide level. Such a genealogical sampling if completed in the Katikikele area (closer to Upe) would no doubt have reversed the proportions. The figure for kinsmen living in Moroto township reflects to some extent the number of So dependent economically upon employment in the town. Most of these reside in the Nakapeliman or "native quarter" of the township.

Chapter Five

The Generation-Set System

As with any society, the structure and application of political authority in So have vast ramifications for economic interaction. Both authority and the control of wealth are linked inextricably with age as a determining variable. Hence, it is necessary to describe in some detail the etiology and nature of So political organization before proceeding to a more detailed discussion of economic behavior. This organization is complex and in terms of political relations, both within the tribe and between the tribe and the Uganda government and other tribes in the district, it may be isolated into three distinct aspects: the generation-set system, government-imposed political heirarchy and Kenisan, the ghost cult. The first two of these will be discussed in the present chapter and the latter in the following chapter.

The generation-set system as manifest in So today is essentially one which they borrowed from their neighbors, the Karamojong, sometime around the turn of the century or shortly thereafter. Yet, both in form and function the So system differs significantly from that of the Karamojong. It is instructive to examine the former system in juxtaposition with the latter, and for this reason I will briefly describe the Karamojong model as constructed by Dyson-Hudson (1966, Pp. 156ff). I will also utilize his terminology in further describing the So system in the interests of both clarity and accuracy of comparison.

Karamojong Generation-Set Model[1]

The generation system among the Karamojong consists of four named sets which recur in serial order, and in cyclical succession. Each generation-set is named and each contains five named age-sets. The generation-sets and their respective age-sets are presented in Figure 3 below. A number of features of relevance to the study of the So system should be noted from this schema. First, alternating generations are seen by the Karamojong as being in many respects more related than succeeding generations. This is reflected in the color associated with each generation and which is exhibited in the decorations worn by its members. Ngitukoi and ngigete are both associated with the colors yellow and white, and ngimoru and ngingatunyo are associated with red. One of the rules of entry into a particular generation-set is that an individual may not belong to the same generation as his father. The generation into which one does enter is related conceptually with their grandfathers - "they re-enter the place of their grandfathers" (Dyson-Hudson, 1966, p. 158).

Second, all generations must include five and only five age sets. In keeping with the set alternation principle, every other generation-set may or may not (according to their discretion) repeat the age-set names of the generation-set of their grandfathers. However, a

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[1]Dyson-Hudson (1966, p. 157) states, "The model is intelligible to Karamojong, and they sometimes demonstrate its cyclic succession with hands or sandals". While in the field I tested this assertion with three Karamojong informants on separate occasions and found it to be completely accurate.

Generation-Sets	Age-Sets	Membership
Ngitukoi (yellow/white)	Ngikangaarak	Dead
	Ngimeguro	Dead
	Ngioowa	Dead
	Ngiwapeto	Dead
	Ngiiru	Dead
Ngimoru (red)	Ngileuko	Dead
	Ngitaaba	Dead
	Ngiputiro	Few
	Ngicubai	Some
	Ngibaanga	Numerous
Ngigete (yellow/white)	Ngikangaarak	Closed
	Ngioowa	Closed
	Ngiwapeto	Recruiting
	Ngiiru	Nil
	Ngimeguro	Nil
Ngingatunyo (red)	Ngikakwang	Long Dead
	Ngimirio	Long Dead
	Ngiputiro	Long Dead
	Ngikadokoi	Long Dead
	Ngibaanga	Long Dead

Figure 3. Karamojong Generation-Set Model (Modified From Dyson-Hudson, 1966, p 158).

generation may not repeat the age-set names of the succeeding generation.

Finally, the generations ideally and genealogically succeed each other; i.e., the sons of ngimoru are ngigete, the sons of ngigete are ngingatunyo. It should be kept in mind to give the lineal model its true three dimensional shape that the sons of ngingatunyo then become ngitukoi, and the system thus repeats itself.

There are in practice no more than two generation-sets in politically active existence at any one time. From the time of its initial creation to the time of its demise, a generation may be seen as passing through two grades: junior and senior. When in senior grade, a generation-set forms the corporate stratum of elders who rule the tribe. The younger generation directly below that of the elders forms the corporate stratum of young warriors who do the bidding of the elders.[2] A particular generation-set will occupy the position of elder or senior for about 25-30 years after which time the reigns of leadership will be passed down to the junior generation. The act of succession simultaneously causes the entry of the next generation-set in the serial progression into position of junior. When the senior generation ceases to rule and passes the power of rule downwards, it ceases to exist as a political entity.

Let us look at the system in actual operation. Prior to 1956, the senior generation-set in Karamojong was ngitukoi and the junior

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[2]The Karamojong system as here described is necessarily simplified and the reader is directed to Dyson-Hudson (1966) for an excellent and much more complete description.

generation was then ngimoru. Due to pressure from the juniors and due to the fact that there were too few of the members of ngitukoi remaining alive to carry on effective rule, the elders of ngitukoi relinquished tribal leadership at a succession ceremony which occurred in October, 1956 (Dyson-Hudson, 1966, p. 159). Ngimoru became the ruling body of elders at that time and they remain so today. At the same time, the new junior generation-set, ngigete, was brought into existence and began to recruit members. At succession, the ngimoru or new senior set became closed to new members.

Turning now to the age-sets imbedded within each generation-set, members are recruited first to the senior age-set for a period of approximately 5 years. It then becomes closed and the next in line is opened to members for another period of approximately 5 years. This process continues until the following succession ceremony closes recruitment for the fifth and most junior age-set. In Karamojong, age-sets are hierarchically stratified both according to birth and according to political authority. The eldest age-set with living members within the senior generation-set holds the greatest authority in the tribe. Likewise, the oldest age-set in the junior generation holds the greatest status in warfare and generation-set affairs. It should be kept in mind that members of the junior generation may range in age from 60 years downward. The oldest age-set with members remaining alive in ngimoru in 1970 was ngiputiro, and members of the eldest age-set in ngigete, ngikangaarak, had already begun dying from "old age". The junior age-set recruiting members at that time was ngiwapeto, ngikangaarak and ngioowa being therefore closed.

So Generation-Set Model

Just how the So came to incorporate the Karamojong political system in the first place is unknown. It seems likely that the process of borrowing is intimately tied up with the process of linguistic shift from So to Karamojong and with the shift in economic base. Numerous models relating to cattle - what some analysts would term the "cattle complex" - and cattle lore are imbedded in the Karamojong language. These include chants and songs, stories and technological terminology, as well as the generation-set terminological system. We know with more certainty, however, that the So did borrow the system during the first two decades of this century and it was probably not fully functional until the 1920's. We are presented, therefore, with one of the few recorded cases of transfer of an age grade system from one tribe to another, in which the resulting syncretic change in the system has been reconstructed or observed by a trained ethnographer.[3]

The So recognize the social reality of the ngimoru (individual member, emorueit) and ngigete (member, egeteit) generation-sets. As in Karamojong, ngimoru are the elders and ngigete are the juniors. They also distinguish the two according to color: the wives of ngimoru wear copper ("red") neck rings and the wives of ngigete wear brass ("yellow") neck rings. The So are also aware that sons may not attain membership in the generation-set of their fathers - that the sons of ngimoru are,

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[3] Walter Sangree (1965, Pp. 65ff) records the borrowing of Tiriki age group organization from the linguistically unrelated Tirik, the previous residents of that part of Western Kenya.

in fact, ngigete - and that women attain the generation status of their husbands. Finally, an egeteit is aware that he will one day become an elder along with the rest of his set and that this will occur when there are no ngimoru, or very few, left alive.

But here the similarities between the two systems begin to pale. The So are aware of the term ngitukoi, but the word connotes "ancient" or "elders of long ago" rather than a segment in a cyclical generation-set system. This term is applied freely to characterize the status of the fathers of their fathers (see next chapter). The So in general do not recognize the term ngingatunyo and it bears no relationship whatever to the system of age grading. Furthermore, though they have the full complement of age-set distinctions in the ngimoru generation (in the same order of seniority as in Karamojong), they do not retain any age-set names for the ngitukoi generation, and have only one, ngikangaarak, in the ngigete generation.

The most interesting aspect of the So system emerges in its dynamics, that is, in the pattern of succession of one generation-set after another. If one asks the set name of the sons of ngitukoi, one will be told ngimoru. The sons of ngimoru are ngigete. But when asked who are the sons of ngigete, a So informant will inevitably say ngimoru, and that the sons of this ngimoru will again be ngigete, etc. The system has become truncated in So minds, with a cognitive shift from a four-set to a two-set cyclical system. That this model has become actualized in the So social world is apparent from the data abstracted from sample genealogies and presented in Table V-1. The generation-set of each male kinsman was requested, and 15.5% of living males were

considered "new" (my term) ngimoru. All of these are children or, in a few cases, young adults, and are inevitably the sons of ngigete.[4]

Succession of generation-sets in So seems to follow Karamojong initiative as the last such ceremony occurred also in October, 1956. However, at that time, the So held their ceremony separately. The ceremony itself was modeled after that of the Karamojong (see Dyson-Hudson, 1966, Pp. 186ff) and hence will not be described in detail here.

Table V-1. Living Male Relations of Ego, Stratified By Generation-Set, Sample of So Genealogies, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Frequency of Persons and Percent of Total)

Generation-Set	Number	Percent
Emorueit	208	17.6
Egeteit	698	59.2
"New" emorueit	183	15.5
Generation unknown	90	7.6
Totals	1179	99.9

More importantly in terms of political authority, the ramifications of succession are much less acute in So due to the fact (discussed fully in the next chapter) that generation-sets do not retire from active political life as in Karamojong. The most important political figures in So, prior to the succession ceremony, remained the most important figures politically after the ceremony. What the ceremony did mean was

[4]These data were collected after the truncated model was deduced from other information. Hence, the data are a valid test of the model.

that more and younger elders could unite in council to make decisions.

Also, the succession ceremony marked the opening of the new generation-set, ngigete, and its first age-set, ngikangaarak. However, unlike the case of the Karamojong system, ngikangaarak has yet to be closed to membership. In effect, all ngigete in So as of 1970 were also ngikangaarak. The explanation for this apparent laxity is to be found in two facts: First, while in Karamojong a person obtains greater status through membership in a more senior age-set, an age-set gains status in So simply because its members are on the whole older. That is, the dominant variable in So is relative age and not age-set affiliation. Thus age-sets are of relatively little importance. Second, no Sorat has been initiated formally into the ngigete generation-set in over ten years due to economic deprivation. There are numerous indications, incidentally, that if and when initiations do re-occur in So, that initiants will be given the "age-set" names of their fathers. No So is aware of any but the first age-set name in the Karamojong sequence for ngigete. The age-set name, should this indeed occur, will become more a genealogically relevant personal name than anything approaching a "set" in the corporate, Karamojong sense.

Initiation

Another area of fruitful comparison between So and Karamojong is the institution of initiation. For the Karamojong, "entrance to an age-set is achieved by passage through a series of ceremonies that Karamojong (sic) designate collectively as asapan. I term this process initiation, the persons passing through it initiands, and those who

have completed it, initiates or initiated men". (ibid, p. 163) Until a male has completed his asapan he is in many ways not considered a man. He does not belong to a generation-set and does not articulate formally with the political structure. He may not participate in many rituals and may not fight in behalf of the elders. Although he may have sexual relations with women, he may not marry or have children. He may not wear the clay headdress associated with initiated men. An initiand will enter the age-set which is open and recruiting at the time of his asapan. Because male siblings will usually complete their asapan in order of birth, they will often enter different age-sets, with the senior son attaining membership in the more senior age-set.

Among the So, entry into the generation-set system occurs at birth. A child is said to belong to the generation following that of his father.[5] He would theoretically attain full status as an elder even without his asapan. Absence of an asapan does not hinder a man from marrying or having children, or from taking his place as a warrior with initiated men.

Every So male wishes to "have his asapan" and will feel slighted if he is unable to complete the ceremony. It is an occasion for him to sport his masculinity and an opportunity to obtain in a clearly defined manner the status of adult manhood. After completion of asapan a man may wear a mud headdress which will mark his new status. The importance

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[5]The child of an akicol or apudori union belongs to the set below that of his mother's brother. In the case of wife inheritance by a lower statused male, the son of the dead man retains his set designation.

of asapan is, therefore, primarily psychological. It rates little importance in any structural analysis, however, for a number of reasons: (i) The ceremony in So is not a necessary, but only sufficient condition for the status of manhood. A man may feel inferior in some way for not having completed asapan, but the fact will in no way inhibit his functioning in the affairs of adults. (ii) The ceremony is not linked with entrance into an appropriate age-set. (iii) No asapan has occurred among the So in over ten years - a fact which clearly reflects the relative importance of the institution in So.[6] (iv) From close questioning of informants it was determined that asapan, even when it is held in So, is of little importance in any other structural way (e.g., in distinguishing one social segment from another) but amounts more to a family affair and an excuse for feasting.

The expressed reason for the laps in occurrence of asapan is simple. Like the Karamojong, a So asapan must occur in a relatively "good year". That is, there must be a sufficient surplus of food-stuffs to support a major feast for the lineage elders. There must be plenty of sorghum for beer and roasting and, above all, there must be cow or (preferably) an ox for the initiand to spear and later prepare for the elders. As I have earlier demonstrated, these items are scarce and have become increasingly so since the mid-1950's. So elders, in a conscious effort to maximize immediate utility through allocation of these resources to more critical uses, have refused to allow asapan to

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[6] I have recently learned (January, 1972) that as yet no asapan has occurred in So.

be held.

The result of this strategy is disappointment among younger non-initiated men, but the action in no way impairs the normal functioning of the political structure as it most certainly would in Karamojong.[7] As a matter of fact, female initiation occurs with more regularity than does male initiation due to the fact that it is an individual affair and requires a smaller capital outlay.[8]

Political and Economic Functions of the Generation-Set System

As we have seen already, and as I will further demonstrate in Chapter Eight below, political authority and economic regulation internal to the eo are usually in the hands of the eo head and other elders living in the eo. These functions then are kin-based at the local level. The organization of political authority and economic decisions beyond the settlement level, however, is largely vested in a council of elders which is organized at the area level. The constitution of the council is determined by the generation-set system, which itself cross-cuts all kin lines (excepting rainmaking, for which see Chapter Six). Specifically, and at the time of my field work, political authority was vested in ngimoru as a corporate body. Long-time foreign

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[7] No attempt is made here to describe the asapan ceremony itself as it is fully described for the Karamojong by Dyson-Hudson (ibid, Pp. 163ff) and the So version of the ceremony is an exact duplicate in every respect.

[8] Female initiation is a true "puberty" ritual and centers on the occasion of the girl's donning her first leather skirt, made for her by her mother and accompanied with a pot of beer for the elders of the girl's lineage who bless her.

residents in So are also allowed full participation in council; i.e., Karamojong, Suk and Turkana males who have married So wives and have taken up residence in the area.

There is only one council of elders in the Lia area which meets at Napak slope. The meeting place of any So council is called omut and the call for a meeting is simply aceo omut, "come to the place of meeting". All affairs of council are characterized by informality - the elders will meet only when there is an issue for discussion or judgement. A meeting is usually called by one or more of the most important of the elders in response to a petition or accusation brought to his attention and which demands the attention of the body. The meeting may also be called by the mukungu, the government appointed area-chief, either when he has government matters to discuss and disseminate, or when an infraction of Uganda law has been committed. The number of elders attending any particular meeting will largely depend upon the interest value of the issue at hand. A case of adultery, for example, may generate wide-spread interest whereas a meeting called by the mukungu for the purpose of making a number of government announcements may not.

For reasons best reserved for discussion in the following chapter, there are relatively few elders who have greater importance than their position in the ngimoru generation-set warrants. The most senior age-set within ngimoru for which there are living members is ngiputiro. There were only three living members of this age-set on Moroto mountain in 1970, and only one of these was resident in the Lia area. There were roughly 9 members of ngicubai and approximately 125 members of ngibaanga

living in the area at that time as well. We may say then that of a total population of 771+ males living in the Lia area, only an approximate 135, or 17.5% of these are members of ngimoru. Of these 135, ten (or 1.3% of the males) are in the position of undisputed leadership in the area (including one ngiputiro and nine ngicubai).

Decisions made by the council of elders in open session are, except in criminal matters which are to be referred to higher court, considered final. In traditional times the council was the highest authority. Most decisions are accepted by principals without the exercise of force on the part of the elders. However, the elders may call upon members of the junior generation-set to enforce their judgements by physical violence if necessary. They may also reply upon supernatural sanctions (see Chapter Six). Cases which involve the government and which, by law, are within the purview of the mukungu, may well be enforced by the Uganda police.

Issues brought before the council of elders may be roughly divided into matters of law on the one hand (including disputes and accusations) and affairs of general concern on the other (including condition of crops, livestock, etc.). Issues are numerous and varied, but almost all of them either directly or indirectly involve economic considerations. Although I have no statistical data to support the assertion, probalby the most common issue brought before the elders is a dispute involving "breach of reciprocity". Such an issue is illustrated by the following transcript taken from my field notes:

December, 1969. A young man has accused an old man (I will call them Lokwi and Nate, respectively) of having taken and killed

one of his cows without permission. Just what Nate used the cow for is not clear. Lokwi made his accusation before one of the ngicubai elders who in turn called a meeting of all the elders the following morning. Approximately 75 elders were in attendance for the meeting. When all were gathered Lokwi stood before the elders and made his accusation and also stated that Nate had consistently refused to repay the cow to him and that it had been over two years previously that the cow had been taken. Lokwi then took his seat.

Elder 1- Supported Lokwi's accusation (he and some others apparently aware of the situation) and stated his opinion that it was bad (erono) to kill the cow of another without the owner's permission.

Elder 2- "Did you (addressing Nate) obtain Lokwi's permission before taking his cow?" (Nate replies in the negative) "Then you must have your cow ready when the owner comes for repayment."

Nate- "Why complain? I will pay the cow."

Elder 3- "Keep quiet! I will speak. The man (Lokwi) is accusing you of killing his cow without permission. The question is whether you will pay him a cow in return. It is wrong (erono) that you did not ask."

Elder 4- "You (Nate) are guilty. When the owner of a cow you have taken asks for a cow in return, you should pay it."

At this point an old woman, the mother of Lokwi, interrupts to ask that the matter be taken directly to the police. She does not wish

the elders to reach a decision here. She interupts a number of times throughtout the proceedings while remaining seated outside the omut.

Elder 5- "You two must talk kindly to each other and settle the giving of a cow. You must again ask Nate for a cow and if he again refuses you must accuse him again before us."

Lokwi- "It is not bad to kill the cow of another if he knows it will be returned, but I have no assurance with this man." (He is visibly angry.)

Elder 5- "Do not quarrel! You are killing this man from quarreling too much. Ask slowly for your cow."

There is a general outburst from various participants including Lokwi's mother. Some of the elders pound the ground with their walking sticks for order.

Elder 6- "You (Nate) should pay the cow today. It is not good for this matter to be taken to the government."

The old woman demands that the matter be taken to the police.

Elder 6- "Do not say that! You will spoil the matter."

Old Woman- "Take it to the police! We must have the cow quickly."

Lokwi- "I want my cow today!"

Elder 7- "You (Nate) must go starting today and select a cow for Lokwi. Do you (Lokwi) want a cow or a bull?" Lokwi replies that he wants only a cow. "Will you (Nate) give this man a cow in the next while?"

Nate- "I am going to search somewhere for a cow."

A feeling is expressed here on the part of some of the elders that

the meeting should be postponed both because of the absence of the mukungu and because it will give Nate a chance to obtain a cow.

Elder 8- "Why are you saying postpone the meeting if the cow is not to be given today?"

Elder 9- "You (Nate) must tell in front of all the people that you will pay the cow so all will know."

Nate remains silent.

Elder 10- "If we take this matter to the government it will get bad, serious. We must settle this ourselves."

At this point several elders suggest that five days be given Nate to return the cow. If it is not returned by that time, then all the elders will meet again at Napak.

Lokwi- "It is alright with me, but ask Nate."

Nate- "It is very difficult for me to find a cow unless I go to ask friends for one. Is it alright with you (Lokwi) if I go in search of this cow? I will consider this a serious matter."

Lokwi agrees.

Elder 11- "You can search for five days. Do not take the matter to the police. All of you (Lokwi and his party) go and wait for five days. If at the end of that time the cow is not returned, we will gather again."

The disputing parties leave the omut and the meeting ends.

A number of general patterns should be noted in connection with this illustration. First, no women or young men are allowed to sit in the omut proper during council unless they are principals in a case. But this rule like many others in So is loose and though they may remain

outside the omut, women and others will often voice their opinion on issues being discussed by the elders. Second, it is difficult to describe the structured, yet extremely loose format of council meetings. Perhaps the best phrase to describe the atmosphere is controlled informality. The elders sit or lie in a rough semi-circle and the individual addressing the group, be he a member of the council or a principal, stands in front. Only one person addresses the gathering at one time and all will wait until the last speaker has finished before beginning his own address. Yet, several side conversations may be in progress in quiet tones, some unrelated to the issue at hand. Several of the elders themselves will usually be involved at the time in adzing tool handles. Individuals who upon occasion will attempt to address the assembly while extremely intoxicated are courteously tolerated. On the other hand, heated argument is avoided, as in the above example, even to the extreme of expelling the persons involved. Words, as with the ancient Hebrews, have the power of affect for the So and utterances given in anger may injure and even kill.

Third, the council will continue to discuss a matter until some form of general consensus is reached. No formal vote is cast, of course, but one gains the sense of a majority opinion forming while opponents of that attitude become increasingly reluctant to speak. The power of consensus in council is evidenced by the fact that Nate did, in fact, repay the cow within the time specified. Fourth, although it is not apparent from the single episode transcribed above, there are a number of elders who are more articulate and given to verbal participation in meetings while others usually remain silent or make brief

comments. On important issues, most of the speaking is carred out by the elder and more prestigious of the emorueit.

Fifth, an attempt will be made in rectifying any dispute to elicit a public statement of intention to act on the part of a participant. Statements made without serious intent are considered a heinous trespass upon the respect due to the council and may be dealth with harshly through supernatural means (see next chapter). If Nate had refused to make a public statement (and note that on one occasion he remained silent after being asked for such a statement) and had also later refused to relinquish one of his cows or one of the cows belonging to his lineage, the elders most certainly would have sent a body of ngigete to confiscate one such cow.

Finally, there is evident in the transcript a reluctance to have disputes relegated to governmental authority. So elders strongly resent the imposition of civil and military authority over matters deemed by them to be the rightful affair of the elders. This is not a recent development but represents a conflict which has apparently been present since the first chiefs were appointed over the So in the mid-1930's. The presence of government in So affairs is nowhere more obvious than in the activities of the mukungu, or area sub-chief. There are three such men on Moroto mountain, one of whom is charged with the enforcement of Uganda law and administration for the Lia area. All three men are So and find themselves in an unenviable position encountered again and again in East Africa and elsewhere on the continent (see Dorjahn, 1960).

The mukungu is at one and the same time both the spokesman of his area to government, in which capacity he meets regularly with government officials in Moroto township, and the representative of government resident in the area, as such transmitting, interpreting, and enfofcing government policy and law. To make matters worse, the mukungu is always a member, and a highly prestigious one, of the ruling generation-set and sits in council merely as an elder when issues not involving government are discussed. The following is a partial transcript of a meeting at which the mukungu addressed the elders after they had been brought together to judge a case of adultery:

> Day before yesterday I called the people (elders) to a meeting and most of them refused to come. A meeting needs many people. You are not following my orders. Some people are refusing to follow them. I called you for three reasons. One is poll tax. Any person who refuses to pay his poll tax this month I will take his cows and take him to the police. People with no cows must make money by carrying (manufacturing and selling) charcoal and firewood. You must begin today. But if you have not paid by next month, there will be a Shs. 7/50 fine. All people must pay before the year ends. Even those who refused to pay last year must pay this year.
>
> The second thing is thieves. You are not the one who steal cows from the Karamojong. But you have friends among them (the Karamojong) who bring cows this way. They will leave a cow at your eo and then report that you have stolen it. You must think of

this. Every person must see that everyone staying in his eo is from here (So). If you do not, he who stays there will leave something and the police will charge you for nothing. All people (Karamojong and government officials) say many from here are thieves. But I can see that most are not stealing or killing people (in cattle raids). You must catch thieves for they will cause the Karamojong to be enemies with us. If you can not find these people, then the government will see those things in your eo and accuse you for nothing. Even if someone brings his cow or goat to your eo you must report that to me. Even if a person who has refused to pay poll tax takes refuge in the eo of another, I will take the cows of the owner of the eo for that person is staying there as one of the people of the eo. Three years ago people were paying rapidly, but these years something is wrong. I do not know what. Maybe people are refusing my orders. Have I done wrong? If so you must report this to the government.

The factors necessitating this speech were that many eligible adults were not paying their prescribed poll tax and that the mukungu's superiors were pressuring him for increased payments. Also, as incidents of cattle raiding were increasing, pressure was being brought to bear on lower echelon officials like the mukungu to gather information pertaining to the identities of persistent raiders. The content of the address indicates the ambiguous position in which the mukungu is placed. He must collect poll tax, find and arrest those who refuse to pay, and still remain a resident and active elder in So and So social relations.

Returning to the functions of ngimoru as a corporate body, it will be remembered that I distinguished legal matters and affairs of general concern. Acts now considered by the elders to be infraction of customary law are much the same as they were in traditional times. Only the role of the elders has been modified since the inception of colonial rule by the imposition of a hierarchically organized political and judicial system. Examples of infractions of customary law in So are taking or killing the livestock of another without permission, murder (defined as one Sorat killing another by physical violence and without directive to do so by the council of elders), wife-stealing, adultery (applying both to a wife and her lover as well), theft of property in general, abandonment (on the part of either spouse), slander (which does not include verbal abuse), battery, sorcery, witchcraft and wanton destruction of property. The council may at times be called upon to adjudicate disputes over the boundries between garden plots.

By far the most important traditional infractions as ranked by severity of penalty, were murder, theft of livestock, adultery, and sorcery. Murder, sorcery (if lethal to the victim) and theft of stock were punishable by death, usually by spearing by warriors at the direction of the council. Adultery on the part of the wife was punishable then as now by heavy beating administered by the elders and others on the spot. The wife's lover and his lineage were heavily fined if they were wealthy (livestock paid to the husband's lineage) but if not able to pay a significant fine the lover was tied hand and foot and roasted alive over a fire. The latter punishment was made illegal by

the British colonial administration. The other and more numerous infractions were (and are) punished by fines which were paid to the lineage of the aggrieved party.

Examples of affairs of general concern are: affixing the location of dry season grazing pasturage for calves, construction and maintenance of water wells, discussion of appropriate important rituals and ceremonies (see next chapter), organization in traditional times of raids in retribution against raids by surrounding tribes, and, since colonial times, the discussion of government policy.

Chapter Six

Economic and Social Ramifications of the Kenisan Cult

As with most societies on earth, So religion cannot in any way be compartmentalized within, or be considered extraneous to, the rest of society. For the So, in fact, religious significance and symbology is everywhere - in the trees, in the rivers, in the clouds and sky and in the very earth of the mountain itself. It is perhaps best to think of So religion as being manifest in two ways: (i) in beliefs, values and behaviors related to "ultimate reality" and "ultimate questions" (see Parsons, 1966, Pp. 9, 28) and which offer coherence and explanation of phenomena in the world of So, and, (ii) in beliefs and behaviors, as well as the structure, of the kenisan (single member: kenisanat), or ghost cult. For the purposes of the present study, a detailed examination of the latter aspect of So religion is necessary; for, as I will show, the cult and its members: (i) form the most powerful political/jural body in the tribe, (ii) make the most important ritual/economic decisions affecting the tribe, and, (iii) are the very persons to whom the people of So turn for succor in times of the greatest economic distress.

The Kenisan Cult

There exists in every man and woman a soul, buku (an onomatopoic

word meaning "heart"), which dwells in the body during life and which leaves the body at death to become an ancestor, emet (plural emet). As age and authority are linked in So minds, the emet are seen as the most powerful entities in the cosmos with the exception of God, belgen. The The quality of life is dependent upon the good graces of the emet for it is to all the emet that the So look for protection from drought, crop blight, enemies and disease. It is also the ability to communicate directly with the emet that underlies the authority and prestige of the more important elders.

The relationship between the living and the dead is maintained by the kenisan cult.[1] Kenisan is traditional in So and predates the inception of the age generation system. Not all members of ngimoru belong to the cult; only the oldest members have been initiated. Kenisan consists of all living members of ngiputiro and ngicubai and one member of ngibaanga. The latter was old enough at the time of the last initiation to be admitted as a kenisanat. The cult, like the age generation system, cross-cuts clan organization and in traditional times formed the sole tribe-wide ruling body in So.

Leadership within the cult is determined by relative age. The oldest members tend to determine matters such as selection of initiands and the regulation of ritual activity. Kenisan are the only living

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[1] I define "cult" for the purpose of this study as an exclusive, corporate group which is associated with religious functions that members of the group, and only members of the group, can perform.

persons who may safely commune directly with the emet. It is said that any kenisanat may at any time call forth the ghosts of any of the ancestors and speak with them face to face.[2] In practice, however, an ancestor is considered important only as long as his or her name is remembered. Any individual kenisanat will call upon only the ancestors of his own lineage and he will call them by name. It is extremely dangerous for any person not a cult member to see a ghost. Our informants told us that if an uninitiated person were to see an emet, he would immediately become mad, tear off his clothes, eat feces, and generally behave like an animal. He would "climb trees like a baboon and finally die". Therefore, seances are never carried out by kenisan in a public place for fear that the uninitiated would accidentally be harmed.

According to tradition, the relationship between the living and the dead was more intimate and less dangerous. One So myth documents the origin of kenisan:

> All people (including the So and others) killed the child of the Sun, Naiciribwa. Then Chameleon said, "Where can we get God? It is better if all people die. Let them all die and then we (the animals) can see God." Then the Moon said, "people must die, but then come back again." The Sun said, "Why should they come back again? Where is my child? Let them all die!" So all the people who died became children of the Sun. They died and became the

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[2]The kenisan never use hallucinatory drugs in their ceremonies, although they may be, and often are, under the influence of native beer, nakonga.

stars. Before this happened, a person would die and the person would come back new (not as a baby, but as a young man or woman). They would come in a dream, or they would come and stand outside your ir (hut) and say, "You close your eyes." Then they would sneak in and bring meat and leave it and say, "Do not tell anyone," and they would leave. After people killed the child of the Sun, the people who died died forever and never came back. Only at kenisan can they be called, and they never sneak meat into people's houses anymore.

The So believe that women were the first kenisan. However, they were "weak-hearted" and full of fear and often went mad after confronting the emet. Finally, the man assumed the role of inter-mediary with more success.

Kenisan Initiation

As the older members of kenisan die and the cult decreases in number, new members must be initiated from the ranks of the younger elders, and, upon occasion, from the older members of the junior generation. The oldest and most respected kenisan determine who will be initiated and when the initiation will occur. A number of conditions must be fulfilled in order for the initiation to occur. There must be sufficient sorghum for beer and enough livestock for a major feast. In short, it must be a "good year". There must be agreement among the kenisan on all three mountains that the ceremony be held. The initiation of new kenisan is probably the single most important ritual

event in So. The initiation ceremony will be section-wide with separate and simultaneous ceremonies occurring in all three sections. The last initiation was held in 1953, prior to the age generation succession ceremony in 1956 (Dyson-Hudson, 1966, p. 188ff). At that time the elders of the old senior age generation initiated the elder members of the junior generation into kenisan. As was mentioned in the last chapter, only ten members of ngiputiro and ngicubai remain alive in the Lia area which, added to the one ngibaanga kenisanat living there, gives a total cult membership of eleven. As the membership of kenisan has again dwindled, the elders anticipate another initiation ceremony to be performed during the next "good year".

Political Activities of Kenisan

As I have mentioned, the most important figures in So political organization are the kenisan elders. Hence, participation in kenisan has important ramifications in the political life of the people, as any kenisanat may call on the emet for guidance, protection, and retribution. As a general rule, the more important the problem the greater the number of kenisan members who will be involved in communication with the emet. For example, as was mentioned above, if a person accuses another of theft, the matter is brought before the council of elders. The council will first rely upon the testimony of witnesses having direct or indirect information pertaining to the incident in order to establish the guilt or innocence of the accused. If these measures fail, or in the case of a theft in which the guilty person

remains unapprehended, the kenisan may join together at a secluded spot and call upon the emet to seek and kill the thief. A death caused by the action of the emet is distinguished from other kinds of death by the occurrance of protracted illness. The kenisan may also be called upon to counteract the evil effects of a witch, nyebnyenes, by asking the emet to intercede and both cure the victim and punish the witch.

The insult of an elder by a young person is a grave offense. One young acquaintance of ours in Lia returned drunk from a trip to Moroto town. He became angry at some of the elders near his eo and insulted them loudly. The elders told him that he would have to kill a bull in their honor or he would be killed by the emet for having insulted them. The next morning, in a more sober state of mind, the young man obtained a bull and killed and roasted it for the elders, thereby securing their blessing and avoiding the wrath of the ancestors.

The kenisan of So are and continue to be widely respected and feared, not only by other So but by the surrounding tribes. Powell-Cotton wrote in 1904:

> "Yet, although the highlanders (the So) are numerically very weak by comparison with the Karamojo of the plains, the latter never attempt to wrest their wealth from them, but, on the contrary, pay them for grazing the lowland flocks and herds on the fertile slopes of the mountain. When I asked the Karamojo how it was that, with thousands of braves at their command, they never molested their highland neighbors, they seemed loath to answer, but at last confessed that the (So) were possessed of magical powers.

Years before, they told me, they had stolen some mountain flocks from the highlanders, whereupon the owners withheld all rain from the plains and sent a murraine upon their cattle, killing them by scores. This decided them that the (So) were undoubtedly sorcerers, and must be left in peaceful possession of their land, lest dire spells should work havoc among the flocks, cattle, and crops on the plain ..." (p. 325).

The So still believe that the Karamojong fear them for their ability to call on the ancestors to avenge murders and raids by Karamojong warriors. They contend that this form of reprisal is effective. The Karamojong themselves still believe that the mountains harbor witches (Dyson-Hudson, 1966, p. 232-3), but it seems likely that once the So acquired cattle--a stimulus for raiding by the Karamojong--fear of supernatural reprisal became less of a deterrent to the surrounding tribes.

Buriel of the Dead

Another important responsibility of the kenisan is the burial of important dead. The So do not bury children, young men and women. The corpse of a young person is taken into the bush by a close relative, where the ornaments are removed, and the body is gently placed in a sitting position under an appropriate tree. No formal ceremony accomanies the death of the young, though the family exhibits, at first, real and then stylized grief for some time after the death.

When an elder or an important older woman dies, however, a number

of rituals are performed by the kenisan designed to smooth the passage of the dead person's soul in transition to the state of emet. The So are concerned that the soul leave happily and without retaining any hostility toward the living. The heads of his widow and all female members of his lineage are shaved. The heads of male children are also shaved, save for a small patch of hair near the crown of the head. A kenisanat also removes the widow's neckrings (which are worn as a symbol of marriage by all So women). Soon after death, a hole approximately six feet deep is dug in the cattle corral, sa, of the deceased. The body is placed in a sitting position facing the mountain peak in order that "he may face his country". A platform of logs is then built midway up the side of the grave forming a chamber beneath. Earth is heaped on the top of the platform and after the grave has been filled a shrine of stones is built atop the grave to mark the spot and to discourage hyenas and wild dogs from opening the grave. Each stone in the shrine symbolizes a cow and the shrine itself represents a herd. Such a shrine is erected for women of well, and does not refer to an actually existing herd of cattle. The work of digging and filling the grave is done by younger men with the help of women, but the shrine must be built by the kenisan. All kenisan participating in the burial process need not be, and most usually are not, clan brothers of the deceased.

On the morning following the burial, the kenisan again gather at the grave to bless and soothe the soul of the departed. The family of the dead man serves the elders two pots of beer, one for the kenisan and another for the junior elders. Before serious drinking begins, the

kenisan gather around the grave, and, each taking a mouthful of beer they spew it in unison onto the shrine and chant in a loud voice, kakenaba belgen kongilai, "God has killed you, it is finished," followed by misa koan, "give me life" and finally mojones, "go away (bad things)". The "bad things" refer to witches, sorcerers, and malicious spirits of all sorts. The elders then take milk in their mouths and spew it on the grave and repeat the same incantations. Finally, tobacco is passed around and at a signal, it is dashed onto the shrine, again with the same incantations. With that, the formal blessing is completed and the elders gather in the shade to drink and discuss the dead man and other matters for the remainder of the day. Some of the kenisan sleep overnight near the grave site in order to keep the deceased company.

Early the next morning, the elders again gather at the corral of the dead man. The family of the deceased must provide a cow or a goat (preferably a bull) to be killed for the elders in the corral. The kenisan, beat the carcass with branches from two bushes called sitet and nawaiwaiyo while repeating the incantations of the previous day. The carcass is cut open and the intrails examined minutely by haruspication to determine the tenor of future events. The meat is then cut into manageable pieces, roasted outside the corral and served to the elders (both junior and senior) for their ekiriket (feast). Young men and children may eat portions of meat given them by the elders. The women are given the head, chest, and stomach lining which are brought to them by one of the men. They boil these in a pot situated some distance away

from where the men are sitting.

In the early afternoon, the kenisan separate from the rest of the elders. Taking with them offerings--beer, milk, tobacco, some stomach contents (eat) from the cow or goat, and meat--they begin the long walk to the upper slopes of the mountain where the sacred kenisan shrine, araman, is located. There are two such shrines in the Lia area, one of which has fallen into disuse. The araman is the place where the elders communicate with the emet and is therefore a dangerous place for the uninitiated to visit. It is always located near a riverbed, for rivers are considered to be the major dwelling place of belgen. The araman proper consists of an area approximately fifty feet in diameter which is scrupulously cleared of grass and is surrounded by a short fence of thorny bush. The word araman also refers specifically to a stone shrine, similar to a grave shrine, which is located in the middle of the area. The araman shrine is associated with the emet. The irbelgen, "house of God," is a large beehive-shaped grass hut with a small round door. The hut faces the stone shrine and is within the clearing.

Upon reaching the araman, the kenisan roast more of the meat on small fires built within the clearing. Before eating, they gather around the stone shrine and repeat the incantations of the day before, first giving beer, then milk, then tobacco, and finally eat to the emet. They also lay some of the roasted meat on the shrine. Most of the kenisan will remain at the shrine overnight, returning to their homes the next morning. One or more of the most important of the kenisan will sleep inside the irbelgen.

Ideally, the ceremony just described should be repeated one or two months later. In the interim, the family of the deceased remains in a state of formal mourning. Toward the end of the mourning period, if there are sufficient resources for beer and meat, the ceremony will in fact be repeated at the shrine, otherwise the ceremony will be attenuated, reduced often to only a graveside blessing. At the end of the mourning period, a kenisanat will replace the neckrings of the dead man's widow, thus marking the end of the formal mourning period.

As long as an ancestor is remembered and considered important to the well-being of the clan, his lineage will be concerned with the condition of his grave. Just outside of the compound in which we lived during our stay in So, there was the grave of a highly respected woman. She had died some years before and the compound in which she was buried had long since been moved. Yet her kinsmen were extremely concerned that we be aware of the importance of her grave and we were asked never to walk on it. As apparently happens from time to time, the timbers forming the burial chamber began to give way. The resultant hole was the source of increasing discussion and worry among the woman's lineage. Finally, the present head of the lineage decided that the grave must be closed as the opening was interpreted as a sign that the old woman was dissatisfied and unhappy. We were told that if certain steps were not taken, another member of the lineage would die because the old woman "was lonely and wanted someone with her."

The lineage head made a trip to another area on the mountain, a total round-trip distance of perhaps thirty miles, to obtain a

goat. As soon as he returned with animal, a date was set for the ceremony. On the appointed day, a number of kenisan arrived and quickly dug out the debris that had fallen into the hole, and then filled the hole with large stones and earth. They rebuilt the stone shrine upon the grave and repeated the same formal libations and incantations described above, with the exception that they included a portion of the slain goat's eat. The elders finally retired about fifty feet away under the shade of a tree and roasted the goat. The lineage head supervised the cutting of the goat meat and distributed it to the elders after it had been roasted on the fire by the young ngigete. The usual parts of the animal were taken to the women to boil and eat separately.

Blessing and Sorghum

The kenisan hold a ceremony called ekwakngam, "blessing the sorghum," when it is felt that the crops are in danger of destruction by drought or some other cause. It will be held only once in any one growing season. The ceremony was held in 1970 during the period of our field work due to the fact that crops had suffered attacks from giyat, "honey dew smut," as well as from a worm called gujat and an insect called berjej.

A move to hold ekwakngam is initiated by the leaders of kenisan and discussed in a meeting which may include all emorueit. If the entire body decides to hold the ceremony, they will appoint one person to supply a goat. Then all of the men of the area, elders and juniors

alike, go to a particular river bank where a clay, okorebo dowa, if found. The men smear their bodies with the clay and the elders among them run their fingers through the clay, making a wavy pattern which distinguishes elder from junior.

The men then scatter throughout the area and stop at each garden where the sorghum is symbolically beaten with a small stick to drive out the blight. A small stalk of sorghum is taken from each garden and carried back to a central meeting place where it is collected in a pile. When everyone has returned from the fields, the entire body leaves for the araman shrine. The kenisan carry with them the collected stalks of sorghum, a pot of beer, a pot of milk, some tobacco, and the goat. At a point along the way, the ngigete stop and form a group which remains near a riverbed. The elders continue their journey. Soon, the junior elders stop and form another group near a riverbed, leaving the kenisan alone to proceed to the araman.

When they finally reach the shrine, the kenisan collect some water in a wooden bowl and, using the brances of sitet and nawaiwaiyo, sprinkle the goat and at the same time implore the ancestors to rid the area of pestilence. One of the elders when kills the goat with a hand-held arrow. The stomach of the animal is opened and the eat removed. At this point, the elders gather around the araman shrine and offer libations of beer, milk, tobacco and eat in the same fashion described for burial with the exception that they ask the emet to rid the mountain of the blight and to bring a good crop. The goat is then cut and roasted. Most of the meat is eaten by the elders on the spot, with

a token amount laid along with the stalks of sorghum on the stone shrine as a final offering. During the time in which the kenisan have been holding the ceremony in the araman, the junior elders and the juniors, in their respective groups, discuss the situation and prospects for the future and finally return down the mountain. The juniors leave first, soon followed by the junior elders. Neither of these groups carries out any ritual function during this period. When the kenisan have finished their feasting, they also return, none of them being required to sleep at the araman overnight. Each man who has participated in the ceremony will wear a sprig of sorghum in his hair for the next day or so as a symbol of his participation.

Rainmaking

There are essentially two levels of rainmaking activity among the So. The simplest and most common occurs at the area level. As with the blessing of the sorghum, the rainmaking ceremony, termed imosak kwe, "to make rain," is held upon decision of the kenisan in open meeting. The ceremony may be held a number of times during the growing season and may upon occasion be initiated by a diviner (ic) who has dreamed of an impending drought. The imosak kwe ceremony resembles ekwakngam in most details but has certain unique features. Most notably, the power to bring rain is vested in particular clans, the kenisan members of which lead the ceremony. The rainmaking clans in the Moroto section are eori, eopaga, eobejik, and eolingakeris.

When the decision to hold imosak kwe has been made, a good

majority of the adult men and women in the Lia area will meet together and go to the river bank to cover themselves with the same sacred clay. They return to the meeting place where several young men splash water on each person's chest in turn with sitet and nawaiwaiyo while chanting misa ngam, misa kwe, misa koan, "give me sorghum, give me water, give me life." When all have been splashed, the women leave and the men begin their walk to the araman. The same gifts are taken, including the inevitable goat and the non-kenisan form in groups as previously described. The kenisan continue until they arrive at a special rainmaking araman located several hundred yards from the main kenisan shrine. This shrine is used only for the purpose of rainmaking and is considered the property of the rainmaking clans. It is less elaborate than the kenisan araman, consisting solely of a stone shrine in a small clearing whith no fencing and no irbelgen.

The ceremony at the araman is essentially the same as ekwakngam. Before the goat is killed, the elders of the rainmaking clans beat the animal with sitet and nawaiwaiyo branches dipped in water, again asking for sorghum, water and life. The goat is slaughtered and the same incantation is repeated as the elders gather about the araman and offer gifts to the emet. As soon as the goat meat has been roasted and consumed (with a portion left as libation) the party returns down the mountain to their compounds.

The second level of rainmaking activity embraces the entire So tribe. The center of this activity is Kadam mountain. In that section there exists one rainmaking clan named eoiman. No members of that clan

now live on either of the other two mountains, though our informants said that there had been an old woman of that clan living on Moroto some years ago. The center of tribe-wide rainmaking is a particular valley on Mount Kadam where a plant known as poiyo, described as being "like sorghum," grows in abundance. Informants were asked if they had seen poiyo growing on Mount Moroto. We were told that it does not grow on the mountain, but that according to tradition, it had suddenly appeared from time to time. As the plant is considered sacred and dangerous to touch by the uninitiated, if found elsewhere than on Kadam it is reported to the kenisan elders, the latter then perform a short ceremony at the spot which sends the plant "flying" back to the valley where it belongs.

During a period of extreme drought, the leaves of poiyo are said to become dry and brown from lack of moisture. This is a sign that a tribe-wide rainmaking ceremony is required. The kenisan of eoiman who keep close watch on the plant send a message to Moroto mountain by runner to inform the elders there that the ceremony will be held. Because the Napak section is considered merely an offshoot of the Moroto section, and hence described by Kadama as "young men," no message is sent from Kadam to Mount Napak directly. A secondary message may or may not be sent to Napak according to the decision of the Moroto section elders. Moroto kenisan will meet to discuss the information and to decide who among the rainmaking clans will be sent as representatives to the ceremony on Kadam. The last such call was in 1966, and at that time eight men were selected to attend. The So

say the years 1964, 1965, and 1969 were also drought-years, yet the tribe-wide rainmaking ceremony occurred only once during that period, presumably because the leaves of poiyo had withered and given the sign at no other time. The representatives leave almost immediately. They take no gifts with them to use in the rainmaking ceremony, but prefer to "beg" gifts from their kinsmen on Kadam.

On the morning after the arrival of the Moroto contingent, all of the elders begin the walk to the poiyo valley located a full eight hours journey from the closest So dwellings. Before they reach the top of the ridge overlooking the valley, the non-kenisan fall behind, where they remain, as in the local ceremony, until the senior elders return the next morning. The kenisan continue up the ridge until they reach the site of an araman similar in every respect to the rainmaking araman on Moroto. Here the elders of the rainmaking clans ritually beat a goat and offer libations to the emet and to belgen. When this is finished, the members of eoiman and the other Moroto rainmaking clans continue on down into the valley until they reach the field of brown, withered poiyo. Here they repeat the ritual by offering gifts to the poiyo and repeating the incantation for water. It is said by the kenisan that the leaves of poiyo begin to turn green immediately after the completion of the ceremony. The rainmakers remain by the poiyo all night and return to the araman at dawn the following morning. There they join with the others and begin the long walk back, rejoining the junior elders along the way.

Disease

The kenisan act on other occasions of social crisis, both as a group and as individuals. A major area of concern is desease.[3] When a person becomes seriously ill (mai) his family may consult a diviner-curer (ic), who is usually a woman. As an alternative, a kenisan kinsman may go to the araman with gifts and implore the ancestors of his clan to cure the patient. If disease reaches epidemic proportions, as is often the case during time of famine, the kenisan act as a unit at the area level.

The elders will call a meeting of all adults of the area who have not experienced a recent death in their lineage. The meeting will be held in a flat field on the valley floor where there is room for the people to move. A large wooden bowl is filled with a mixture of the sacred clay and water. Several young men, using the inevitable branches of sitet and nawaiwaiyo systematically splash the mixture on the chests of all present. The kenisan then form a column of five abreast with the junior elders behind them. The elders are followed in turn by ngigete and finally by the women. Walking with an exaggerated march-step, the kenisan move out in a direction away from the mountain peak

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[3]Even an individual's illness may prove to be economically critical. One of our informants was a woman who had been sick for a year and who was completely unproductive during that period. Support of her and her children fell to her father and his wives. Her father resented her for this, as did her husband who was forced to rely upon others for his subsistence.

and toward the plains. After walking for approximately 50 yards, they stop and march "in place" until the entire procession has reached the spot. On a signal, everyone raises his walking stick or hand and points out onto the plains, chanting loudly nomuj, "go away (with the sun-down)," and kuktwag, "throw away." They thus direct the disease to leave the mountain. The elders turn the column in a "right about" fashion and begin to march back to where they began. Again they stop and wait for the rest to reach them. Raising their sticks to the mountain, they chant noseer, "good things come," imploring good times to return to the mountain. This process is repeated a number of times until the elders decide the ceremony is finished. The people then disperse to their homes. Depending on the seriousness of the epidemic, this ceremony may or may not be accompanied by sacrifice of a goat at the araman.

Discussion

Faced with problems of extreme stress, the So turn for protection to the men who form at one and the same time-both their political and their religious elite. Leadership, as I have shown, was traditionally in the hands of the elders and especially in the hands of the kenisan, who not only derived their status and authority by virtue of age, but also from access to, and support from, the ancestors. Recent acquisition by the So of the Karamojong age generation system has changed this situation very little. More striking is the change which has occurred in the age generation model itself. The karamojong treat their retired

elders "as children" (Dyson-Hudson, 1966, p. 159), their pre-existing status and power being assumed by the new senior generation. The So are aware of this. Yet for them there exists a strong contradiction in the Karamojong model. The So believe that men and women alike gain in status and authority with age and that this process continues even after death. Furthermore, a man cannot be at the same time retired from active political life and yet remain a kenisanat; the notion of "retirement" does not apply to traditional kenisan. Thus, among the So, a man retains his political authority and influence even after the formal "retirement" of his generation.

Economically, as I have shown, the So find themselves today in a precarious condition. Agriculture for them, as for other groups in Karamoja, yields uncertain returns, due to the vicissitudes of soil and climate. The once plentiful herds of game animals are gone, leaving what little game remains an extremely scarce resource. The lush forests which once covered all three mountains have gradually receded due to overgrazing, thus making it more diffucult for So women to forage for berries, edible roots, leaves, firewood, and mushrooms. And, finally, because of almost incessant cattle raiding, So herds have been depleted to the point that few have access to cattle produce. Clearly the So may be characterized as having a marginal subsistence base.

I do not wish to imply a simple-minded effective relationship between progressive economic deprivation as cause and the origin of kenisan as effect. The evidence indicated that kenisan existed prior to extreme stress. What I do wish to emphasize is that at the present

time the most important activities of kenisan, as a corporate political cum religious body are directed precisely toward the areas of greatest economic uncertainty and concern - rainfall shortage and crop failure, disease and death - over which the So have no direct natural control. We learned from our experience in So that little occupies the minds of people caught in a famine condition save survival. Small wonder then that the So turn to their most powerful members for succor. Their only other alternative it would seem, given the nature of their culture and the state of their technology, would be hopeless apathy.

There are two major sets of relationships which act to unify the sections of So, thus making it possible to speak of a So "tribe". First, almost every lineage in the Lia area can trace kinship links to individuals living on both of the other two mountains. This may be said for the Kadam and Napak sections as well. Second, political authority is vested primarily in the members of a single corporate group, the kenisan, which encompasses members from all three sections, and which performs its two most important ceremonies, initiation and rainmaking, as a single unit. It is precisely these two factors which have counteracted the divisive effects of geographical separation and hostile confrontation with surrounding dominant tribes.

The sense of identity felt by the So with their respective mountain homes, expressed directly to us by informants and indirectly through kenisan, can be clearly documented. Since the very beginning of civilian colonial rule in the district, the So have been waging a continual battle to retain their traditional homeland. The colonial

administration developed very early a policy toward the tribe which defined them as "encroachers". As we have seen, beginning in the early 1930's the colonial administration attempted to uproot the So from their traditional mountain homes and succeeded in forcing them off of the higher slopes to the valley floors where their eoek are now located. Among other things, this forced migration placed the So in a position of direct competition with the Karamojong for prime dry season grazing and water resources and acted to intensify an already existing hostility between the tribes. This process continues today under the enforcement of the Uganda government. The So elders are aware of this policy and are greatly concerned for the future status of their homeland. On numerous occasions the elders implored us to intercede on their behalf with officials whom they see-and rightly so-as attempting to take their land.

The strongest link with their homeland is, of course, through the kenisan, the emet and belgen. To be forced off their mountain would in effect be to forcibly alienate them from the protection of the ancestors who dwell solely on the mountains and from belgen who dwells in the mountain streams. Not only would this effect the destruction of traditional modes or channels for attainment of well-being inherent in their culture, but it would also cause political upheaval in the tribe. With no possibility of direct communion with the emet, the kenisan would no longer be able to act singly or as a unit for the protection of the tribe and, hence, would lose the prime source of their authority and effectiveness. In a word, the So believe themselves doomed as

a people if they are moved from their homes. Speaking in at least the cultural sense, I believe they make a correct appraisal of their situation. I base this judgement upon the facts that: (i) they would be separated from some of the more important aspects of their traditional culture, (ii) they would be offered relatively less productive soils than they cultivate today, (iii) they would be confronted with even more sporadic and less predictable precipitation than they are today, (iv) they have insufficient livestock resources to maintain viable eo units on the plains, and, (v) they would be fatally vulnerable to attack by the Karamojong, Turkana, etc. who likely would steal their few remaining livestock.

Chapter Seven

Food Production

Now that a detailed picture of So socio-political structure has been painted in the preceding chapters, it is time to turn our attention to a general description of economic institutions and behavior. This will be preparatory to a more penetrating examination of specific patterns of production, consumption and exchange, both past and present, which will occupy the last two chapters of the study. It is convenient to subdivide general traditional economic concerns in So into three broad sectors: agriculture, hunting and gathering, and livestock production.

Agriculture

As was mentioned earlier, the So most of the time depend highly upon agricultural produce for partial subsistence, and agricultural production is tied inextricably to the climatic cycle. Figure 4 offers a schematic form the average agricultural year and its concomitant production activities.

There are two types of garden plot in So: the plot in which grains and other foodstuffs are planted is called an ibat and the tobacco plot is called asika. Most households cultivate and plant only one ibat, although a few households have two under cultivation. It proved impossible in the field to measure precisely the size of

Month	Typical Agricultural Activity
Dry Season:	
October	
November	
December	Cultivation: pollarding, terracing, etc.
January	
February	Early planting (great risk).
March	Peak planting.
Wet Season:	
April	Weeding.
May	First crops harvested (pumpkin and gourd leaves). Plots guarded against animals. Harvesting of early sorghum.
June	
July	Harvesting accelerated.
August	Peak harvest.
September	

Figure 4. The So Agricultural Cycle.

each of the sample households' gardens due to the fact that most are located on relatively steep slopes. However, the size of those it was possible to measure ranged from 3/4-1 1/4 acre. The Dyson-Hudsons (personal communication) estimated a similar range for So gardens in the Napak section.[1] Each ibat is considered the property of an individual married female who has primary responsibility for its production. Thus, if a man is married to more than one wife, he will be involved in, and gain sustenance from, more than one garden. The tendency among the So is for the various wives of a polygynous family to locate in the same eo. Likewise, there is a tendency for such wives to locate their gardens, if not precisely conjoined, then at least close to one another. In this way they can co-operate more efficiently with one another in the care of their plots. Furthermore, women in the same eo, even though they are not co-wives, will likely have their gardens in relatively close proximity to each other.

Land is not a scarce resource on any of the three So mountains. Hence, ideally, a garden may be located anywhere an individual desires. Land tenure is by usufruct only and rights to land use are voided when the particular plot is abandoned. At the present time, however, and due to the intensification of population pressures in particular valleys, land has locally become more scarce, and freedom of location

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[1] A government survey estimated an average of over an acre per garden plot (Working Plan for Moroto Central Forest Reserve, Karamoja District, Uganda for 1955-1964). I would consider this an overestimate, even considering the age of the survey.

has been curtailed. Households entering the Lia area particularly have been forced by land scarcity to select less than optimal plot locations. All adult So are fully aware of differential soil quality and know that quality depends both upon soil depth and intensity of humus production and deterioration. The preferential plot location for grain crops is in areas covered initially by mountain forest and with a relatively thick base of the Nadiket series soils (see Chapter Three). This series varies between 1-15 feet in depth and the deeper soils tend to be located upon the moderately steep slopes of a valley and shaded by thick forest vegetation. The So will avoid planting where possible on soils predominantly covered with grassland vegetation.[2]

Because of the extreme variation in soil quality, plots will vary in their fertility from 2-7 years, after which time they are allowed to fallow for as much as 5 years. It is unlikely that the same household will reuse a past plot at the end of the fallow period. No fertilization is used in the ibat and there is no recourse to irrigation of any kind. However, there is clear evidence that So in both the Moroto and Napak sections depend upon the regenerative effects of Catha edulis (called lektet in So) during fallow periods for land reconditioning. Due to their method of pollarding this species, by the time the soil has become depleted there are already new shoots sprouting from the old trunk which rapidly grow to

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[2]This is true also for the Napak section (Dyson-Hudsons, personal communication).

re-establish the humus cycle.[3]

The tobacco plot (asika), unlike the garden plot, is the property of the male in the household. It is usually located separately from the ibat and on the site of the old cattle kraal (sa) of an abandoned village or cattle camp. The So, then, are aware of the enhanced fertility of manured soil, at least for tobacco. Tobacco seeds are planted in the present cattle sa until they germinate and produce shoots, when they are transplanted to the asika. The plot itself has been cultivated just prior to insertion of the shoots and is surrounded completely by a tall fence of thorn bushes. Not all households grow tobacco and some few grow the plant in their ibat, though no attempt is made to transport manure for fertilization.

Clearing begins in the ibat as early as the first weeks of October. This is especially the case if a plot is to be newly cleared. More often clearing and cultivation begins about the first of December and is at its peak during the latter part of December and during January. The first task is to pollard large trees by fire (the process termed isiwa) until they are killed. The trunks are then felled and laid across the slope together with large stones collected from the plot to form simple terraces (were, plural werot) or "trash bunds" which inhibit erosion. Pollarding and forming terraces from the logs is specifically men's work, while the cutting of smaller brush may be

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[3]DFO to PFO 25 January 1957, Uganda archives.

done by either sex but more usually by the women.[4] Brush and the preceding year's grain stalks are then collected (process termed getes, "to collect garden rubbish") in piles (kasmat, plural kasim) which are evenly distributed over the field, and burned. Again, this process is usually done by women, though, depending upon the household, men may help. The So are aware that the process of burning aids the fertility of the soil. During this period, a boundary of stones (iros) is laid around the entire perimeter of the plot to form a legally relevant boundary. To move the stones of this boundary is a serious offense and gives grounds for accusation and a fine before the council of elders. When plots are conjoined, it is impossible other than by reference to the iros to determine which crops belong to which household.

Once cleared of all brush, the plot is cultivated to a depth of 4-6 inches by use of a hoe (kobal, plural kobalut) similar to that used by the Karamojong. This instrument is manufactured by tipping a V-shaped stick with a iron blade. It was taken over in fact from the Karamojong long years ago and the So continue to purchase the hoe blades from members of that tribe. Prior to the diffusion of the hoe, the So used a simple digging stick (muyen) which they still retain and use in planting seeds. The process of cultivation is termed ires and is considered women's work, though again men may help, depending upon the household. At some time during the clearing/cultivation process, some

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[4] Widows may also be found pollarding as well.

of the logs obtained in the pollarding process are used to build one or more platforms (singular, ked) in the midst of the field. These platforms are from 6-10 feet in height and are used in guarding the ripening grain against the onslaught of birds and other animals.

Most households will complete the clearing and cultivation of their ibat without assistance from others outside the household. However, a significant number of the sample households (25%) did have recourse to outside help. If a woman feels she is behind in the clearing of her field and is in danger of missing the first planting rains she will invite others to participate in a work party for one or more days in return for beer and/or food which she prepares for the occasion. In theory, a working party is open to anyone of either sex in the Lia area. In practice, however, participants (from 6-12) are usually male and almost always residents of her own eo or members of her own patrilineage and the patrilineage of her mother, resident in other eoek. Working parties are not, of course, formed only for cultivation; they may be employed for planting and harvesting as well as for other activities that require manpower beyond the resources of a single household, such as the construction of a granary.

Planting may begin anytime between the first week in February and the first weeks of March and involves a high/low risk decision. If a household begins planting during the first two weeks of February its members will be gambling on the chance of the first heavy rain occurring prior to the first week of March. If the rains fall at that time, then they may expect an earlier crop and a greater time depth during the

harvest period. If the rains do not materialize until later in March, their first plantings will be lost or will yield a smaller crop than desired and will have a shorter span of harvest period. A major factor in the decision to plant early is whether the household has enough of a supply of seeds from the previous year's harvest to risk. None of the sample households (nor, in fact, any Lia area household) opted to plant early, as none had seeds to spare. Yet a number of households in the Tapac area of Moroto mountain, encouraged by early rains during the first days of February, 1970, did plant early, only to see their plants destroyed by a protracted period of dryness during the last weeks of February and the first weeks of March.

Planting will continue throughout the month of March and into April. The primary staple crop among the So of all three sections is sorghum (ngam) and it is the first crop to be planted. This is due to the fact that it is less affected by lack of water than is maize (touso), which is planted some two weeks after sowing of sorghum has begun. The proportion of maize to sorghum in terms of final yield in volume is between 1/4 and 1/2 to one. The So recognize a number of named varieties of sorghum: oreba, erima, ngakopito, natulon, umwarengak, umwaongora, lokwaemoru, kodadat and ebukolo, all of which are consumed in the form of native beer or eaten raw, boiled or roasted.[5] One recent hybrid variety which was distributed to the So in the Lia

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[5]Terms collected by the Dyson-Hudsons (personal communication).

area by the Agricultural Department was widely planted and proved to be a rapidly ripening and more abundant, although shorter, plant. However, we were told by So informants that it was good only for making beer as it tasted bad when cooked or eaten raw. Also planted are small and large gourds (lilao), pumpkins (mad), beans (moro), cucumbers, and occasionally, finger millet (rab). None of the sample households planted millet, but all planted the other crops mentioned.

Several members of the sample households along with numerous other So (usually young males) participated in an agricultural course presented by the Agricultural Department. The course was designed to instruct participants in modern methods of crop rotation, terracing, row planting, and new crops, such as tomatoes, together with new industries like chicken raising. With the exception of a few So who began to raise chickens and the rather widespread planting of beans, (the seeds for which were provided by the department), we found no indication of the implementation of these methods by course graduates.

While the women are planting seeds (process termed laies) by digging stick, the men construct a high thorn fence (eskek) around the garden, leaving one or more gate-openings (akek) for entry into the field. This is for protection of crops from browsing livestock and wild animals. It also stops persons from walking on the new sprouts, an action which may earn the trespasser a beating from the males of the woman's eo.[6] No garden rituals are carried out.

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[6]Also taboo is the act of defecating on the field of another - a sure sign of sorcery.

There occurs one extended weeding period which may begin in the first week of April and continue through May. Weeding is carried out by the women of the household with the aid of a sharpened and spatulated stick called a sen (plural senut). Also as soon as the crops begin to form seeds, the gardens must be carefully watched (process termed ognes) to ward off attacks by baboons, bushbabies, groundhogs, hedgehogs, and a variety of monkeys and birds which would quickly destroy the young crops if left unattended during the day. It is a familiar sight during this period to find married women, adolescent girls, and even men and boys standing atop the watch platforms with a handful of rocks which they throw at birds as they land on the grain. Households who have their gardens located farther up the slopes may even live in their gardens day and night from May until harvest is completed as their gardens are even more vulnerable to attack by troops of baboons. Small beehive grass huts are built in the garden which serve as shelter for the watchers. The period of weeding often overlaps with the period when guarding is required and proper care of the garden may necessitate the usual presence of two persons, one who weeds and one who guards.

Because of the extended planting period, the harvesting of crops likewise takes place over a period of three months. Beginning in mid-May most households are able to begin cropping and utilizing the fresh leaves of pumpkin and bean plants which they boil and eat along with

porridge. Cucumbers may also be ready for use during May.[7] Pumpkins and beans are picked toward the end of May or the first weeks of June. During the first weeks of June, households begin picking and cooking ripe bunches of sorghum. Maize may be utilized beginning in mid-June. The peak of the harvest -- that is the period of heavy man-power outlay in cropping and storage of grains - does not begin until the first weeks of July, and it lasts well into September. During this period, every member of the household above the age of 7 will be involved in collecting the grain stalks and in separating the seeds from the chaff. The grain is laid to dry on skins and beaten with a "pounder" (adipes) to remove the seeds.

Harvested grains are stored in granaries (moiot) which may be located either in the garden or in the eo. The granaries are essentially large gourd-shaped baskets manufactured by men from the stems of a plant called atelele. A basket may hold approximately four to five large burlap bags of grain. The baskets are either placed upon stilts and covered with a conical grass roof or they are placed in the top section of a two-storied hut-like structure, the bottom section being reserved for goats, human occupation or other storage. The latter type of granary is always located in the eo. Tobacco, which is harvested during June, is formed into solid cones approximately 4 inches in

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[7] It is also important in terms of So dietary considerations to note the widespread utilization of a tertiary crop, a fungus, kebun, which attacks sorghum and, which is scraped from the stalks and cooked as early as mid-May.

diameter at the base and in height, and stored for later use or sale. My own data and that collected by the Dyson-Hudsons (personal communication) for the Napak section indicate that the So use caves for storage (and at times, shelter) wherever they are available.

Livestock

The So are a pastoral people and for them cattle, as well as other types of livestock, are central to their way of life. The tribe is in various ways representative of the general "cattle complex" culture extant over much of East Africa (Herskovits, 1926). However, these people have only recently become pastoral and although they have borrowed many of the customary practices exhibited by the Karamojong, Turkana, and other groups surrounding them, they have been prevented by causes discussed above from a total reliance upon cattle for subsistence. Although their herds prospered during the period of Pax Britannica, they have steadily declined in number or perished altogether in the last decade and a half. Many So households today possess little or no livestock.

The Dyson-Hudsons, while studying the relationship between the Karamojong and other groups during the latter 1950's, recorded a rough census of So cattle herds in the Napak section. They discovered that though So herds in general were much smaller than those of the Karamojong, most eoek had a herd of at least 20 head and that the mean herd size was 50.16 per minimal lineage (computed by the author from data supplied by the Dyson-Hudsons, personal communication). A rapid survey

completed by the District Forest Officer at Mount Napak in 1957 yielded an average cattle population of 16.7 head per tax-paying adult male.[8]

A complete census of livestock of all types was obtained in 1970 from all but two of the random sample of households. These data are summarized in Table VII-1.[9] As two of the sample households (noted by an asterisk in the table) are headed by widows, the herds enumerated here are technically the property of the widows' sons. It will be noted that the range, both for type of stock per herd and for size of total herd, is remarkable. Also, for a variety of reasons which I will discuss below, these herds are shared by more than one household. The differential access to adequate livestock produce per individual is even more noteworthy. It may be useful to keep in mind that Allan (1965, Pp. 308-309) has estimated that a minimum of 6 livestock units per adult member (one livestock unit may equal one adult) is necessary for an adequate subsistence base in groups totally dependent upon cattle for subsistence. A more digestible summary of these data is presented in Table VII-2.[10] It is more apparent here that female cattle predominate in So herds, although again it should be emphasized that for

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[8]District Forest Officer to Provincial Forest Officer, January 25, 1957, Uganda Archives.

[9]Unlike the Karamojong, the So are not reluctant to count cattle. However, figures may be slightly inaccurate, due to the fact that informants were unused to the procedure.

[10]Dyson-Hudson (1966, p. 50) estimates typical Karamojong cattle herd-size to vary between 50 and 150 head. He offers no mean herd-size.

Table VII-1. Frequency of Each Type of Livestock, Random Sample of So Herds, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Frequency Per Sample Herd)

Sample Herd	Cows	Oxen	Calves	Goat ♂	Goat ♀	Kids	Rams	Ewes	Lambs	Donkeys
1	0	0	0	0	2	2	0	0	0	0
2	3	2	0	0	0	0	0	0	0	0
3	4	1	2	1	2	0	0	0	0	0
4	19	7	4	0	0	0	0	0	0	0
5	35	1	0	0	10	2	0	2	0	0
6	0	0	0	1	9	5	0	0	0	0
7	3	2	1	0	0	0	0	0	0	0
*8	10	3	2	3	5	5	1	0	0	0
*9	10	1	3	0	0	0	0	0	0	0
10	30	3	5	0	0	0	0	0	0	0
11	4	1	2	1	7	3	0	0	0	0
12	1	1	0	0	0	0	0	0	0	0
13	4	1	3	1	5	2	1	5	3	2
14	39	5	5	0	0	0	0	0	0	0
15	2	3	0	0	4	3	0	0	0	0
16	10	0	5	0	1	5	0	0	0	0
17	2	1	1	0	0	0	0	0	0	2
18	3	2	3	0	0	0	0	0	0	0

most herds, three or more households share in the produce of the herd. Sheep are not kept for their wool but rather for their milk. Donkeys are rare among the So and one sample household owning two of them obtained them when they strayed away from their Karamojong owners. They are used as beasts of burden and are never ridden. One elder in the Lia area not represented in the sample has obtained two camels from the Karamojong and he keeps them with his herd of larger stock.

Table VII-2. Mean Frequency of Each Type of Livestock Per Household, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda

Type of Livestock	Mean Number Per Household
Cows	9.94
Oxen	1.88
Calves	2.00
Goats ♂	0.38
Goats ♀	2.50
Kids	1.50
Rams	0.11
Ewes	0.38
Lambs	0.16
Donkeys	0.22

The word "herd" has two meanings with reference to the So. In the broadest sense a herd may be seen to include all of the stock belonging to the maximal patrilineage. The herds summarized above are of this sort. Although the wealth in livestock within the lineage may well be dispursed to the various eoek and cattle camps of the lineage, the

stock belongs to the lineage as a corporate entity and individual households comprising the lineage maintain usufruct only over fractional "herds". Ideally the lineage herd is owned by several brothers and ultimate control of the herd is held by the eldest, who is the maximal lineage head. In fact, there often develops a great deal of tension between brothers over the control of livestock, a fact also noted by Gulliver (1955, p. 162ff) for the Turkana. Should this occur, forming two or more corporate bodies, each retaining a portion of the maximal lineage herd. Each of these will then become unicentric with a single elder male maintaining "ownership" of the lineage herd, though again, the livestock may well be dispersed into smaller "herds". At the death of the lineage head, however, the prior situation usually repeats itself with the livestock passing to the dead man's sons, the eldest of whom takes on the role of lineage head.

Inheritance patterns reflect both the tendency toward lineage fission and the ideal rules of patri-inheritance invariably stated by So informants. For the purpose of studying inheritance, two types of property may be isolated: livestock and personal property. The latter category consists of such items as a man's weapons, clothes, eating utensils, and tools. The rule for inheritance of cattle and other livestock is from father to son while personal property commonly passes from a man to his full brothers. Inheritance patterns were traced for 22 adults in the random sample of households. These are presented in Tables VII-3 and VII-4. Of the 22 adults questioned, the fathers of seven were still living at the time of the interview. In half of the

Table VII-3. Direction of Inheritance of Livestock For Each Sample Ego, Random Sample of So Inheritors, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Frequency of Inheritors and Percent of Total)

Pattern of Inheritance	Number of Cases	Percent of Total
Father not dead	7	31.8
Father to Son and Daughter	11	50.0
Father to son, daughter and father's brother	2	9.1
Father dead but had no stock	2	9.1
Totals	22	100.0

Table VII-4. Direction of Inheritance of Personal Property For Each Sample Ego, Random Sample of So Inheritors, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Frequency of Inheritors and Percent of Total)

Pattern of Inheritance	Number of Cases	Percent of Total
Father not dead	7	31.8
Father to father's brother	6	27.3
Father to father's brother and to father's son/ daughter	3	13.6
Father to father's son/ daughter only	1	4.6
No information	5	22.7
	22	100.0

cases all of the dead father's livestock went to his sons and daughters. Women may own and inherit both types of property (as with the Turkana; see Gulliver, 1955, p. 59) and in the case of the death of a female, both types of property will usually be inherited either by her daughters or by her sons' wives. However, daughters inherited from their fathers in only two of the eleven cases mentioned and in no case did they inherit when their brothers did not. In roughly 9% of the instances the dead man's brothers inherited livestock but in no case did they inherit when the dead man's offspring did not inherit. There is a real and significant tendency, then, for a father's herd to pass to his sons upon his death.

Personal property, however, tends to be passed to the dead man's brothers, and only thereafter to his sons. In roughly 41% of the cases this was true. This figure is artificially depressed since approximately 54% of the cases are in the categories, "father living" or "no information".

Inheritance, of course, is only one means, although a major one, of obtaining livestock. There are, in fact, a variety of channels through which a man may obtain stock. Examining closely the means by which cattle alone were originally obtained for each herd, it was found that six channels were open: through inheritance, brideprice, raiding, purchase from other So or from sources external to the tribe, by a "gift" (or more accurately through general reciprocity) and through birth of new stock. Table VII-5 presents the frequencies for each of these means per sample herd, as well as summarizing the

Table VII-5. Means of Obtaining Each Head of Cattle For Random Sample of 50 Herds, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Frequency of Head Per Sample Herd)

Sample Herd	Inheritance	Brideprice	Raiding	Purchase	"Gift"	Birth	Total Herd
1	0	0	0	0	0	0	0
2	0	0	0	0	5	0	5
3	0	0	0	0	5	2	7
4	18	8	0	0	0	4	30
5	0	0	0	5	0	31	36
6	0	0	0	0	0	0	0
7	0	1	0	0	2	3	6
8	10	0	0	0	0	5	15
9	0	10	0	0	0	4	14
10	20	0	0	10	0	8	38
11	0	4	0	0	0	3	7
12	0	0	0	0	2	0	2
13	1	4	0	0	0	3	8
14	0	11	20	3	0	15	49
15	0	0	0	5	0	0	5
16	0	10	0	0	0	5	15
17	0	1	0	0	2	1	4
18	0	0	0	0	0	8	8

variation of cattle population per herd. Table VII-6 groups these data further by presenting the average number of cattle obtained for each of these channels per household along with the percentages for each. The most important factor in the increase of a cattle herd is the ability of the animals to reproduce themselves in ever increasing numbers. As

Table VII-6. Mean Frequency of Cattle Per Sample Herd Obtained by Each Means, Random Sample of So Herds, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Mean Frequency Per Household and Percent of Total)

Means of Obtaining Cattle	Mean Per Household	Proportion For Each Mean
Inheritance	2.72	19.7
Brideprice	2.72	19.7
Raiding	1.11	8.0
Purchase	1.28	9.2
"Gift"	0.89	6.4
Birth	5.11	37.0
Totals	13.83	100.0

the figures also indicate, the next most important factors are inheritance and brideprice.

Cattle raiding in Karamoja, as I have emphasized goes on incessantly and assumes serious dimensions for government authorities. However, our clear impression from lengthy interviews with trusted informants is that the So have, as often as not, been wrongly accused of this activity by officials. It is generally assumed in Karamoja that all pastoral groups on the East African plains participate equally

in the cycle of raid and counter-raid. However, the extreme value placed upon participation in raiding and killing as a masculine trait so long ago noted as characterizing the Karamojong and other plains groups (see Bell, 1923, p. 37) is not marked among the So.[11] Furthermore, the So are quite candid about their participation in raiding maneuvers and these appear to occur relatively infrequently compared to the number of attacks made upon them by the Karamojong and Turkana. The last major raid made by So warriors upon the Karamojong occurred in 1968 when a number of the tribe in the Tapac and Katekikele areas teamed with Suk warriors (as was often the case in the historical past) in a massive assault in which several hundred head of cattle were taken and a number of persons killed. This raid was, by the by, in retaliation for several previous raids on the area by Karamojong warriors.

Livestock may be purchased by one Sorat from another. Such an exchange generally takes the form of balanced reciprocity and, in the past at least, the media of exchange were honey and/or a grain, usually sorghum. Today, purchase may entail money derived through the market exchange circuit (see Chapter Nine). Most livestock purchases (over 90% of the cases sampled) are made by So from Karamojong entrepreneurs who bring animals into the Lia area itself. The So, on the other hand,

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[11] An attempt was made to obtain permission to examine past records of the Uganda Police in order to test the differential participation of the various tribes, but permission was only granted after the author had left the field.

are extremely reluctant to sell their livestock and will do so only under extreme duress, for example, in order to pay poll tax.

Additions to the family herd may be obtained by "gift" of stock from one's siblings. Actually, only the right of usufruct is thus shifted, since ownership continues to be vested in the corporate body of the lineage. Likewise, there exists a good deal of borrowing of stock between more distant kinsmen. A man with a sizeable herd may wish to disperse his holdings for two reasons. In the first place he will want to make his herd less vulnerable to loss from raiding. In the second place he may not have sufficient manpower available in his own eo to adequately care for the herd. Thus, he will often divide his herd, retaining a manageable herd himself and allowing kinsmen to care for the others in return for usufruct. Any calves born to distributed cows are the property of the owner of the cow. Should a portion or all of the borrowed herd be stolen in a cattle raid, the person to whom the cattle were loaned is NOT liable for the loss under normal conditions. Especially important here is the relationship between mother's brother and sister's son. For one thing, a young man may go to live in the eo of his mamai at the request of the latter. He may do this for the purpose of augmenting the herd owners force of herd boys or, when he is older, a man may be given primary responsibility for a herd by his mamai, though he may reside in the eo of his father.

Of equal importance to a study of So pastoral economy is the institution of "cattle friend" (termed simply eba, plural ebuk, "friend"). Primarily an economic alliance analogous to "blood brotherhood" in

other societies, this is an adaptation of the similar institution among the Karamojong (Dyson-Hudson, 1966, p. 85). The alliance is established between two men who, though not related in terms of kinship, have nonetheless developed a close personal relationship. The alliance is formulated by the exchange of livestock, usually cattle, from one to the other. After this is done, the relationship takes on many of the privileges and responsibilities characteristic of lineage brothers. A man will contribute to the brideprice of his cattle friend, will donate stock to him if his herd has been stolen in a raid and will often visit his eo or come to his defense in case of need. A man may have more than one cattle friend.

Although all So livestock are now branded, branding is not a traditional activity in the tribe. The colonial administration required the So to brand livestock as an aid in tracing stolen stock. The So, like the Karamojong, use brands which indicate the patriclan of the owner. In no instance are their brands the same as those recorded for the Karamojong by Dyson-Hudson (1966, p. 88). For one thing, So brands are burned upon the right side of the animal only, whereas the Karamojong ulilize both sides.

The uses to which livestock and livestock produce are put are many and varied. The milk from cattle and goats as well as sheep may be either drunk or made into butter or ghee. Cattle are usually milked by women once in the morning and once in the evening. If butter is being made, the milk is placed in a gourd hanging from the roof of a hut and allowed to sit for approximately 12 hours; after which it is churned by

shaking the gourd back and forth until it has solidified. If the butter is to be stored and not eaten immediately, it is cooked until it takes on the consistency of honey and then is stored for later use in porridge or, as oil for the female coiffure, or as a lubricant in softening skins. Goats may be milked at any time by young herdsmen in the bush and the milk drunk on the spot." The milk of goats and sheep is considered the food of children. Milk may never be boiled as it is believed that this will cause the udders of the cow from which it was taken to shrivel and drop off. It is also forbidden for pregnant women to drink milk as it will cause injury or death to the unborn child.[12]

Cattle and other livestock are rarely killed for the sole purpose of obtaining meat. The dominant value is summed up in the comment, "if you kill your cow today, she will not be there tomorrow." If a cow or goat should die of natural causes or of violence it may be eaten. Otherwise the only occasions necessitating the slaughter of a cow or goat are ritual ones; a number of which have already been discussed in relation to the activities of the kenisan cult.

It is instructive at this point to cast a theoretical eye to the other side of the world - to the Tsembaga of highland New Guinea. Rappaport (1968, p. 87) has shown in an excellent ecological study of that people that it is precisely at the correct moment, nutritionaly, that the Tsembaga channel animal protein into their diets. The allocation of animal protein, in this case the flesh of pigs, is regulated

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[12]This is also the case with blood and eggs.

by the occurrence of certain rituals which co-occur with times of greatest stress. At other times the group subsist upon vegetable produce such as taro roots, yams, manioc, etc. (ibid, p. 73). As we have seen, an exactly analogous situation exists for the So. The kenisan initiate ritual actions which necessitate the slaughter and consumption of cattle and goats during periods of stress: drought and resultant famine, disease, and death.[13] In this connection a number of other ritual situations bear mention as they add support to Rappaport's position (and, incidentally, the position I had independently reached while in the field). Illness is more than often treated by a curer/diviner (ic). There are a number of medicines that a practitioner may prescribe to his patient depending upon his diagnosis. But it is almost inevitably the case that the ic also prescribes the sacrifice of a goat which, after it has served its ritual purpose, is eaten by the patient and a number of his immediate family and the practitioner himself. Again, meat is provided to those under stress. A goat or cow is often slaughtered at the birth of a child and the mother in the company of others in the family consume the beast.

It would be a logical error of the first order to assert that such ritual arose because of some felt need for animal protein at some point in the past. What I am prepared to argue is that groups, through

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[13]It is unlikely the So slaughter animals at this time to restore ecological balance. The typical So response to shortage of graze is to send the herd ever higher into the upper slopes of the mountain where herbage may usually be found.

rational allocation of a scarce resource (in this case goats and later cattle), become reluctant to destroy for immediate gain the source of continuing sustenance. Further, I would argue that groups who additionally developed modes for the selective utilization of animal protein such that its inclusion corresponded to situations most advantageous metabolically had a greater tolerance over a long space of time for the vicissitudes of a marginal environment. It is true, of course, that the So are only recently pastoral to the extent that they are today. Yet there is every indication that 1. they were goat keepers for a period prior to the acquisition of cattle and the "cattle complex"; 2. goats were slaughtered during the various kenisan rituals; 3. traditional So curers prescribed the sacrifice of a goat in the case of illness; 4. they had a fairly adequate source of animal protein in the form of wild game during periods of extended drought.

The care and herding of livestock is conditioned by the season of the year. During the wet or rainy season all members of the household live in their respective eo where the cattle are kept in the corral during the night and goats and sheep are kept in small pens (nanok get) near the huts. Young calves are enclosed completely in a small bee-hive shaped dung hut for protection against the glance of "evil eye" witches (nyebnyenes). The stock are released from their pens and are taken out to water and graze on the lower valley floor by nine oclock in the morning. They are returned to their enclosures before dusk. Young boys begin their careers as pastoral herders at around the age of seven when they are given the responsibility of tending the goats. The older boys

are allowed to tend the young cows and adolescent boys the full-grown cattle. Unlike the Karamojong, but common with the Suk, girls are also given the responsibility for herding, at times with the boys, especially in the case where few boys are available for the task.

When the wet season grasses on the valley floor have been consumed, the herds are grazed ever farther up the slopes. Finally, during the dry season the herds, with the exception of a few head retained in the eo to supply milk for women and children, are moved to cattle camps (awi) built on the upper slopes of the mountain. If need be, they may be moved to other valleys which have not been grazed as heavily during the wet season. The awi consists of a set of pens for the separation of types of stock and a fenced area in which sleeping skins and cooking fires are located. No huts are built here as the awi may be moved to other locations during the dry season. As good grazing begins to deteriorate toward the end of the dry season, the men in the cattle camps will burn off large areas of dried grass on the upper slopes so that they may take advantage of fresh grass shoots emerging after brief showers.

Not all of the men of the eo will be absent in the awi during the dry season. Most of the elders reside primarily in the eo during this time, but make visits to the awi to survey operations there and to consume blood and milk. It is the owner of the herd, usually an elder, who determines where the cattle camp will be located and, as has been noted for other pastoral groups in East Africa (see Klima, 1970), each elder has a favored area to which he directs his herders. These areas are not, however, owned as property.

Hunting and Gathering

In days long past the So were a hunting and gathering society which relied little upon either agriculture or pastoralism. Although much of what they must have known about hunting and much of the skill which must have characterized their resourse utilization is forever lost, some of the lore, knowledge, and skill is still retained. Traditional So songs, rather than emphasizing the importance of cattle, dwell upon the excitement and joy of the hunt. Men, indeed, do still hunt, often successfully. Also, knowledge and potential utilization of available wild plants is remarkable even today.

A list of some 47 animals, 43 of which are or have in the past been game animals, is presented in Appendix V along with the So and Karamojong names for each. Wild game is obtained in two ways: trapping and hunting. Both activities are exclusively male and both are practiced today.

The So recognize three types of trap (ekeut, plural ekeo). Two are snares. The eloit is any trap which requires the game to step into a hole, the top of which has been camouflaged, and around which is suspended a noose attached to a large log. The force of the animal's limb dropping into the hole tightens the noose around the limb and effectively attaches the log to him such that his movement in the bush is either severely hampered or entirely stopped. Traps such as these were once used to catch elephants with vine-ropes four inches thick tied to logs approximately 30 feet long. Today the same type of snare, of

appropriate size, is used to trap antelope as small as dikdik. The _ɛyoliyo_ is a neck snare, sometimes utilizing a spring and trigger. A simple example of this trap is the noose suspended from a branch and hanging vertically over a game trail. The force of the animal running along the trail causes the noose to tighten around the animal's neck. Such traps are adapted to a wide variety of game including birds and antelopes. Again, the noose may be suspended from a bent tree which is held down by a trigger; once released, the tree acts to tighten the loop and even hang the game. Finally, the _arita_ is any type of deadfall. A large stone may be propped with a stick and trigger combination so that the animal which is enticed under the stone by grain or meat triggers the stone which falls upon it. A variation of this type is very often used in and around gardens where grain is placed as bait under a large hut-sized basket. The basket is triggered and falls upon any animal that disturbs the grain. This is used mainly to trap baboons and monkeys. The spiked wheel trap, so commonly used by East African hunters is not used by the So. Game is the property of the owner of the trap even though someone else may kill the animal. Usually, however, the meat will be shared between trap owner and hunter.

The So hunt both individually and collectively. In times past the latter type of hunt was more prevalent and important than it is today. Hunting today is primarily an individual activity. Individuals hunt with a bow and arrows and usually remain in the bush no longer than a day at a time.[14] If large game, _i.e._, lion, buffalo or

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[14]The So do not use arrow poison as do the Suk.

leopard, are spotted in the bush, then a number of men will join forces in the hunt. In this case they will use spears and will attempt to drive the game into a cul de sac in the rocks before attempting to kill it. Another group method is to surround a grove in which game has been spotted and then close in on all sides, trapping the game within a circle. In this case, throwing clubs are used as weapons. The game in any group hunt belongs to the person whose spear or club first strikes the animal. He will, of course, share the meat with his fellow hunters but will retain the best portions for himself. A man who has killed a lion, leopard or buffalo may shred the ears of his personal ox as a symbol of his bravery. To this end, men may travel miles from Moroto mountain, to Mount Napak or the Ngangea Hills, in order to hunt buffalo or leopard.

Most of the large game has disappeared on Moroto mountain and So hunters find little chance to hunt prestigious game. The last lion killed on the mountain was in 1967, although a leopard was trapped and killed as late as 1969. Most hunting is carried out by young herd boys who often carry bow and arrows with them while tending livestock. If they by chance glimpse game, they give brief pursuit and attempt to bring it down.

The work of gathering is primarily that of women and children. The So are aware of an enormous number of plant types, many of which are relevant economically. While in the field we collected 119 plant names and were able to have a number of these identified by their Latin botanical designations. These data are presented in Appendix VI along

with the uses put to the plants by the So. The list is by no means exhaustive and probably represents less than a third of the plants on the mountain alone for which the So have names. Yet this list does offer evidence of the extent to which wild plants may be utilized in So economy. The nature of potential plant utilization is summarized in the figures offered in Table VII-7. Combining categories listed in the table, 29.4% of these plants are the source of foodstuffs, 20.1% are used in the manufacture of tools, utensils, and other technologically important items, and 12.5% are of medicinal significance.

Table VII-7. Type of Wild Plant Utilization, Sample of 119 So Plant Varieties, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Frequency of Plant Types Per Type of Utilization and Percent of Total)

Plant Use	Number	Percent
No use.	54	45.4
Food stuff (human).	24	20.2
Technology and manufacture.	15	12.6
Medicine.	11	9.2
Food stuff (human) and technology.	8	6.7
Food stuff (human) and medicine.	3	2.5
Food stuff (livestock).	2	1.7
Food stuff (livestock) and medicine.	1	0.8
Medicine and technology.	1	0.8
Totals	119	99.9

I have emphasized that these plant resources are potentially available because, in fact, few are widely utilized today. This is for two reasons. In the first place, the forest areas have receded over the past six or seven decades because of slash and burn agriculture and the

erosive effect of cattle grazing. Hence, it is more difficult and time consuming for women to reach areas where these plants are abundant. In the second place, women, who at one time, were less involved with farming, now must spend much of their time tending gardens and have little time to give to thorough gathering expeditions. As a result, relatively few of these plants are of importance to the diet of the So. Plants of greater importance will be enumerated in the next chapter.

Finally, the So are and have always been bee-keepers. Bee hives are the property of males and it is their responsibility to manufacture the hives and collect the honey. Hives are made by stripping the bark from various trees (i.e., Euclea candelabrum and Juniperus procera) and gluing the strips together into a circular wooden drum with a single small entry hole at one end. These are tied to the upper brances of tall trees and sooner or later attract swarms of wild bees. The honey manufactured by the bees is withdrawn by the simple expedient of smoking out the bees and smashing the hive. Honey is collected from July through September. Each adult male in So maintains between three and ten hives during any particular season. Honey may be sold in the town or retained for use by the household.

Technology

Technology in So is generally simple. Hoes, axes, digging sticks, skin pounders, finger-knives as well as bow-and-arrows, spears and wrist-knives are easily manufactured from materials either gathered in the forest or obtained in Moroto township (see Appendix IV for a complete list of So artifacts). The So have long used iron for tool and

weapon blades, but they do not know how to forge metal. An arrow point, for example, will be manufactured by cold-pounding an iron nail into requisite shape. The result is that So iron-working is visably crude when compared with the forged tools of other tribes (eg. Didinga of southern Sudan). Large blades for hoes and axes are purchased by the So from various traders and later hafted by themselves. Shields are likewise purchased from Karamojong traders. In general, the So are excellent woodworkers, but poor ironworkers.

A variety of utensils are manufactured by the So. Pots, bottles and bowls are made from carved gourds grown in their gardens and dried. Large bowls for bringing up water from deep wells for livestock to drink are carved from wood. Bee hives, mortar and pestles, porridge-mixers, and eating bowls are also made from wood. The hides of animals and livestock are utilized in some fashion. Hides may be used to make clothing, rope, sleeping mats, storage bags, bottoms for hollowed logs used as honey pots (ebur) and bow-strings.

A few items of industrial manufacture are gradually finding favor with the So. Such items as cloth, small hand mirrors, combs, parafin tins, metal plates and spoons, and cotton thread are widely utilized. One So elder has purchased a plow which he uses behind one of his oxen.

Chapter Eight

Maximization, Marriage and Residence

A controversy of remarkable duration has been waged in the literature concerning whether or not the exchange of goods for wives in Africa is essentially an economic transaction. The proponents of one side conclude that such exchanges are economic in nature, while the proponents of the other side contend that the exchange is merely gift-giving in token recompense to the bride's lineage for the loss of one of its members (see Evans-Pritchard, 1931; Pearsall, 1947; Radcliffe-Brown, 1929; Raglan, 1931). Goldschmidt (1969, p. 68) has characterized the controversy as "scientifically meaningless" and points to the ethnocentrism of the various participants. I agree with Goldschmidt and would extend his charge as well to numerous other "controversies" in anthropology which seem to exist unaccompanied by relevant data. It should be apparent to all that the bridewealth/brideprice controversy is not a problem of definition, but of empiricism. It is the kind of problem that can only be approached by way of a method of inquiry like that advocated in the introductory section of this work. Yet only recently have attempts been made to determine in the field to what extent brideprice exchange corresponds to an economic transaction (see Gray, 1960; Goldschmidt, 1969). While in the field I examined this question with respect to So marriage. I was concerned both with adding some

empirical content to the general question posed by the literature, and with explicating the nature of marital transactions as a locus of maximization decisions. I became secondarily interested in the variables determining post-nuptial residence for much the same reason.

During the period of field work several hypotheses relative to the economic aspects of marriage and residence were tested, both statistically and impressionistically. Some hypotheses were confirmed and conclusions applicable to the So further suggest higher order deductive hypotheses which will be presented for testing and further refinement in other field situations for which the scope of ecological and social conditions defined in the hypotheses apply. As these hypotheses depend in part upon the data presented in the last three chapters, the reasons for inclusion of those chapters will become even more evident.

Marriage

As we indicated earlier, some So families are monogamous, although most are polygynous. Polygyny is preferred both by males and females. An elder attains additional status in part by marrying as many women as he and his lineage are able to afford. Most women value co-wives as, working as a unit, they reduce the overall labor for which each is responsible (see Sahlins, 1971b, for relevant discussion of this). An older wife also feels that additional wives offer a sort of "insurance" against the time when she may become seriously ill or too old to work. Co-wives often dwell in the same eo and form a team in many productive activities. The first wife is considered the senior or "big" wife and

to a certain extent has authority over subsequent wives.

The choice of a marriage partner for the So may be seem partially as a matter of individual choice, but it is critical to understand that the range of alternative choices is limited by social and economic factors. "Engagement" is more an activity than a status and the process is normally initiated by the man. This he does by openly expressing his interest in a woman he has selected as being potentially appropriate. If her reaction to his advances is not immediately negative, there will follow a lengthy courting period lasting as much as six months, during which time each will attempt to learn as much as possible about the other. The man will want to know whether the woman has a sound reputation with mutual acquaintances, whether she is industrious and a good worker, whether she can prepare palatable meals and whether her family has a good reputation. The woman, too, will be concerned about the man's reputation - whether he is co-operative, how he treats his other wives (if any), whether he is a hard worker, and whether he will contribute to the productive capacity of the household. Both will want to know if the other is sexually compatible and they will often make love to "try each other out". Approximately 50% of the couples in the random sample had had sexual intercourse with each other prior to marriage.

When the man is satisfied that the woman will make a good wife, he will formally propose marriage. If she agrees, she will suggest that he approach her father (or if he is dead, her closest senior male relative). This step initiates the final negotiations preparatory to

marriage. The proposal will be discussed by the woman's patrilineal relations, and the kin relations between them and the lineage of the groom will be examined minutely. Nominally, members of the same clan may not marry. However, due the rapid shift from traditional So to Karamojong clan nomenclature, matters have become more complex. It will be remembered that one So clan may be equivalent to more than one Karamojong clan. The rule of exogamy applies only to So clans as of the present time. Thus, members of the same Karamojong clan may marry if they belong to different So clans. Likewise, a couple who belong to two different Karamojong clans may not marry if they both belong to the same So clan.

Clan affiliation is not the only relevant consideration for the woman's family. Of equal importance is the apparent wealth of the man's lineage. This will be assessed in terms of the probably maximum bride-price the lineage will be likely to contribute to the marriage exchange. They will also discuss the probable value of the particular woman on the marriage "market". That is, her kinsmen will be aware of the amount of brideprice the prospective bride may demand in light of her personal characteristics as a potential wife. They will, of course, be concerned with the reputation of the intended groom and his family.

After approaching the family of his intended, the man will inform his father of his proposal and ask him to arrange for the payment of brideprice. As is the case with the woman's lineage, the lineage of the groom will discuss the proposal at length, examining kin relations and the reputation of the woman and her family. Of major concern will be

the amount of brideprice likely to be demanded by the woman's lineage. Members of the groom's lineage will be approached along with the groom's mother's brother and father and asked the amount of livestock each is willing to contribute.

If the proposed marriage is considered acceptable to both lineages, a date will be set for the marriage ceremony and the payment of at least a portion of the brideprice. At sunrise on the appointed day, the bride and her lineage will travel to the eo of the groom where they will be met by him and his lineage. There will follow a lengthy and often heated face-to-face negotiation pertaining to the details of brideprice payment. At least a portion of the contributed stock will be available for the bride's family to examine and the quality and ultimate recipient of each animal will be the focus of much discussion. The groom's family will attempt to minimize and the bride's family to maximize the total amount of brideprice exchanged. At the close of negotiation, both lineages will proceed to the eo of the bride where her family will supply a feast for all, including massive quantities of indigenous beer and an ox if they are able to afford it.

If all of the agreed brideprice is exchanged at the time of negotiation, the couple are then considered to be fully married (ajes). The children of such a union belong to the lineage of the husband. On the other hand, if only a portion of the brideprice has been paid and the rest deferred to a future date, the union is considered a partial marriage (akicol) and any children born to the couple belong to the wife's lineage until full brideprice is paid, at which time the off-

spring become members of the husband's lineage. It is possible and even permissible for a couple to live together and bear children without marriage negotiations or the exchange of brideprice. This type of union is termed apudori, also the Karamojong word for "sexual intercourse". Such unions tend, however, to be unstable and are decried by the woman's lineage which loses potential brideprice in the involvement and often by the man's lineage which loses rights to their offspring.

According to evidence from oral history (my data and those of Dyson-Hudson, personal communication) the So practiced token brideprice prior to their shift to a pastoral economy. The brideprice was paid in honey and/or goats (around five). It also seems likely that the So at that time did not make the distinction between ajes and akicol marriages. This reasoning is based upon the fact that the word, ajes, is a So word whereas there exists no word in the So language for partial marriage; hence they use the Karamojong word.

Divorce (itolak) is rare in So relative to the instability of unmarried unions. This is because divorce usually necessitates the full return of brideprice by the wife's lineage to the husband's. The pair may not separate without just reason. If either leaves without cause, he or she is subject to sanction by the elders (including beating) in council at the area level. Just cause on the part of the husband may include "laziness", gross and embarrassing insubordination, refusing consistently to feed him regularly and well, adultery, barreness, refusal of sexual privileges over an extended period of time, and practicing witchcraft. A wife may find just cause in

having been beaten too severely, friction of a chronic nature with a co-wife, witchcraft, or non-support. However, every attempt will be usually made to alleviate the grievance, short of actual divorce. Even if co-habitation continues to be impossible the couple will separate, but not divorce, for the man's lineage will hold that it is better to retain the offspring than to chance non-return of all the brideprice paid, and the wife's lineage will be correspondingly reluctant to return the brideprice.

Brideprice

If a So informant is asked what factor is most important in determining the amount of brideprice exchanged, he will invariably answer "the size of the woman's lineage". The reality of this explanation was accepted as a working hypothesis and was tested statistically in the field. Brideprice is paid in bulls, cows, goats, and occasionally calves. The relative value of each type of stock (exchange ratio) was computed utilizing the exchange value of each type in terms of number of bags of sorghum and coded with the value of a cow, the most frequent medium of exchange, being set at 1.00. The following exchange ratio results: a cow = 1.00, a bull = 1.25, a calf = 0.50, and a goat = 0.25. Precise data were collected on the amount of each type of stock exchanged for each marriage in the random sample and transformed, via the exchange ratio, into a brideprice index - thus, making it possible

to handle brideprice as a single quantity.[1] Also, the absolute size of the patrilineage of each married female was computed from her genealogy. The two series of figures and the results of a multiple regression analysis are presented in Table VIII-1. Although the relationship between amount of brideprice and size of family is in the direction expected in view of the statements of informants, the relationship is slight and does not attain statistical significance. At the end of this chapter I will examine other determinant factors in size of brideprice.

The mean amount of brideprice paid in the sample, using the index again, was 32.60 (SD=14.91). Breaking this down into the types of livestock used in the exchange, the mean number of cows paid was 22.60 (SD=7.75), of bulls was 6.13 (SD=5.63) and of goats was 11.40 (SD=10.92). Two things are clear from these figures: the prevalent medium of brideprice is cows (noting the relatively small standard deviation), and the variation of payment in bulls and goats is great. When the So discuss brideprice they usually speak in terms of cows paid. Goats seem to have the function of "small change", at least in some payments. They will be used to bolster a payment in cows when the recipient argues that it is a bit too small. They will also be used to pay more distant kinsmen. Bulls, on the other hand, are prestige items which are paid,

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[1] It will be noted that not all females in the random sample were included, as four of them were either not fully married or not married at all and one of them could obtain no information pertaining to amount of brideprice paid for her.

Table VIII-1. Relation Between Amount of Brideprice and Size of Bride's Patrilineage, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Brideprice Index and Frequency of Persons in Ego's Patrilineage)

Subject	Brideprice Index	Size of Patrilineage
1	60.00	30
2	53.00	53
3	48.50	24
4	44.50	36
5	43.25	34
6	41.75	19
7	32.75	48
8	32.25	32
9	26.25	17
10	22.50	125
11	22.25	11
12	21.25	4
13	21.25	26
14	13.25	8
15	6.25	12

$F = 0.2975$

$P > 0.5$

if paid at all, to close and senior kinsmen (i.e., F, FF, F Senior B, Senior B, etc).

The father of the groom may in theory approach any kinsman within his or his wife's patrilineage for a contribution to the brideprice for his son. In fact the most important persons contributing are, reckoned from the groom as ego and in order of importance: F, FF (if alive), FB, B, MB, Senior ZH, and FZH. The exact direction of contributions will depend largely upon the distribution of wealth in the two patrilineages and upon the size and nature of each patrilineage, especially ego's own lineage.

Turning to the recipients and distribution of brideprice, data was collected pertaining to persons receiving payment in each of the sample marriages. The distribution of payment and non-payment per type of kinsman for each of the sample is shown in Figure 5.[2] The data are arranged in a scale (after Carneiro, 1962) with payments having the greatest range in terms of in-type at the bottom of the vertical axis and those with the smaller ranges toward the top of the axis. Likewise, kin-types having the greatest probability of payment are found to the left on the horizontal axis and those having the least probability are to the right. Several facts are apparent from the scale. In

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[2]Meaning of symbols are: F (father), M (mother), B (brother), W (wife), Z (sister), S (son). The notation "FBS" should be read "father's brother's son". The numbers in parentheses refer to the seniority of birth of that particular kin-type; i.e., FB (1) refers to "father's senior brother" and FB (2) refers to "father's second brother".

	Sample
M	XXXXXXXXXXXXXXX
F	XXXXXXX-XXXXXXX
B (1)	XXXXXX XX X XXX
FB (1)	XXXXXXX XX X
MB (1)	XXXXXXXX X
FB (2)	X XXXXX X X
FW (1)	XX X X XX X
1/2B (1)	XXXXXX X
MZ (1)	X X XX X X X
Z (1)	XXXX XX
B (2)	X XX X X
FZ (1)	X XX X X
F Clan B (1)	X XX X X
FW (2)	XX X X
1/2B (2)	XXXX
Big ZH	X X X X
FB (3)	X X X
FF	X X X
FBS (1)	X X X
F1/2B (1)	X X X
MM	X X X
F Clan B (2)	X XX
F Clan B (3)	X XX
B (3)	X X
1/2B (3)	X X
FB (4)	X X
FM	X X
FZS	X X
FW (3)	X
B (4)	X
Z (2)	X
FBS (2)	X
FBS (3)	X
F1/2B (3-6)	X
ZH (2)	X
FFBS (1-3)	X
MB (2)	X
MF	X
MBS	X

Figure 5. Scalogram, Kin-Types Receiving Brideprice Among the So, Random Sample of Marriages, Lia Valley, Moroto Mountain, Karamoja.

the first place, certain types of kin are more likely to receive payments than others. The mother and father of the bride will nearly always receive stock, as will the bride's senior brother. Below these three, however, payment begins to be more random. One obvious explanation for this is that there may be no living person standing in the particular relationship to ego (the bride) indicated by the symbol. Also, if there was such an individual he or she may have been too young to receive payment at the time of marriage. Finally, as I will show in the general discussion below, a great deal turns on the personality of individuals entering into the negotiations for brideprice.

Second, Figure 5 clearly depicts the importance of seniority of birth, both in obtaining brideprice and in social relations in general among the So. Father's senior brother will always receive brideprice before father's second brother. The same holds true for the bride's own brothers and sisters. Nowhere is this more apparent than in the important relationship between the bride and her senior or "big" sister's husband. If such an individual exists and if there is sufficient stock, he will receive a significantly large payment. He may be called upon in years to come to contribute to the brideprice of his wife's sister's son.

Third, the bride's mother's senior brother will usually receive payment. This reflects the special relationship obtaining between a person and his mother's brother (mamai). Nothing approaching a "joking relationship" exists between these two as they are likely to be in

separate age generations and the respect norm between generations would prevail. Yet the relationship is more familiar and intense than is true for other relationships between ego and ego's mother's kinsmen. Ego has the right to call upon his mamai for material or non-material help whenever it is needed. In return, ego will often be called upon to do service, perhaps cattle herd, for his mamai.

Finally, if the bride's father's father is still alive, he will inevitably receive a large measure of brideprice because of his exhalted position in the lineage. Even after death some stock will be "given to him" to honor his memory. The portion given in his name will usually be included in the bride's father's herd.

Although the range of kinsmen receiving some portion of the brideprice is great, the individuals receiving most of the total brideprice are relatively few in number. Table VIII-2 presents the average amount of brideprice (again using the brideprice index) received by each gross category of kinsmen per marriage. These are ranked in order of decending amounts. Also presented are the cumulative percentages beginning with the bride's father and working down the list. It is interesting that payments received by only five categories of kinsmen (the bride's father, father's brothers, mother, the bride's own brothers and half-brothers) account for over half of the total brideprice payments made in the sample. Large payments are usually made to the bride's mother and in some instances these were larger in amount than to the bride's father. These payments are made in explicit recognition of the role played by the mother in giving birth to and teaching the bride.

Table VIII-2. Average Brideprice Payment By Gross Kin-Type and Cumulative Percentage, Random Sample of So Marriages, Lia Valley, Moroto Mountain, Karamoja District, Uganda

Kin-Type	Brideprice Index	Cumulative Percentage
F	4.32	12.9
FB	4.27	25.6
M	3.88	37.2
B	3.53	47.7
1/2B	2.60	55.4
FW	2.28	62.2
Big ZH	2.02	68.2
F Clan B	1.48	72.7
MB	1.47	77.0
F1/2B	1.37	81.1
All Others	6.34	100.0

A comparison of Table VIII-2 and Figure 5 indicates an interesting fact. Although the bride's mother's brother and her father's clan brothers are given payments more often than the bride's senior sister's husband, it is the latter who receives the largest payments when there is such an individual to fill the slot. Table VIII-2, then, indicates better than the scale the relative importance of particular kin categories in terms of the relationship between individuals within these categories and the bride.

Residence

Upon completion of marriage (ajes), the wife is expected to move into the eo in which her new husband lives and lived prior to marriage. In other words, the ideal postnuptial residence rule for women in So, as stated by all informants, is virilocality. In cases in which the rule is honored, the tendency, as in many patrilineal societies, is for the new household to be located in close proximity to members of the husband's patrilineal relations (see Table IV-4 above). Due to the real concern of the wife's lineage for retaining control over children born to the union, on the other hand, the residence rule for akicol and apudori unions is matrilocality.

While in the field I became gradually aware of the extreme wealth differential among lineages due to the economic and political factors discussed in Chapters Two and Three. I also began to suspect that residence today was less likely to conform to the ideal rule than in times past and more likely to be a choice made by individual households and determined by problems of economizing. Put more formally, I

hypothesized that in times past when wealth was more evenly distributed and resources were less limited in type and less scarce in quantity, the So were more likely to conform to the ideal postnuptial residence rule. I further hypothesized that confronted with a gradually deteriorating economic condition, individual households would attempt to maximize potential economic gain through choice of residence, even when that choice contradicted the ideal rule. In order to test this hypothesis, data were collected from the sample for location of residence, and kin relations within the eo of residence, at the time of marriage. Similar data covering choice of residence in 1970 were also collected. The data pertaining to residence in the past are presented in Table VIII-3.

Table VIII-3. Location of Post-Nuptial Residence At the Time of Marriage, Random Sample of So Marriages, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Frequency of Households)

	Husband's Side	Wife's Side	Totals
Full-married	11	1	12
Non-married	0	8	8
Totals	11	9	20

$X^2 = 12.8030$
$P < 0.001$

The figures show a significant positive correlation between full-marriage and location of residence among the husband's kinsmen. They also indicate a significant tendency for akicol and apudori couples (grouped as "non-married") to locate with the kinsmen of the wife.

The data pertaining to location of residence at the time of the field work are summarized in Table VIII-4. It will be noted that the distribution of frequencies is suggestive of the same correlation as in the previous table, but the relationship no longer attains the level of

Table VIII-4. Location of Residence in 1970, Random Sample of So Marriages, Lia Valley, Moroto Mountain, Karamoja District, Uganda
(Frequency of Households)

	Husband's Side	Wife's Side	Totals
Full-married	10	6	16
Non-married	1	3	4
Totals	11	9	20

$X^2 = 0.6186$
$P > 0.25$

statistical significance. Hence, my hypothesis is confirmed. There exists a definite tendency toward relaxation of the ideal postnuptial residence rule. There is also a slight relaxation of the rule for akicol unions as well.[3]

The shift in postnuptial residence patterns can best be explained

[3]The So have no "hidden" or less apparent rule requiring strict adherence to the ideal rule only for those newly married. This fact was ascertained by asking numerous sample informants if pressure had been greater upon them to reside in a particular place when they were first married, and whether the pressure had gradually lessened over time. Informants invariably answered in the negative.

in terms of maximization. Cattle raiding and other factors contributing to economic deprivation may be seen as affecting lineage at random. The husband and wife are acutely aware of the economic advantages and disadvantages of residing alternatively with one or the other's patrilineal relations. If all, or a major portion, of the husband's lineage's livestock have been stolen, for example, the couple will know that their presence will add a burden to the scarce resources of the lineage. Furthermore, if the wife's lineage is comparatively wealthy in stock the advantages of residing with them will be apparent. Although this is not the place to document the rule, it is important to note that if a household decides to reside with the wife's family, her family feels duty bound to share their resources with them. This we may call "obligatory reciprocity". It also may be noted here that the evidence for economic incentive related to gross migrations presented in Table IV-3 above also indicates the importance of maximization in the selection of residence.

Discussion

The institution of marriage in Sǒ is both a formal set of social relations and a locus of economizing behavior. Courting and marriage as an economizing process involves a number of choices. A major choice is the selection of an eligible mate. I have shown that for a male the range of eligible mates is defined in any instance by the resources within his patrilineage measured against the amount of brideprice likely to be demanded by the bride's patrilineage. The process is essentially the same for a female. Her lineage will expect her to "engage" a man

whose lineage can produce an acceptable amount of brideprice.

I have also shown that although there exists a slight tendency for the size of the bride's lineage to affect the amount of brideprice exchanged, this factor alone does not explain the variation in brideprice recorded in the data. It is true that lineage size is a conscious variable in maximization, but a number of other variables have a direct and often subtle effect on the amount exchanged. I list several below:

1. Personality of the negotiants - Of importance are the status, forcefulness, and "greed" of the men and women actually involved in the marriage negotiations. There enters definite bargaining behavior here.

2. The personality and status of the groom - If the groom is a highly respected elder and one with influence within his lineage, he can likely command a greater protion of the resources of the lineage than could a younger man. He may even represent himself in negotiations.

3. Availability and liquidity of lineage resources - The number of relatives a man may call upon for contributions is important as well as the availability of stock. Stock may not be physically present on the mountain, or may be tied down by other obligations so that they may not be utilized in brideprice.

4. Differential evaluation of alternative allocation possibilities - At any particular time there may be alternative uses for livestock which are of greater value for the lineage than use as brideprice; e.g. production of food, use in ritual.

Certainly the most important variable at the present time is the last. Cattle and goats are a scarce resource in So. Thus, allocation of livestock as an economizing decision is of supreme importance. An interesting question is, what is being maximized in brideprice exchange? With reference to the bride's lineage the answer is comparatively simple - input of livestock. Maximization on the part of the groom's lineage, however, requires more analysis.

Few accounts of brideprice exchange in East Africa treat the phenomenon as essentially economic.

> In discussions of cattle-keeping tribes, the contrast is often drawn between the intense desire of these people to acquire cattle and the inefficiency of their utilization as subsistence resources. One of the chief incentives for acquiring cattle is undoubtedly to use them in obtaining wives for the individual or group possessing the cattle, but this tends to be overlooked by an investigator who conscientiously avoids treating brideprice as an economic transaction. Instead, the intrinsic or mystical value that cattle have for the people is stressed.
>
> (Gray, 1960, p. 53)

Field workers are becoming more sensitive to the economic ramifications of brideprice and relevant comparative data are accumulating. (Gray, 1960; Goldschmidt, 1969) One conclusion seems already apparent from accounts - that what the groom's lineage is maximizing in brideprice exchange may vary from tribe to tribe. Maximization among the Sonjo of Tanzania (Gray, 1960, p. 42) is centered upon access to the

labor and sexual privileges of the wife in a situation of marked scarcity of eligible women. Goldschmidt, (1969, p. 71), on the other hand, has shown that the Sebei of Uganda are primarily concerned with maximizing children, especially male children who facilitate lineage continuity and size.

Females in So are not a scarce commodity. Furthermore, there exists no negative sanction against premarital sexual relations (Laughlin and Laughlin, 1973), it will be remembered that households may be created without the payment of brideprice. Although sexual compatability and industriousness are desired characteristics in a mate, neither sexual privilege nor productive potential is being maximized in brideprice exchange.

In marriage the So, like the Sebei, are maximizing children. That is, the payoff of the exchange of brideprice for a wife is seen in terms of the number of children she will bear for the husband and his lineage. It would be difficult, however, to determine for the So whether male or female offspring are more highly valued. Male offspring are valued for a variety of reasons. They insure lineage continuity and, through engendering future female offspring, will bring more wealth into the lineage via brideprice. Also, a father looks forward to the day when his sons will take over the responsibility of herding livestock and for doing the heavy labor in cultivation. Finally, male children are expected to help support their parents in old age. Female offspring are valued both for the future brideprice they will generate, and for the effort they will expend in helping their mothers till the fields and

care for younger siblings.

There is clear evidence that due to economic deprivation during the past two decades the range of brideprice has shifted downward - the upper limit and average have decreased. Furthermore, there is an increasing trend toward akicol marriages and concubinage.[4] The demand for the co-operative labor and sexual privileges of a wife may be seen as remaining the same as before. However, the marginal utility of her childbearing function has decreased. This explanation remains hypothetical as it was not explicitly tested with statistically relevant data in the field. However, as an explanation it remains impelling because it coincides with other impressionistic information derived from informants, both male and female.

Although the East African data suggest that either women or children are being maximized in brideprice exchange, a third alternative hypothesis - that men have become scarce and are being maximized - might be suggested to explain the So findings vis a vis shift in allocation of potential brideprice. This hypothesis would state that because of an increase in raiding, the value of retention of males in the lineage would increase due to the need for livestock protection.

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[4] It might be argued that the So are increasing the incidence of akicol marriage in mimicry of the acceptable status of that alternative among the Karamojong. This explanation would be in error on a number of points: (i) The institution of akicol among the Karamojong is acceptable only as a transition stage from apudori to full marriage (Dyson-Hudson, 1966, p. 84), and (ii) The institution was borrowed long ago by the So, whereas the increase in incidence of akicol is quite recent.

This would act, it may be argued, to lower brideprice: (i) so that males would be encouraged to enter akicol relationships with lineage women and, hence, be required to reside matrilocally and (ii) so that the woman's lineage might retain any male children born to the union.

Although perfectly logical, this explanation is untenable for So for a number of reasons: (i) Males are not scarce in any demographic sense in relation to the rest of East Africa (male to female ratio 0.88:1), (ii) So elders do not protect their herds by increasing the number of herders, but rather by grazing the herds in more inaccessable reaches of the mountain - a measure not open to plains herders, (iii) As all lineages would attempt to maximize through retention of males, the number of males actually attracted and retained would be counter-balanced by loss of males "marrying out" and loss of offspring from their akicol unions, (iv) Elders wishing more manpower for herding need only split their herds and farm out portions to male relatives living outside the eoek of their minimal lineages, and, (v) Due to successful raiding on the part of other tribes, the proportion of males to heads of livestock has actually radically increased.

Conclusion

The So data allow us to generate from maximization theory (through alternating induction and deduction) the following general hypothesis relative to change in brideprice:

Theory - The desire of men for goods and services is universally unlimited. The means of obtaining goods and services is

universally limited. Therefore, men everywhere must make rational choices with respect to the allocation of scarce resources in order to maximize their goals.[5]

Hypothesis I - In any society contracting marriage by exchange of non-token brideprice and confronted by a progressively deteriorating economic situation such that the scarcity of the traditional medium of brideprice increases over a number of years, 1. the mean brideprice and the upper range of brideprice will be lowered, and 2. the proportion of incomplete and/or non-married households to married households will increase.

Furthermore, from a closer examination of differential patterns of utility in various tribal groups, a corollary hypothesis is suggested:

Corollary I - The rapidity with which the changes predicted in Hypothesis I occur will be inversely proportional to the absolute time required to actualize payoff.

I would argue that as a result of ever increasing scarcity of resources, an individual will be increasingly inclined to allocate resources to

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[5]It has been argued that maximization theory - in fact, all theory based ultimately on the assumption of rational strategic decisioning - is invalid due to the fact that it does not take into account irrational decisioning. This argument misses the point, I am afraid. Maximization and other decision theory does not require the assumption that all human decisions are rational. It only requires that some are rational. The ultimate test, of course, is whether the theory is capable of predicting behavior. Even if "rationality" is defined according to emic categories, it does form a logic and may be utilized. May suspicion is that economic decisioning is close to the most rational because of its proximity to survival.

alternative uses having more proximal utility. Therefore, if maximization in marriage is in terms of payoffs (in this case children), the full utility of which are not actualized, say, for 10-15 years after marriage, then the individual will be more inclined to shift allocation to alternatives having more immediate payoffs (in this case production of food, payment of taxes, use in ritual). If, on the other hand, maximization is in terms of payoffs (in the case of Sonjo, wives themselves) the full utility of which are actualized almost immediately, then the individual will be less inclined to shift his resource allocation to alternative uses. It seems likely that if economic stress becomes extreme enough, then individuals in the latter case will also shift allocation to alternatives of the most immediate utility.

The ramifications of Hypothesis I and Corollary I are great vis a vis family planning projects and research in East Africa and elsewhere. The So as well as other pastoral tribes in East Africa are extremely resistant to family planning measures, due in large measure to the economic incentives for maximizing the number of children in the household and lineage (Laughlin and Laughlin, 1973).[6] Every attempt should be made to test and refine these hypotheses, as well as generate new ones, for they will likely tell us a great deal about resistance to family planning and may suggest methods of halting population increase

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[6]It is my understanding from Richard Chaney (personal communication) that this statement is generally true for Latin America as well.

in the future.

Turning to residence, the normative rule as I have mentioned is patrivirilocality (after Barnes, 1960, p. 851). As the economic foundation of So society has gradually deteriorated and resources have become both more limited in type and scarce in quantity, the choice of residence has become more critical as a factor in maximization. This finding suggests a second and perhaps more easily testable general deductive hypothesis:

> Hypothesis II - In any society having a normative unilineal residence rule and which is confronted by a progressively deteriorating economic situation such that goods become both more limited in type and scarce in quantity, there will develop a tendency for residence to become increasingly more randomized in relation to directionality of descent.

I do not wish to imply that the So data demonstrate a proof of the above hypotheses. Generalizations from So remain only empirical generalizations for the So. What I am suggesting is that given the insights gained in the So situation, the two general hypotheses are generated quite easily from maximization theory and offer fruitful points of departure for testing and refining in other field situations.

Chapter Nine

Deprivation and Reciprocity

Now that a general outline of the potential circuits of economic interaction in the organization of So society, as well as a survey of traditional So economic activity spheres, have been completed, it is possible to examine in greater detail the nature of So economic adaptation to ecological stress. There are two general concerns which underly this chapter: (i) I wish to demonstrate the determinant effects of ecological and economic deprivation on modes of production, consumption and reciprocity. (ii) I also wish to generate a generally applicable diachronic model of primitive exchange which will explain shifts in modes of reciprocity, specifically, in any primitive socity confronted by cyclically and predictably scarce resource availability.

Ecological Stress in East Africa

I have already established the nature and extent of the environmental stress faced by the So on the average of every three to four years. The So are by no means the only tribe in East Africa facing such stress. Colin Turnbull, during his stay in Ik, found this small group to be in a state of advanced social disintegration due to particularly extreme scarcity of food resources. Turnbull writes:

> Any study of the Ik today is a study of a society under the severest stress, and that is its value. It probably has little

bearing on the traditional structure of Ik society, though there are indications that their economy has been marginal for some time. The degree of social disintegration under present circumstances is quite exceptional. Even the nuclear family ceases to have much validity as a social unit, and only exists as a corporate group for purposes of shelter. From the age of three onwards, children are expected to get their own food, and if they do not, when times are hard, they are simply left to die. The same applies to old people, who are considered to have no use, being unable to produce either food or children. While there is death by starvation or thirst at each extreme, the center, the breeding group, remains relatively healthy and even, at times, plump. There is no thought that there is any obligation even within the family, and a husky youth, if he has any sense, snatches food from the hands of his aged father whenever he gets the chance. Older people, most of whom died during my last few months among the Ik, told me that they remembered that as children they had always been able to expect food from the parents, but they were not so sure that they had ever reciprocated. Most of them seemed inclined to accept that the natural thing is to let old people die if they can no longer take care of themselves. "That is their concern" is the comment from both old and young, and an old man or woman who has a morsel of food snatched away will show no resentment, only a mild frustration.

(1967, Pp. 68-69; emphasis mine)

Turnbull's description is reminiscent of Harold Hickerson's discussion of the "atomizing" effects wrought upon traditional Chippewa social structure by the western thrust of Western market economy in North America (1967). He shows that due to a variety of deprivative economic factors stemming from the growth of the fur trade, traditional Algonkian social structure which was once based upon corporate unilineal descent groups gradually disintegrated to the present day form of bilateral nuclear family.

Viewed from the standpoint of economizing options, then, both the So and Ik are confronted by continually, and at times radically, fluctuating basic resource availability. This condition, as Turnbull suggests, has important consequences for modes of reciprocal exchange of goods and services specifically, and for the state of social cohesion in general.

A Diachronic Model of Primitive Exchange

According to Marshall Sahlins (1965a, 1965b, 1971) three "types" of reciprocal exchange may be operating in any particular primitive society. These he calls "generalized", "balanced" and "negative" reciprocity. He defines the three in the following way:

> Generalized reciprocity - refers to transactions that are putatively altruistic, transactions on the line of assistance given and, if possible and necessary, assistance returned. The ideal type is Malinowski's "pure gift". Other indicative ethnographic formulae are "sharing", "hospitality", "free gift", "help", and

"generosity". Less sociable, but tending toward the same pole are "kinship dues", "chiefly dues", and "noblesse oblige".

Balanced reciprocity - refers to direct exchange. In precise balance, the reciprocation is the customary equivalent of the thing received and is without delay. Perfectly balanced reciprocity, the simultaneous exchange of the same types of goods to the same amounts, is not only conceivable but ethnographically attested... "Balanced reciprocity" may be more loosely applied to transactions which stipulate returns of commensurate worth or utility within a finite and narrow period. Much "gift-exchange", many "payments", much that goes under the ethnographic head of "trade" and plenty that is called "buying-selling" and involves "primitive money" belong in the genre of balanced reciprocity.

Negative reciprocity - is the attempt to get something for nothing with impunity, the several forms of appropriation, transactions opened and conducted toward net utilitarian advantage. Indicative ethnographic terms include "haggling" or "barter", "gambling", "chicanery", "theft", and other varieties of seizure.

(Modified from Sahlins, 1965a, Pp. 147-48)

Reciprocity may be seen in the real world as existing on a continuum of trust and affect from generalized reciprocity at one ideal extreme to negative reciprocity on the other. Balanced reciprocity as a type characterizes a mid-range, an area of overlap in motivation between the poles.

This continuum of reciprocity may be seen as closely correlated

with distance of the parties to exchange in terms of kinship and ethnic identity:

> ... a tribal plan can be viewed as a series of more and more inclusive kinship-residential sectors, and reciprocity seen then to vary in character by sectoral position. The close kinsmen who render assistance are particularly near kinsmen in a spatial sense: it is in regard to people of the household, the camp, hamlet, or village that compassion is required, inasmuch as interaction is intense and peaceable solidarity essential. But the quality of mercy is strained in peripheral sectors, strained by kinship distance, so is less likely in exchanges with fellow tribesmen of another village than among covillagers, still less likely in the intertribal sector.
>
> (Sahlins, 1965a, p. 151)

General reciprocity, then, is more or less characteristic of exchange relationships between people closely related and who live within the same residential unit. Reciprocity becomes balanced (immediate reciprocity with little concern for profit) between distant kinsmen or non-kinsmen who reside in different units. Finally, reciprocity becomes negative (immediate reciprocity with major concern for profit-making) in intertribal exchange (Sahlins, 1965a, p. 152).

Empirical examples of exchange behavior from So falling along this continuum may further illustrate the sort of social reality dealt with by Sahlins. Generalized exchange would occur when a household member gave a portion of butter to one of his kinsmen living in the same

eo. Exchange of livestock as brideprice between non-related So or between So and Karamojong would offer an example of balanced reciprocity. Finally, purchases with the use of cash of goods from Karamojong or one of the several centers of market exchange in Moroto townhip would be illustrative of negative reciprocity.

Excluding some of Sahlins' psycho-motivational assumptions, and centering on his characterization of the various types of exchange relationships possible, I found his model to be, at least initially, a potent predictive instrument. In order to apply his model, however, to an understanding and explanation of dynamic patterns of reciprocity and shifts in circuits of reciprocity which may happen in response to changes in resource base, requires substantial modification. To put it another way, the bounds of his reciprocity "types" must be redefined such that they become capable of change in order that the inherent advantages of each type may attain maximum mobile utility (able to be utilized in any situation it proves superior to the other types). Although the factor of dynamism does not appear to be a central concern in the formulation of his model, Sahlins clearly anticipates its necessity in application to individual instances in which economic stress is present:

> Beset by declining food supplies, it is common for tribesmen ... to meet the threat by a double-barreled intensification of community solidarity and economic co-operation. People help each other out as they can and, during the shortage, generalized reciprocity is stretched beyond its normal social sphere. Yet, if

> the shortage proves prolonged and severe, the structure of solidarities may prove unable to bear the strain: in the final crisis households reassert their self-interest, and people who had shared food through the first stages of disaster display how indifference to each others' plight, if they do not hasten a mutual downfall by guile, haggle, and theft.
>
> (1971, p. 55; emphasis mine)

Incorporating a mode of flexibility into the model changes it from an essentially synchronic descriptive instrument to a diachronic explanatory instrument. In other words, as originally formulated by Sahlins, the model predicts only a correlation between modes of exchange and kinship/residential proximity. Now the model (i) is capable of predicting shifts in this correlation due to other factors, and, (ii) becomes a natural and logical adjunct of general maximization theory as defined in Chapter Five above. With this in mind, let me now reformulate the model of primitive exchange as follows:

> Theory: Reciprocity in primitive society may be seen as existing on a continuum from generalized to negative at the poles. Generalized reciprocity is correlated with long term maximization of payoffs having little or no immediate utility and with exchange between individuals of close kinship and residential proximity. Negative reciprocity is correlated with short term maximization of of payoffs having relatively great immediate utility and with exchange between unrelated individuals of relatively distant residential proximity. In any primitive society which is confronted

progressively deteriorating economic situation such that payoffs of immediate utility become more limited in type and scarce in quantity, reciprocity between individuals of close kinship and residential proximity will increasingly be marked by short term maximization of payoffs of immediate utility and will become either (both) negative or (and) non-existent.

In my view what is happening in primitive society in terms of reciprocity is behavior determined by a range of possible payoffs. The payoffs potentially obtainable in exchange between kinsmen and coresidents are, during "good times" essentially different than the payoffs obtainable from non-kin or between persons of different tribes or economic sectors. During traditional times the relationship obtaining between kinsmen in So were relatively constant and dependable. The kinds of payoffs were sizeable and many took years to materialize. I have already shown in a previous chapter one sort of long term gain in maximization - children as payoff for brideprice. Negative (or profit-incentive) reciprocity, on the other hand, has always been the mode of exchange between the So and surrounding tribesmen. Even before the advent of colonial administration the So carried on trade relationships with other tribes. The only source of iron and iron spear points, in the district for example, was Labwor who lived - as they do today - in the Labwor Hills and carried on an active trade in metal works with neighboring tribes. It is said that a So male would drive an ox 75 miles across the plains from Moroto mountain to the Labwor Hills where he would exchange the beast for 20 spears. Upon returning home he

would retain two spears, give two to his son and then trade 16 spears to another Sorat for an ox of comparable value to the one he had traded with the Labwor smith, thus realizing a profit of four spears for his effort. The So also carried on an active trade in honey and baboon skins with the Karamojong in return for small stock. The Karamojong themselves do not raise bees and had little access to baboons as game. The latter are valued for ceremonial purposes by the Karamojong.

When faced with environmentally or otherwise induced deprivation such that goods of greatest and immediate utility become scarce for a prolonged period, the strategies common in exchange with close kin shift from concern with long term maximization of such things as production of children, lineage solidarity, enhanced prestige, and the like, to concern for immediate survival and, hence, maximization of goods, especially foodstuffs, of the most immediate utility. As a result, the total picture of reciprocity among such a group should be characterized by an inward movement of the inner bounds of negative reciprocity. And when a society is faced with such deprivation cyclically over time - that is, faced with such stress as drought or hurricane periodically and, for the members of the society, predictably - when the diachronic picture is a periodic centrifugal/centripetal fluctuation of the inner bounds of negative reciprocity. This process I will call the "accordion effect" of negative reciprocity.[1]

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[1] I am much indebted to a discussion with two of may students, Ron Cochran and Patricia Kolarik, during which this model reached its final form. To Miss Kolarik goes the credit for coining the shorthand term "accordion effect".

As I will argue in the conclusion to this study, the centripetal movement is not a mere biproduct of deprivation on an otherwise "adequately" functioning system of exchange, but rather is only one half of a total effect - the accordion effect - which forms a constantly fluctuating and systematic adaptation of a society faced with the environmental conditions I have stipulated.

After developing the core of this theory in the field I then deduced a number of hypotheses for testing in a formal field survey. Before dealing with the hypotheses and the results of the survey, it will be necessary to discuss the methodology used in the field.

Methodology

As was described earlier, we drew a random sample of 20 households from data collected in a complete census of the Lia and Naukoi Valleys of Mount Moroto. Adult members of the sample households were administered an "initial survey" (see Appendix IV) designed to ascertain the extent of material goods owned as well as information pertaining to past production activity. A complete genealogy was completed for each adult member of the households where possible. Informants were also administered the first of a number of "series questionnaires" (see Appendix IV). The latter was designed to elicit comprehensive production, consumption, and budgeting information (see Epstein, 1967) for the day of, and the two days preceding, the interview. Data were also collected on the same variables for the preceding two weeks in order not to miss relevant qualitative data. The "series questionnaire" was administered to each household once every 14 days for a period of four

months, thus yielding a random sample of days upon which most of the following computations are based.[2]

A full range of economic behavior was covered in the surveys. Economic process involving members of any household was conceptually divided into three, and only three, types of events - "production events", "consumption events" and "transfer events". These operational units may be defined as follows (modified from LeClair, 1968, p. 201-02):

> Production Event - is an act or a discrete period of activity the result or intended result of which is to create goods or services available for utilization.
>
> Consumption Event - is the utilization of a good or service either for satisfaction of a human want, or, in the case of a good, for the use in productive activity. A consumption event may involve one or more members of a household.
>
> Transfer Event - shifts control over, or rights in, an economic good (including any medium of exchange) from one individual to another. This definition specifically includes all instances of reciprocity, generalized, balanced or negative, in which goods or services are exchanged.

Examples of production events in So would be: the manufacture of a tool

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[2] It was earlier determined that most So informants were able to reconstruct their past economic behavior with fair accuracy only for the two days preceding an interview.

or craft, preparation of a meal, a commodity collected in the forest for later consumption (i.e., mushrooms), a hunting expedition by a household member, the manufacture of charcoal for sale on the cash market. Examples of consumption events are: the eating of a meal, the donning of a newly purchased toga, the eating of blood or milk from a cow in the bush, the utilization of a newly built hut. Finally, examples of transfer events, with which I am here primarily concerned, would be: begging food, eating a meal at the home of another, transfer of a tool or tool blade from one person to another, purchase of a wife with cattle, purchase of a commodity with cash from a market center, transfer of rights to a head of livestock. It was determined early in the field experience that the So household is both the basic unit of production and the basic unit of consumption.

Hypotheses and Tests

The following hypotheses were deduced from the diachronic model of primitive exchange in order to test the truth function of the theory - that is to test the ability of the theory to predict, and hence explain, observed behavior. In the interests of a clear explication of this process of inquiry I will formally state the hypothesis, describe how it was deduced from the model and finally present the data pertinent to its confirmation or disconfirmation.

The first three hypotheses predict, or rather retrodict, correlations obtaining in exchanges of material goods remembered by informants and which occurred prior to the formal study period.

Hypothesis I - There existed in the past an inverse correlation between traceable kinship of participants in intra-tribal exchange and the use of cash as medium of exchange.

It was assumed that transfer events involving material (durable) goods over the several years preceding the study period would, in rough measure, tend to indicate the "average" pattern of reciprocity in So. The model predicts that in times of relative plenty transfer events occurring between relatives are more likely to be generalized and events occurring between non-relatives are more likely to involve negative reciprocity. It was determined early in the field experience that exchanges involving cash are always negative in nature and those which have no cash involvement are usually generalized, or at the most balanced. Hence, Hypothesis I predicts an inverse relationship between close kinship (household member involved in exchange with another person who is a member of the lineage of one of the sample household members) and exchange involving cash. Table IX-1 offers strong confirmation of this hypothesis.

Hypothesis II - There existed in the past a probability greater than chance that intra-tribal exchange exchange events would involve persons related by kinship and residing in the same eo.

The model not only predicts a correlation between close kin relations and generalized reciprocity, but also predicts a relationship greater than that expected by chance between occurrence of generalized reciprocity and residential proximity. In Table IX-2 relative proximity

Table IX-1. Initial Survey: Cash and Non-Cash Transfer Events By Kinship Relationship to Sample Household, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Frequency of Transfer Events)

	Money	No Money
Traceable Kin	7	64
Non-Kin	17	8

$X^2 = 33.33$
$P < .001$

Table IX-2. Initial Survey: Prestudy Transfer Events By Residential Proximity and Relationship to Sample Household, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Frequency of Transfer Events)

	Eo	Lia	Moroto
Husband's Kinsmen	0	9	4
Wife's Kinsmen	32	15	3
No Relation	5	12	9
Totals	37	36	16

is measured crudely by whether ego's partner in reciprocity dwells in the same compound ("eo"), within the same area as ego, but not in the same compound ("Lia"), and somewhere on Moroto mountain but not in the same area ("Moroto"). The table shows a strong confirmation of this hypothesis. Thirty-seven (42%) of the total 89 intra-tribal transfer events recorded occurred between persons dwelling in the same eo. Of the 37 transfer events, only 5 (14%) were between non-relatives.

Hypothesis III - There existed in the past an inverse correlation between the degree of kinship relatedness of partners in transfer events and the frequency of use of cash as a medium of exchange.

It is explicit in Sahlins' model, and implicit in my diachronic model, that the further one goes from the household in terms of kinship and residential proximity, the greater the probability of reciprocity being negative. Table IX-3 confirms this proposition overwhelmingly.

The remaining hypotheses were developed for testing during a four month period in 1970. The four month period was divided into two "study periods" of two months each. The first of these periods, March and April, 1970, came at the very beginning of the rainy season during which time the So were cultivating and planting their fields. The first period was one of extreme hardship for the people, as the preceding year had seen a drought and most of their crops had failed. Most households had little or no reserves of grain except for the small amount set aside for planting. The second study period, May and June, 1970, was marked by more than sufficient rain and the first harvest of

their crops. Also, cows began to give birth and there was in many cases some milk to add to their diets. The second study period, then, was in relation to the first a time of relative plenty. Many of the following hypotheses posit relationships correlated with the two study periods:

Hypothesis IV - There will be a greater mean number of meals eaten per day per household during the second study period than occurs during the first study period.

Table IX-3. Initial Survey: Prestudy Transfer Events By Presence or Absence of Cash Exchange and By Type of Exchange, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Frequency of Transfer Events)

	Money	No Money
Related So	7	64
Unrelated So	17	8
Karamojong	62	9
Market Exchange	306	6

$X^2 = 307.42$
$P < .001$

Meals, as Brady (1971) pointed out, are a major locus of intra-household reciprocity. A reduction in the frequency of these events may be caused by either or both of two factors; insufficient food resources to hold the event and suspension of the reciprocal mode underlying the event at the household level. These two factors may, as in the case of the Ik, in fact overlap. Food resources were never so scarce during the formal study period as to eliminate communal meals altogether. Yet, we

obtained clear indication that household members were beginning to economize their personal resources by consuming them alone and not sharing them in the context of meals. An example of this behavior may be seen in the case of a young husband who sold some herbs on the town market and bought bread which he ate himself while in the town. He later did not tell his wife that he had eaten, and, in fact, withheld the information from me during an interview at which his wife was present.

Table IX-4 gives the mean number of meals eaten communally per day per household for both study periods and offers confirmation of the hypothesis.

Table IX-4. Mean Number of Meals Per Day Per Household For the Two Study Periods, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda

	March/April	May/June
Meals Per Day	1.42	1.66

Hypothesis V - The mean number of guests fed by each household per meal will be greater during the second study period (the period of relative plenty) than the mean number fed during the first study period (the period of relative deprivation). Guests will be both close kinsmen and residents of the same eo as the household to a proportion greater than that expected by chance. Because the offer of food is the major medium of generalized reciprocity

in primitive society, the model would predict at least a partial suspension of such offers during times of stress. Furthermore, the model would predict that the significant majority of exchanges through this medium would be between persons of close kinship/residential proximity, Table IX-5 gives the frequency of such reciprocity during the first

Table IX-5. Number of Guests At Meals For All Sample Households During First (Deprived) Study Period, By Relationship and Residential Proximity To Sample Household, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda

Relation To Guest	Eo	Lia	Moroto	Other	Totals
Husband's Kin	15	16	0	21	52
Wife's Kin	20	45	0	0	65
No Relation	0	38	17	0	55
Totals	35	99	17	21	172

$\bar{X}$ number of outsiders per meal = 1.09

study period while Table IX-6 gives that information for the second study period. Both tables give the distribution of transfer events by kinship and residential proximity as well as the mean number of guests per meal per household. It will be noted that the incidence of reciprocity increases markedly during the second study period and that most of the increase is due to exchanges with close kinsmen living in the same eo. I should also note at this point that a heavy loading indicating preference for exchange with the wife's kinsmen forms a pattern throughout the survey data. This result was not predicted (as a matter of fact

the opposite - heavy loading indicating preference for the husband's kinsmen - was predicted) and therefore a post hoc explanation of this phenomenon will be reserved for the concluding comments of this chapter.

Table IX-6. Number of Guests At Meals For All Sample Households During Second (Plenty) Study Period, By Relationship and Residential Proximity to Sample Household, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda

Relation To Guest	Eo	Lia	Moroto	Other	Totals
Husband's Kin	2	3	0	26	31
Wife's Kin	163	9	22	0	194
No Relation	14	0	15	0	29
Totals	179	12	37	26	265

$\bar{X}$ number of outsiders per meal = 1.39

While they do not relate directly to the hypotheses, data are presented in Table IX-7 which show the distribution of production events involved in meals. The wife usually prepares meals among the So, but may be assisted upon occasion by her daughters and even by her sons.

Hypothesis VI - Most of the foodstuffs consumed during meals in the first (deprived) study period will be derived predominantly either from production of household members through hunting/gathering, or from articulation with the Moroto township cash market sector. The quantity of foodstuffs derived from these sources will decline during the second (plenty) study period due to increased agricultural and livestock resources.

It was expected that each household would utilize every traditional resource at its disposal during a period of deprivation. This would include the hunting of what game remains and the collection of leaves, berries and herbs within reasonable access to the eo and garden. However, due to environmental deprivation - that is, scarcity of traditional food resources - it was expected that households would rely heavily upon production/exchange alternatives involving the Moroto cash economy.

Table IX-7. Responsibility for Meal Preparation During Both Study Periods, By Household Member and For All Sample Households, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda, (Frequency of Meals Prepared)

Meals Prepared By	Frequency	Percent
Wife	416	76%
Female Offspring	89	16%
Male Offspring	23	4%
No Preparation	19	4%

It was also expected that, as crops came into harvest and livestock produce became more available, reliance upon negative reciprocity with the cash sector would decline. It was reasoned that hunting/gathering activity would likewise decline. It will be noted in Table IX-8 that an inverse correlation between frequency of hunting/gathering consumption events and livestock/agricultural consumption events was obtained; thus partially confirming the hypothesis. However, the frequency of market oriented consumption increased, rather than decreased as was predicted.

A post hoc explanation of this unexpected result will be offered in the concluding remarks of this chapter. Additional data pertaining to

Table IX-8. Consumption Events During Both Study Periods, By Study Period and Origin of Foodstuff, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Mean Frequency of Items Per Meal)

Origin Of Item	March/April	May/June
Hunting-Gathering	0.53	0.36
Livestock and Garden	0.15	0.82
Markets	1.61	1.65

gathering production events are presented in Table IX-9. The data show the primary importance of the wife in such activity, though significant

Table IX-9. Production Events During Both Study Periods, By Member of Household and Frequency of Items Collected, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Percent of Total)

Items Gathered By:	Number	Percent
Wife	124	56%
Female Offspring	65	29%
Male Offspring	24	11%
Husband	5	2%
Other	4	2%
Totals	222	100%

production is also carried out by offspring, especially daughters.

Hypothesis VII - Cash economy sector oriented production by households will be significantly greater during the first (deprived) study period than during the second (plenty) study period.

It was reasoned that, faced with extreme resource scarcity, the So would tend to take advantage of the economic sector likely to give the greatest return. Further, it was predicted that the nature of productive activities would reflect this concentration. As Table IX-10 indicates, this prediction was justified (amounts are in Uganda Shillings). The table also indicates the relative importance of the various commodities available to the So for manufacture or collection and sale in the market sector. The most wide-spread commodity is charcoal, which is manufactured almost exclusively by women. There is a wide and usually constant market in Moroto town for charcoal and many women will establish a patron-client relationship with a buyer in the town, to whom she will always sell her charcoal. The other commodities fluctuate in demand to varying degrees and hence are less predictable, though they may, at times, bring a higher income per unit of production effort than the more reliable charcoal.

Table IX-11 lists the various available market centers in and around Moroto township in order of their importance in terms of income. Also included in the list is a category called "inter-eo exchange". Income from this market sub-sector is almost wholly accounted for by the manufacture and sale of beer by household wives. The sale of beer in So conforms in every economic respect with that of the Turu of Tanzania (Schneider, 1970, p. 163) and appears to be a general profit motivated

Table IX-10. Market Oriented Production For Both Study Periods, By Item and Mean Cash Input Per Household Per Day, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Uganda Shillings)

Production Item	March/April	May/June
Charcoal	.15	.16
Firewood	.12	.08
Herbs	.00	.24
Grass (Dried)	.07	.00
Poles (Cut and Sized)	.33	.12
Crafts	.30	.00
Mushrooms	.00	.05
Beer	.89	.00
Tobacco (Native Grown)	1.59	.00
Wild Game Meat	.15	.00
Totals	3.60	.65

Table IX-11. Available Markets For Exchange By Household Members Mean Amount of Cash Input Per Household Per Market Center For Both Study Periods, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Uganda Shillings)

Market	Mean Input/HH
Nakapeliman	23.60
Prison personnel	16.00
Europeans in Town	13.60
Intra-Eo exchange	9.60
Africans in Town	5.52
Karamojong	4.80
Inter-Eo exchange in Lia	4.20
Army personnel	3.00
Agricultural Station Personnel	2.80
Police personnel	1.40
Moroto High School	0.74
Other	8.00
Total	93.26

productive practice throughout East Africa. Beer making is an interesting phenomenon, for not only is beer brewed as payment for individuals participating in work parties (see Chapter Seven), but it also offers one of the few loci of intra-tribal, and even intra-lineage, negative reciprocity. Our study indicated that in most cases women were in fact able to make a profit from the sale of beer, especially if the brew was carried to the town for sale. However, as with the Turu, profits are minimized, and at times eliminated, by the tendency for the entrepreneur to sample her own wares.

Turning to the other market centers, the "native district" of Moroto township is called Nakapeliman and harbors a major market place to which individuals may come to sell their wares without paying the seller's fee required in the major market place in the town proper. The families of Moroto Prison officials offer an important market as well, especially for charcoal and firewood. Europeans will often purchase charcoal and hand-crafted stools and other artifacts brought to them by So men and women. African businessmen and officials will likewise purchase charcoal as well as poles which they utilize in building houses. The families of Army personnel stationed outside of Moroto offer the So another major market for herbs, dried grass, mushrooms and native grown tobacco which is ground and used as snuff. Table IX-12 shows an almost equal involvement in production activity for both husband and wife, as well as the significant contribution of offspring to the household income.

A significant proportion of the cash input to any household was

Table IX-12: Market Oriented Production Events During Both Study Periods, By Production Item and Household Member, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Frequency Of Production Event)

Production Item	Husband	Wife	Both	Offspring
Charcoal	8	15	0	9
Firewood	7	17	0	5
Herbs	5	0	0	0
Grass	0	6	0	0
Poles	10	6	5	0
Crafts	8	0	0	0
Mushrooms	0	0	0	6
Beer	0	11	0	0
Tobacco	5	0	0	0
Wild Game Meat	3	0	0	0
Totals	46	55	5	20

used, as anticipated, to purchase foodstuffs on the cash market. The average daily expenditure per household for foodstuffs is detailed in Table IX-13 by commodity. This table also divides expenditures by study period. The commodities are listed in order of their relative importance during the first study period. It may be noted that posho (maize-meal), domestic meat, and beer are by far the most important commodities in both study periods, with milk becoming important only during May and June. The majority of cash output for foodstuffs is expended by households in four market sub-sectors (see Table IX-14) - Nakapeliman (for meat, beer, tobacco, milk, etc.), Asian dukas or shops in Moroto township (for posho, tobacco, beans, salt, ground nuts, etc.), the Moroto town market (for meat, tobacco, beans, milk, matoke, etc.) and inter-eo exchange (for beer only).

Hypothesis VIII - Due to a decrease in cash economy oriented production during the second (plenty) study period, there will be a corresponding decrease in the cash output per household for non-food commodities purchased in the cash economy sector.

It was expected that although the primary incentive for articulation with the market sector was the need for food resources, some of the cash output would be expended upon durable items as well. This expectation was based upon observations of So purchasing behavior prior to the formal study period and upon the fact that many households owned such goods bought prior to the field work period. It was reasoned that as need for market sector foodstuffs dwindled, market oriented production would cease. With no cash input the purchase of durable items

Table IX-13. Market Oriented Exchange: Purchase of Foodstuffs By Commodity, Amount of Cash Output Per Household Per Day For Each Study Period, Random Sample of So Households, Dia Valley, Moroto Mountain, Karamoja District, Uganda (Uganda Shillings and Percent of Total)

Commodity	March/April		May/June	
	Freq.	%	Freq.	%
Posho (Maize)	.53	32.9	.50	30.3
Meat (Domestic)	.36	22.4	.28	17.0
Beer (Native)	.24	14.9	.23	13.9
Tobacco	.12	7.5	.12	7.3
Beans	.11	6.8	.03	1.8
Milk	.10	6.2	.23	13.9
Matoke	.06	3.7	.06	3.6
Salt	.06	3.7	.07	4.2
Ground Nuts	.03	1.9	.02	1.2
Curry	.00	0.0	.01	0.6
Oil	.00	0.0	.04	2.4
Millet (Whole)	.00	0.0	.06	3.6
Totals	1.61	100.0	1.65	99.8

Table IX-14. Market Oriented Exchange: Available Markets For Purchase of Foodstuffs, Mean Amount of Cash Output Per Household Per Day For Both Study Periods, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Uganda Shillings)

Market	Mean Output/HH
Nakapeliman	0.63
Dukas	0.55
Market (Moroto Town)	0.16
Inter-Eo exchange in Lia	0.12
Agricultural Station Personnel	0.08
Karamojong	0.03
Intra-Eo exchange	0.03
Inter-areal exchange	0.03
Total	1.63

would significantly drop in frequency. Total expenditures for foodstuffs, especially luxury items, did in fact increase during the plenty period (Table IX-13). The reason for this unexpected result will be discussed in the conclusion of this section. However, expenditures for durable items did drop as predicted (Table IX-15). The decrease can only be attributed to the decrease in market oriented production and

Table IX-15. Market Oriented Exchange: Purchase of Non-Food Items By Type of Commodity, Mean Amount of Cash Output Per Household Per Day For Each Study Period, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Uganda Shillings)

Commodity Category	March/April	May/June
Clothing	0.16	0.03
Utensils	0.10	0.09
Tools	0.09	0.07
Beads	0.06	0.04
Other	0.03	0.03
Totals	0.44	0.26

cash input (Table IX-10). The most significant fluctuation recorded in Table IX-15 is in purchase of clothing. This category covers primarily the purchase of cloth which is worn about the neck in the form of a toga. The item is worn throughout the year and its purchase does not correlate with climatic conditions. The purchase of a new toga is a luxury as men and women will either go without, or continue wearing an old and tattered one, if cash is scarce. Table IX-16 lists the principal market centers from which durable goods were purchased. Many of the

listed commodities may be purchased at any of these centers with the exception of the Karamojong from whom the So buy only the metal parts for the manufacture of tools and utensils.

Table IX-16. Market Oriented Exchange: Available Markets for Purchase of Non-Food Items, Mean Amount of Cash Output Per Household Per Day For Both Study Periods, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Uganda Shillings)

Market	Mean Output/HH
Dukas	0.21
Karamojong	0.09
Nakapeliman	0.02
Market (Moroto Town)	0.01
Total	0.33

In Table IX-17 I have combined the average daily cash output per household for both food and non-food commodities in order to indicate a

Table IX-17. Market Oriented Exchange: Comparison of Purchase of Food and Non-Food Items, By Study Period, Mean Amount of Cash Output Per Household Per Day, Random Sample of So Households; Lia Valley, Moroto Mountain, Karamoja District, Uganda (Uganda Shillings)

Type of Commodity	March/April	May/June
Food Items	1.61	1.65
Non-Food Items	0.44	0.26
Totals	2.05	1.91

total decrease in articulation with the market sector during the second study period.

Hypothesis IX —There will be an increase in the mean number of non-market oriented, food and non-food transfer events intra-tribally during the second (plenty) study period. Most of this increase will be due to an increase in exchanges between close kinsmen who live in the same eo. This hypothesis specifically excludes transfer events involving meals and covered under Hypothesis V above.

This hypothesis is rather straightforward and is strictly implied by the diachronic model itself. Generalized reciprocity between close kinsmen who live in the same compound was expected to be depressed during the period of relative deprivation. Likewise, it was expected to increase in incidence with an increase in basic resources. Individual transfer events were totaled for each study period and are presented in Table IX-18. It will be noted that exchanges involving food

Table IX-18. Non-Market Exchange: Comparison of Food and Non-Food Transfer Events, By Study Period, Mean Frequency of Transfer Events Per Household Per Day, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda

Type of Transfer Event	March/April	May/June
Food TE's	0.21	0.47
Non-Food TE's	0.24	0.15
Totals	0.45	0.62

commodities account for most of the increase. This confirms the first proposition of Hypothesis IX.

Tables IX-19 and IX-20 break down these data further to show the relative frequencies of transfer events according to kinship and residence. The first table covers the first study period and the second table the second period. Overall it may be seen that kinship and non-kinship approaches random distribution with greater geographical dis-

Table IX-19. Non-Market Exchange: Transfer Events By Relationship and Residential Proximity of Partner to Household Members For the First (Deprived) Study Period, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Mean Frequency of Events Per Household Per Day)

Relation of Partner	Same Eo	Lia Area	Moroto Mt.	Totals
Husband's Kinsman	0.02	0.01	0.06	0.09
Wife's Kinsman	0.13	0.08	0.02	0.23
No Relation	0.02	0.06	0.05	0.13
Totals	0.17	0.15	0.13	0.45

tance from the household's eo. The occurrence of transfer events between eo-mates during both study periods is greater than would be expected by chance, indicating a proclivity for eo co-residents to exchange with each other even during periods of stress. Most important for confirmation of Hypothesis IX is the marked increase in the frequency of exchanges between kinsmen who are co-residents during the second study period. The reader might note again the unexpected heavy

loading in the wife's kinsmen category.

Table IX-20. Non-Market Exchange: Transfer Events By Relationship and Residential Proximity of Partner to Household Members For the Second (Plenty) Study Period, Random Sample of So Households, Lia Valley, Moroto Mountain, Karamoja District, Uganda (Mean Frequency of Events Per Household Per Day)

Relation of Partner	Same Eo	Lia Area	Moroto Mt.	Totals
Husband's Kinsman	0.06	0.03	0.04	0.13
Wife's Kinsman	0.28	0.04	0.04	0.36
No Relation	0.02	0.03	0.08	0.13
Totals	0.36	0.10	0.16	0.62

Conclusions

In summary, then, I have demonstrated a tendency toward increased social "atomization", at least in the all-important area of economic reciprocity, in response to decreased basic resource availability. I have also shown that in the case of the So there is a tendency toward increased reliance upon articulation with an external, cash oriented market system due to the same environmental phenomenon. Finally, I have shown that these tendencies are not fortuitous, but are predictable (and, hence, explainable) by use of a diachronic model of primitive exchange.

Two phenomena are reflected in the data for which I had no explanation and which my model was incapable of predicting. I noted them in passing and will now call the reader's attention to them once again.

The first was the failure of market sector oriented foodstuffs transfer events to decrease during the second study period, even though market oriented production and non-food exchanges did, in fact, decrease as predicted. This flaw in the model was due to a naive conception of maximization in So. I assumed that households would produce commodities only in sufficient quantity to assure their immediate needs when sold on the market. In other words, my model fails to control for saving. I have no doubt that had I been able to remain in the field until the period of full harvest, market exchanges for foodstuffs would have been virtually eliminated. Yet if I am to proceed according to the approach outlined above, I must in the future develop a more sophisticated model which includes logical provisions for saving.

The second phenomenon for which there existed no predictive provision in the model was the inordinate loading in favor of reciprocity with the wife's, and not the husband's, kinsmen. Preference for the husband's kinsmen was informally predicted because the So are in many senses a patrilineal people. I am able to offer only a partial post hoc account of the results at this point and at the same time would suggest that a truly workable model of exchange behavior must ultimately be capable of predicting the direction of reciprocity as well as its incidence. I have already shown in the chapter dealing with residence that among the So there is a tendency toward randomization of residence and that this is a logical adjunct to maximization considerations for the So during an extended period of economic decline. That means that although the So are nominally a patrilineal people, most households are

now living in close proximity to more of the wife's kinsmen than was the case in traditional times. Considering the fact that most non-market or generalized transfer events involved the transfer of foodstuffs and that such exchanges were usually between women (in the case of meals, women usually prepare the food and deliver it to others of the household and outside the household), it might be reasonable to assume that in close proximity to her own kinsmen, a wife would more likely exchange with them rather than with the kinsmen of her husband. As I have said, this can only offer a partial rationalization due to the equally heavy loading in favor of wife's kinsmen evident for past exchanges of durable goods indicated in Table IX-2.

Chapter Ten

Concluding Remarks

In the preceding sections I have tried to show that the So respond to economic deprivation by shifting their patterns of production, consumption and, especially, redistribution to modes more likely to assure both individual and group survival. I began the study by indicating that patterns of economic and social interaction today are the result of rapid changes which have occurred over the past few decades. Change was initiated by the massive and ultimately destructive onslaught of Western industrial society. The lack of early administrative concern for the wildlife population in Karamoja District made possible the unbounded exploitation of these resources to the profit of Western entrepreneurs, and to the detriment of the native peoples of the area. The So depended upon these resources for primary subsistence during extended drought periods.

Subsequent to the destruction of the wild game resources, the So took up cattle-keeping, an activity which offered many of the same functional advantages as wild game. Their herds prospered for a time, but again because of inadequate governmental action accelerated cattle raiding reduced the number and size of the herds. The total process of change has, in effect, progressively narrowed the number and quality of subsistence alternatives. All that is left to the So today are their (at times) meagre agriculture, the ever receding wild flora, their few

herds, and a critical articulation with the district's cash market sector.

I have demonstrated that the ecology of Soland is in a state of constant flux. Environmental fluctuation is not merely random, but is: (i) steadily deteriorating over all, and, (ii) cyclical and predictable in terms of resource availability over the short haul. The distinction here is important; for, though the So fully appreciate the ramifications of the latter type of fluctuation, they perceive the former type only partially at best. Examples of the gradual deterioration of Soland are the continual recession of flora due to overgrazing, the dangerous increase in population which will likely create a scarcity of land, and, as I mentioned above, the continual reduction in the presence of wild fauna. Predictable fluctuations in basic resource availability are consciously appreciated by the So and constitute a major factor in making decisions affecting their survival.

In the core of the study I have developed a number of hypotheses pertaining to changes in modes of production and consumption, and in types of exchange. I have shown that when faced with an extreme scarcity of food resources, due in part to crop failure and inadequate livestock produce, the household and its adult members become less concerned with long range goals and more concerned with maximizing returns of the greatest immediate utility. Behaviorally speaking, a transfer in strategy manifests itself in a cessation of intra-lineage and intra-eo exchange of goods, a shift in productive output from traditional to market orientation, and an increased reliance upon market exchange for

basic commodities. With the return to an increased resource base, the concern for long range goals returns and there occurs a concomitant increase in intra-lineage/intra-eo exchange. Occurring, also, is a shift back to traditional modes of production and a decreased reliance upon the market sector for basic commodities.

Atomization and Adaptation

Viewed casually from a synchronic and a macro-social level, the depression of generalized reciprocity during a period of stress appears as social "atomization", or disruption, of the "traditional" social structure. The term "atomization", however, is value-laden. The term as used in anthropological writings offers little more than an extremely shorthand rubric for a very complex and intriguing social phenomenon. It also implies the prior existence of a social system which was once stably "communal" and better. The concept seems to assume that maximization considerations governing modes of reciprocity were once statistically well balanced vis a vis long and short term returns. Analyses of this sort in anthropology are more the by-product of the predominantly synchronic nature of our data than an accurate reflection of social reality. For example, if I had entered the field during an exceptionally good year, or even an "average" year, I might well have missed the pattern characteristic of the centripedal phase of the "accordion effect". An accurate picture of So society must include the description of the entire cycle.

So society does not disintegrate (in the common sense of the term) in response to hard times. Rather, there occurs a general modification

in patterns of social action and interaction. Change is systematic and provides an adaptive "fit" with ecological and external social conditions. One need only reflect upon the activity of the kenisan cult during periods of stress to see that, although patterns of economically relevant social interaction do change at the level of reciprocity, the overall integrity of the ethnic group is maintained. While each household reorients itself in relation to domestic production and reciprocity (and is thus able to avail itself of the differential advantages of alternative modes of economic interaction) the tribal elders act in various ways to re-enforce group solidarity and direction, especially at the areal level.

Social Behavior as Adaptation to Minimal Resource Availability

All that I have said above is implied either directly, or by inference, from what I have called the diachronic model of primitive exchange. In the spirit of the approach to theory-building I have termed deductive/inductive alternation I would like to theorize at this juncture beyond the strict bounds of that model - and to a large extent beyond the reasonable support of the data presented in this study.

The diachronic model, I would argue, may be subsumed under a more extensive theory which may be labeled "social behavior as adaptation to minimal resource availability". The core of this theory states that the primary function of any social system is the maintenance of a genetically viable reproductive population which is capable of perpetuating itself through time. This may be called society's adaptive function. By the term "adaptation" I mean to denote only the strict biological

referent.[1]

Any social system must, if it is to be adaptive, define modes of production and distribution of basic goods and services (here defined as those prerequisite for the support of a viable reproductive population) if it is to maintain its existence through time. This at first glance may seem to be a trivial truth. Yet after considerable reflection one is struck by a number of important considerations. For one thing, the notion points to the fact that economic anthropology has for too long emphasized the importance of means of distribution or exchange in primitive economic systems. This has acted to depress unjustifiably the importance of production. One major result of this is a confusion in the field about the exact operational boundaries of the study of "economics". If, so the argument goes, the study of economics is the study of exchange (modes of exchange, exchange circuits, values in exchange, etc.) then any social interaction may be economic (see Homans, 1958).

An adequate theory of primitive economics requires a re-emphasis upon production, but one which does not commit the same error in

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[1]The term "adaptation" is a biological concept borrowed, and often mis-applied, by anthropologists. The concept loses much of its potential explanatory value in transfer due to its association with a logical fallacy I call "the fallacy of reason by analogy". The fallacy is committed when a concept used and applicable in one situation such that it requires conditions C^1, C^2, C^3,...C^n for validity is applied to another situation in which one or more of the formal conditions is not present. "Adaptation", specifically, has often been used as an explanatory device in the absence of its requisite condition, natural selection (e.g., see Hymes, 1961).

reverse - de-emphasis of the role of exchange. Scott Cook (1971) made this point independently in a recent discussion of the place of production in primitive economic theory. If the prime referent in the study of primitive economics becomes production, and not exchange, then economics becomes the study of the relationship between a society and its ecological environment. He thus argues for a merger between economic and ecologicalanthropology. I would go further to say that "production" and "distribution" are two ways of looking at the same process. Cook said that when the goods have been produced, "the economy has done its job" (ibid). I would amend his comment to say that when the goods and services have been produced and distributed, the economy has done its job. Defining the purview of economic anthropology in this way allows us obviously to speak of economic and non-economic exchange. It might be noted in retrospect that I have limited my concern for production and reciprocity in the above study with this definition in mind.

Returning to my discussion of the prime adaptive function of So society, it also follows that social systems confronted with fluctuating ecological variables must, in order to remain adaptive, provide a certain flexibility in their structure. Flexibility is necessary so that the modes of production and distribution may shift, often rapidly, to match a changing set of resource alternatives. In some situations merely the types of resources available at any particular time will change while the overall quantity of input remains the same vis a vis an adequate subsistence base. To these conditions the social structure

may respond by redirecting the mode of production only, retaining the same patterns of distribution. However, if the ecological fluctuation involves alternating minimal/maximal resource availability such that during one phase in the cycle basic resources become both more limited in type and scarce in quantity, then the flexibility required in the social structure will become more dramatic. Adaptive systems of the latter sort, for example, will not incorporate strictly enforced, normative rules during periods of maximum resource availability which will impede change in modes of production and exchange necessitated by ecological stress occurring at a later time. To put this into empirical perspective for the moment, the So are aware that the next season's crops may fail and that they may be faced with the possibility of starvation. Built into their social structure are the attitudes and institutions which make it possible to radically change behavior from types of social interaction determined by long range maximization strategies to types of interaction determined by relatively short range strategies. The So do not strictly enforce post-nuptial residence rules or marriage by brideprice. Although the explicit rule is "if a person is present at meal time, then you must feed him", no one considers it a serious breach of etiquette during hard times if food is not offered a visitor. So social structure, in other words, is capable at any time of cyclical disassociation and reassociation in response to economic determinants. As I have already intimated, I believe this to be the case with the Ik as well.

One of the major difficulties with testing the truth value of this

extended theory is that the literature offers few cases of non-adaptive social systems. Such a system is, by definition, one in which the population forming the system is either rapidly exterminated by catastrophic ecological factors, or is ultimately incapable of supporting a sufficiently large reproductive population. Even the Ik do not, as far as Turnbull's description indicates, amount to a non-adaptive society. As a matter of fact I suspect they adapt to their remarkably miserable conditions quite well. Turnbull himself offers a clue to the nature of Ik adaptation when he says that the young adult males and females remain relatively healthy while at the same time the very young and old die from starvation (1967, p. 69). It is precisely the young breeding population which survives to establish the future social community.

The Eo Molo of Northwestern Kenya do offer a case of a non-adaptive society (see Dyson and Fuchs, 1937). Prior to decisive interference by Western missionaries, this group had dwindled in population to fewer than 80 individuals. Given their traditional economic adjustment to their environment, they were beyond the point where they could long maintain a viable population. A group of Catholic missionaries, however, introduced a radically different technology into the system which allowed the El Molo to exploit resources theretofor unavailable to them. This acted in combination with modern medical techniques to head off the otherwise inevitable demise of the tribe.

The theoretical position I am espousing argues for closer analytical and ethnographic attention to marginal societies. Probably more important in terms of practical availability of data, it argues

for increased attention to societies which have adapted to extremely fluctuating ecologies. Studies of these societies should be diachronic in design. Despite a tradition of theory-building in anthropology based usually upon time-slice ethnography, valid theory, capable of explaining social change, must be grounded upon studies which isolate and control for temporal variables. Let me underline this point again - causal models can not, in principle, be supported by synchronic data.

Theory construction in science ought to be a pyramiding process. The cautious theorist begins by choosing problems which include only a limited number of variables. This is so that he has some reasonable assurance of control over a major fraction of the variables at the very least. The theorist may in fact work to build a number of limited models which offer an acceptable degree of predictive power. If he succeeds in constructing a set of workable models he may then attempt to build a more inclusive theory which, as it were, acts as a set, subsuming the more limited models within it as subsets. This is precisely what I have attempted to do with Sahlins' model of primitive exchange. By incorporating it into a slightly more extensive model - the diachronic model of primitive exchange - I have extended the range of its explanatory power. Yet both models deal with a limited aspect of primitive economics - reciprocity - and only tangentially deal with other important problems such as the role of production and labor in social adaptation. The ultimate goal would be a higher order theory which would explain both changes in modes of reciprocity and shifts in the allocation and intensity of labor to changing priorities in production.

Sahlins (1971b) has recently turned his attention to the problem of the allocation and intensity of labor in primitive and peasant society. He centers his discussion on the Chayanov model which states that the intensity of labor exhibited in peasant households will be a probability function of the capacity for labor in the household. Stated differently, productive intensity will be inversely correlated with productive capacity as measured by the number of consumers per household divided by the number of producers (ibid, p. 34). A critical point made by Sahlins is that in neither peasant nor primitive economics is the normative level of productive intensity anywhere near the theoretical maximum potential (ibid, p. 32). The norm of productive intensity will vary in relation to quantity produced depending upon the society one examines. This norm, however, will always exceed, to some measurable extent, that necessary for the maintenance of minimal subsistence requirements. The production of a surplus in primitive economics is a social rule, not an exception. Sahlins concludes that patterns of production intensity are embedded in and determined by non-economic social variables. And, as men in primitve society ordinarily do not maximize wealth for its own sake, but rather maximize prestige and other non-material returns through the medium of wealth, men tend to produce only enough wealth to sustain these goals. There exists a plethora of information in the literature in support of this proposition (see Carneiro, 1968, p. 134; Woodburn, 1968, p. 51).

In emphasizing the social determinants of the upper limits of production output and intensity, Sahlins fails to note an equally

important fact - that the lower limits of production output and intensity are determined, not by social variables, but by limitations imposed upon the economy by the ecological environment. It is evident upon reflection that production cannot fall below a point where the quantity of basic goods and services proves inadequate to support a viable reproductive population. From my own position this is the more critical and instructive limitation of the two. For societies confronted with a radically shifting resource base must maintain a marked flexibility in their modes of allocation of labor, both in direction of utilization and in intensity of production. Flexibility in the allocation of productive capabilities, like flexibility in modes of reciprocity, will necessitate a range of strategy alternatives. And more often than not, any distinction between the goals necessitating production strategies and those necessitating exchange strategies will by purely analytic. As I have demonstrated by the So data, a shift in the availability of resources will affect both direction of production and patterns of exchange - and both to the same purpose, continued survival. The inevitable result of this chain of reasoning is that production and economic reciprocity may be viewed as two analytic aspects of a single process - economizing, the allocation of scarce resources to alternative ends.

Appendix I

Soil Profiles

The following three soil profiles were completed by J.G. Wilson (1959, Pp. 21-24) for both the Moroto and Nadiket soil series.

Moroto Series

This series occurs on Moroto, Kadam and Napak mountains generally at an elevation of over 7,000 feet, extending up to 10,000 feet on Moroto mountain. But on Kadam its range may be from about 6,000 to 9,000 feet. The probable rainfall regime lies between 40 and 50 inches per annum. The soils are characterized by loose surface litter when occurring under forest overlying 14 to 25 inches of a dark humus loam. Under grass, the humus topsoil is noticeably shallower and of a stiffer texture. Below this is a reddish, granular clay extending usually 3 or 4 feet and occasionally to as much as 10 or 12 feet below the surface. Murram, but not laterite, has been infrequently found in these soils. The soil profile becomes mottled through differential weathering as it extends into the underlying rotted rock. These soils are indicated in the aerial photographs by a distinctive large stipple pattern of a very pale color, easily distinguished from adjacent soils.

Profile 3 (20579-82)

Near forest camp, Moroto mountain, altitude 8,000 feet, in grassland.

0-7" Dark reddish-brown (5YR:3/3) clay loam, sub-angular blocky to granular structure.

7-14" Dark red (2.5YR:3/6) clay loam, sub-angular blocky to granular structure, slightly cloddy and plastic when wet.

14-35" Red (2.5YR:4/6) as before with frequent very small black murram pellets.

35-70" Dark red (2.5YR:3/6) clay loam, sub-angular blocky to granular with frequent murram pellets. Very compacted and stiff.

Chemical Analysis

Depth:	7"	14"	35"	70"
Mechanical Analysis:				
Silt	16	14	8	5
Clay	34	50	56	67
Exchange Bases (Cations) Milli-equivalents per 100g Soil:				
Ca-	12.8	7.0	5.1	7.3
Mg-	6.9	4.5	4.5	6.9
K-	1.78	0.98	0.48	0.41
Na-	0.0	0.0	0.0	0.0
Mn-	0.33	0.11	0.04	9.02
Exchange H m.e. %:	8.4	8.0	6.0	6.1
Exchange Cap. m.e. %:	17.41	13.59	11.02	13.43
% Saturation:	51.8	41.1	45.6	54.6
PH:	6.0	5.8	6.2	6.2
Organic Carbon %:	2.76	1.83	1.20	0.48
Truog P_2O_5 p.p.m.:	10	1	5	7
Remarks:	P_2O_5 low for all levels; N% 0-7" is 0.253, C/N is 9.2.			

The effects of high altitude are again reflected in the organic-matter status, especially in soils under forest. Bases are comparatively high but available phosphorus is still low, reactions vary from strongly

acid to slightly acid.

The vegetation cover is often forest of many species including Teclea nobilis, Juniperus procera, Podocarpus gracilior, Albizia grandibacteata, Dombeya goetzenii, Olea chrysophylla, etc. Where fire has destroyed the forest a light wooded grassland of Protea abyssinica, Fauroa saligna and Olea chrysophylla is usually dominant with a Bromus sp., Cymbopogon sp., etc. grassland.

Nadiket Complex

Nadiket clays occur in a climatic regime of 30 to 35 inches rainfall per annum at an altitude range from 4,500 to 7,000 feet. The eastern side of Kadam mountain and the basal slopes of Moroto mountain have a similar climate as indicated by both the vegetation and soils. A brown clay in certain localities has developed from the spheroidally weathering underlying volcanic rock. The profile varies in depth from 1 or 2 to 15 feet, being remarkably uniform, with little or no horizon development. These brown clays are frequently subject to considerable erosion, thus producing a somewhat truncated profile under a protective stone-mantle. The occurrance of such stone-mantled brown clays is widespread on the southern slopes of Moroto mountain. A typical profile is given below:

Profile 5 (18531-4)

0-12"	Dark brown (7.5YR:4/2) silt loam, with a hard crumb structure.
12-72"	Very dark brown (10YR:2/2) clay loam with sub-angular blocky structure.

72-144" Dark brown (7.5YR:4/2) clay loam as above with occasional $CaCO_3$ nodules present.

144-180" Reddish-brown (5YR:5/4) clay loam with darker brown mottlings, compact massive structure.

Chemical Analysis

Depth:	12"	72"	144"	180"
Mechanical Analysis:				
Silt	29	17	23	21
Clay	22	38	40	36
Exchange Bases (Cations) Milli-equivalents per 100g Soil:				
Ca-	26.9	30.0	29.7	19.7
Mg-	15.1	10.7	16.4	14.5
K-	0.52	0.64	0.55	0.48
Na-	2.5	2.3	3.1	3.6
Mn-	45.02	43.64	49.75	38.28
Exchange H m.c. %:	0.9	0.0	0.0	0.0
Exchange Cap. m.e. %:	45.92	43.64	49.75	38.28
% Saturation:	98.0	100.0	100.0	100.0
PH:	6.8	7.2	7.5	7.4
Organic Carbon %:	0.80	0.66	0.20	0.14
Truog P_2O_5 p.p.m.:	590	950	810	1000
Remarks:	N% 0-12" is 0.077, C/N is 10.0.			

The vegetation cover is strongly influenced by climate and is very variable. Around the base of Moroto mountain the soils are often covered by a Euphorbia candelabrum - Acacia brevispica - A. seyal thicket with numerous shrubs and xerophytes and a very mixed grass layer. There also appears to some extent an Acasia molloform - A. brevispica - A. seyal - Euphorbia stapfii thicket community on the drier phases of this soil. A Combretum sp. - Terminalia brownii - Acacia seyal community

with Hyparrhenia sp. develops on the lower slopes of Moroto mountain.

Where the angle of the slope is more pronounced, such as on valley flanks and ridges, shallower soil develops of a red-brown to brown color. The profile rarely extends beyond a depth of 4 feet, usually about 2 feet with little or no horizon development apart from a humus topsoil. Numerous stones and sometimes boulders are present, usually exhibiting spheroidal weathering. The following is a typical profile:

Profile 6 (20608-11)

South side of Moroto mountain, altitude 5,800 feet.

0-2" Very dark grey (10YR:3/1) clay, abundant stones, linear, oblong up to 2 inches in length.

2-13" Very dark brown (10YR:2/2) clay, crumb structured, becoming slightly more cohesive with increasing depth, few stones.

13-24" Dark reddish-brown (5YR:3/3) clay, fewer and smaller stones. Soft but more cohesive consistency.

24-38" Reddish-brown (5YR:5/4) clay, containing numerous very weathered oblong stones up to 6 inches in length.

Chemical Analysis

Depth:	3"	13"	24"	38"
Mechanical Analysis:				
Silt	16	14	14	10
Clay	36	42	42	42
Exchange Bases (Cations) Milli-equivalents per 100g Soil:				
Ca-	16.0	13.1	11.3	12.5
Mg-	8.2	8.7	8.8	6.9
K-	2.67	1.66	1.03	1.23
Na-	0.0	0.0	0.0	0.0
Mn-	0.02	0.00	0.00	0.00
Exchange H m.e. %:	4.2	6.4	18.4	7.2

Exchange Cap. m.e. %:	31.09	29.86	39.53	27.83
% Saturation:	86.5	78.6	53.5	74.1
PH:	6.7	6.1	5.9	5.8
Organic Carbon %:	3.72	2.51	7.75	1.13
Truog P_2O_5 p.p.m.:	135	15	1	6
Remarks	N% 0-3" is 0.267, C/N is 13.9.			

A lower altitude and higher temporature are responsible for the low organic-matter status of Nadiket soils. They are notably very rich in bases and available phosphate which, together with pH, increase in depth. Lime concretions are present in the deep subsoil. The stony soils of this unit are more leached and may be deficient in available phosphorous.

The depth of the soil on the valley flanks is often influenced by the vegetative cover which is a mixed Combretum-Terminalia spp. wooden savanna with trees such as Cussonia sp. and Dombeya sp. The grass layer contains Hyparrhenia rufa, H. filipendula, H. lintonii, Sehima nervosom, Cymbopogon spp., etc. Where the soil is very shallow and large exposures of bare rock occur, the vegetative cover becomes very xerophytic with Aloe spp., Acolanthus spp., Sarcostemma viminale, etc.

Appendix II

Chemical Analysis of Soils

The following figures report the results of a chemical analysis of a random sample of surface soils in the Lia and Naukoi Valleys of Mount Moroto, Karamoja District, Uganda.

Results of Soil Tests
January 1971

Sample Number	Org. Mat. %	pH	Ex H ne/100g	Pound per acre (2,000,000 pounds of soil) P	K	Mg	Ca	Mn	Fe	Al	NO_3 N	NH_3 N	[illegible]	Soluble salts x 10^5
1	4.4	7.0	2	8	500	1000	5000	16	<1	5	20	9	2	11
2	3.0	6.8	2	<1	190	1175	3750	22	<1	15	30	10	<1	<5
3	3.4	6.3	7	8	575	900	3300	20	1	15	35	9	<1	<5
4	3.4	5.8	13	<1	310	1300	2850	52	1	85	10	10	1	<5
5	3.8	6.9	5	5	625	1475	5750	24	<1	30	<5	7	1	8
6	12.0	7.0	8	24	950	1500	10,750	24	2	5	20	11	1	26
7	5.3	6.3	9	4	675	1675	4750	30	2	45	<5	5	4	<5
8	3.5	6.4	7	<1	190	1175	6000	24	2	15	<5	5	<1	<5
9	5.3	7.1	6	9	1150	1300	6250	22	<1	15	5	6	<1	10
10	3.7	7.6	<1	5	165	900	4000	12	<1	5	5	3	<1	9
11	2.9	6.8	2	1	205	1425	4000	14	<1	10	5	5	<1	<5
12	5.2	7.1	5	26	900	1300	6500	42	1	10	35	9	1	14

Appendix III

Methodology

Soon after entering the field, we initiated and completed a census of all eoek and cattle awi in the study area. Of the 1649 individuals counted, 485 were married or widowed females and 14 were unmarried or widowed adult males who headed their own households. Our sampling universe, therefore, was 499 households. A list was compiled including all of these households and a sample of 30 households was drawn from the list using a table of random numbers. Due to serious illness during the formal study period, it was necessary to cut this sample to 20 in order to finish the study. Incidentally, it was impossible to sample married males because the incidence of polygeny would have biased the sample in favor of males with more than one wife.

Over and above the formal questionnaires administered to adult members of the sample households, information was obtained by extended case method, observation and participant observation with sample households as well as selected exceptional informants not included in the sample. The selection of individual informants and households by use of random sampling methods, even when approaching these using methods other than formal interview techniques, has the advantage of eliminating biased information. Too often there is no assurance in anthropological research that the individuals making up the field worker's

bevy of informants are not deviant cases - exceptional individuals who for one reason or another more quickly befriend the field worker and thereafter offer information which may not be representative of the total population. This point has recently been made succinctly by Michael Robbins (1971) who, along with others working on problem oriented research in the area of behavioral anthropology, have placed strict sampling requirements of this sort on their own selection of informants.

Appendix IV

Survey Schedules

I. Initial Survey - This schedule was administered to informants prior to the administering of the "Series Questionnaire" and was designed to elicit the extent of household material holdings as well as information on past patterns of exchange of durable goods and services.

A. Members of the household (including eo of residence, relationship to ego, sex and age).

B. Material holdings (the following information was obtained for each of the items listed below where applicable: number of items, where obtained, cost (if purchased), from whom obtained and relation to ego, approximate date obtained, and if manufactured by household member, which member).

Hut
Granary
Ceramic Pot
Gourd Bottle
Wooden Bowl
Gourd Pot
Small Metal Pan
Metal Saucepan
Cup
Paraffin Tin
Large Wooden Bowl
Wood Milking Pot
Honey Pot
Mortar and Pestle
Plate
Basket
Eating Scoop
Wooden Mixer
Wooden Stirrer
Wooden Spoon
Metal Spoon
Adze
Hoe
Machete
Shovel
Digging Stick
Weeder
Skin Pounder
Sorghum Beater
Finger Knife
Finger Scraper
Wrist Knife
Spear
Bow
Arrow
Shield
Grind Stone
Mano
Needle
Thread
Toga
Dress
Shirt
Shorts
Skin Skirt
Girl's Skin Apron

Plow	Sleeping Skin
Ax	Metal Storage Box
Knife	Wooden Storage Box
Mirror	Table
Cot	Paraffin Lantern
Chair	Broom
Stool	Comb
Neck Rest	Padlock
Pipe	Bee Hive
Bicycle	Other

C. Foodstuffs available (type and quantity of any foodstuffs stored in pots of granaries prior to beginning of formal study).

D. Cash available (including where and by whom obtained).

E. Cash owed (including amount owed, to whom and relation to ego).

F. Members employed (covering the past year, which member employed, working for whom, nature and duration of employment, amount earned).

G. Livestock owned by household (for each of the following type of livestock, and the means of obtaining each head was ascertained).

Cows	Ewes
Oxen	Lambs
Calves	Donkeys
Billy Goats	Dogs
Nanny Goats	Roosters
Kids	Hens
Rams	Chicks

H. Shared interest in stock (information of all persons sharing ownership in livestock including residence and relationship to ego).

I. Stock borrowed (if any livestock in the household herd has been borrowed, then from whom, eo of residence and relationship to ego).

J. Stock on loan (if any of the household herd is on loan, then to whom, eo of residence and relationship to ego.

K. Livestock produce regularly shared with other households (if so, then eo of residence and nature of relationship to ego).

L. Garden plots (number of plots cultivated by the household, location of each, size of each, number of seasons planted by ego's household, if planted prior to that by another household then relationchip of second household to ego, what will be planted on each plot?)

M. Member labor on plots (including name of member, approximate number of days of labor this season, nature of work).

N. Outside labor on household plots (names and eoek of residence of individuals working, their relationship to ego, number of days of labor, nature of work, and payment if any).

O. Member labor on plots of others (which member worked, for whom including eo of residence and relation to ego, number of days worked, nature of work and payment if any).

P. Garden map (make sketch map and pace boundaries where possible, include names, eoek of residence and relations to ego of owners of all plots conjoined to household plot).

II. Series Questionnaire - This schedule was administered for the first time immediately after administering the "Initial Survey" and was repeated for each household once every 14 days throughout the study period. Each bit of information was labeled as to date of occurrance according to the following code: day of interview (0), day prior to day of interview (-1), two days prior to day of interview (-2), three or more days prior to the day of interview, but not prior to the day after the preceding interview (G).

A. Name of informant, eo of present residence, date of interview.

B. Meals (the following information was obtained for each meal eaten on each of the three sample days: time of meal, those eating, if guests, then name, eo of residence and relation to ego, where meal eaten, who prepared the meal, items consumed, where each item obtained, by whom and cost if any).

C. Cash input (the following information was obtained, where applicable, for each cash input resulting from the list of sources given below: number or quantity sold, amount of cash input, who manufactured item sold, who sold the item, to whom was it sold including place of transaction and relationship of outside partner to ego).

Employment
Milk
Goats
Cows
Chickens
Eggs
Begged
Rent
Crafts
Captured Live Game
Grain
Beer
Grass (Dried)
Charcoal
Poles
Firewood
Honey
Tobacco (Native Grown)
Herbs
Foraged Foodstuffs
Other Items

D. Items bought, borrowed, begged, loaned, given and manufactured (the following information was obtained where applicable for each item as input or output listed below: date and quantity, if purchased, then where, from whom including place of residence and relationship to ego, cost, if manufactured, then by whom, if borrowed or begged, then from whom (residence and relationship), if loaned or given, then to whom (residence and Relationship).

Posho
Beer
Millet
Paraffin
Sugar
Salt
Matoke
Tobacco
Meat
Matches
Soap
Cloth
Beads
Milk
Oil
Curry
Beans
Fish
Poll Tax
School Fees
Honey
Hut
Wooden Spoon
Metal Spoon
Adze
Hoe
Plow
Ax
Knife
Machete
Shovel
Digging Stick
Weeder
Skin Pounder
Sorghum Beater
Finger Knife
Finger Scratcher
Wrist Knife
Spear
Bow
Arrow
Shield
Grind Stone
Mano

Ceramic Pot	Needle
Gourd Bottle	Thread
Wooden Bowl	Toga
Gourd Pot	Dress
Small Metal Pan	Shirt
Metal Saucepan	Shorts
Cup	Skin Skirt
Paraffin Tin	Girl's Skin Apron
Large Wooden Bowl	Sleeping Skin
Wooden Milking Pot	Metal Storage Box
Honey Pot	Wooden Storage Box
Mortar and Pestle	Mirror
Plate	Cot
Basket	Chair
Eating Scoop	Stool
Mixer	Neck Rest
Stirrer	Pipe
Bicycle	Padlock
Table	Bee Hive
Paraffin Lantern	Livestock (specify)
Broom	Other Items
Comb	

E. Member and outsider labor on household-garden plots (name of member, name of outsider including eo of residence and relation to ego, which plot worked, length of time in hours per day, nature of the work, payment to outsider if any).

F. Member labor on plots of others (name of member, for whom worked including eo of residence and relation to ego, length of time worked in hours per day, nature of work, payment to member if any).

G. Livestock died or slaughtered from household herd (information on type of stock, why died or slaughtered, to whom meat distributed including eo of residence and relation to ego).

H. Livestock produce: milking (information for each of sample days as to number of stock milked, by whom, to whom the milk distributed).

I. Livestock produce: blood (information for each of the sample days as to number of cattle bled, by whom, to whom the blood distributed including eo of residence and relation to ego).

J. Livestock produce: butter (information for each of the sample days as to amount of butter made, who made, distribution of butter if any).

K. Stock keeping (for each sample day, who herded the stock, types of stock herded, relationship of herder to ego).

L. Hunting activity (name of any member hunting on each sample day, game killed, how killed, how was meat distributed including eo of residence and relation of recipients to ego).

M. Foraging activity (name of any member foraging on each of the sample days, items collected, how items distributed including eo of residence and relation of any recipients to ego).

N. Water collected (for each sample day, name of member collecting water, from where, how much, time of day, use put to the water).

Appendix V

So Animal Nomenclature

The following is a list of English animal names with both their Karamojong and So equivalents where these were known by So informants. All of these animals are known to the So, whether or not they have a name for them. Species which are considered inedible by the So are followed by an asterisk (*). All others are considered edible and may be hunted or trapped.

English	Karamojong	So
hedgehog	ngapupui	goroj
elephant shrew	ayole	nyikis
shrew	asurianya	(same)
bat*	lomenua	puptak
galago and bushbaby	adokole	dao
Grivet monkey	edadokot	lokir
Brazza monkey	enyurui	
Patas monkey	eliola	
Colobus monkey	echuma	olaiyat
baboon	echom	doiak
pangolin		amekek
hare	apoo	poikan
striped ground squirrel	locheleku	nikisiman
unstriped squirrel	ekunyuk	
tree squirrel	eles	telegis
field rat	emir	nyikis
mole rat	enyukunyuk	nadunach
porcupine	echoich	imkerot
lion	engatuny	tuny
leopard	eris	nos
genet	amiriria	namiriria
white tailed mongoose	ekokowas	(same)
zorilla*	naurungorok	nameo
spotted hyena*	ebu	koi
stripped hyena*	ebu nagira	koi
aard wolf	ebu napanaese	
honey badger	ekorr	kadinyes

ant bear	etukuton	
rock hyrax	aduka	joo
tree hyrax	aduka	joo
elephant	etom	ongo
zebra	etuko	ngok
rhino	amosing	dob
wart hog	eputir	pitir
giraffe	ekori	goj
buffalo	ekosowan	dob
eland	egwapet	wepep
greater kudu	amakata	eken
lesser kudu	esarich	
duiker	amorr	nyemu
hartebeest	eloba	lobai
topi	emuget	mugel
dikdik	esiro	cheuli
klipspringer	asoso	jorog
tortoise		mech
vulture*		eon
ostrich		kululu

Appendix VI

So Plant Nomenclature

The following is a list of So plant terms along with the uses put to the various types. Latin botanical nomenclature is also included where identification of species was possible in the field. The author is grateful to Mr. J.G. Wilson for these identifications.

	So	Latin	Use
1.	elingat		No use
2.	nadukcat		No use
3.	serat	Maerua Sphaerocarpa	Berries eaten
4.	wedsat	Acasia brevispica	No use
5.	umsat	Euclea latidens & E. grandicornis	Soft part of berries eaten and seeds used as beads.
6.	rogat	Tamarindus indica	Eat sour fruits after cooking.
7.	najogat		Stim used for sticks, arrow shafts, gum used for glue or wax.
8.	sitat	Grewia trichocarpa	Fruits eaten.
9.	adukorok		Berries eaten.
10.	lolot		Berries eaten.
11.	lektek	Carissa edulis	Berries eaten, roots soaked in water and drunk for stomach pain.
12.	epodo		Berries eaten.
13.	jogromat	Seamothamnus rivae	No use.
14.	almat	Ximenia caffra	Berries eaten and oil from berries used on skins and flesh.
15.	dingdiwat		No use.
16.	tolgos		Sap used as eye medicine.
17.	orkat		Wood used to line and smooth ant traps in ant hill.

18.	morat	Lannae schimperi & Stereospermum kunthianum	No use.
19.	manyat		Eat the berries, exceptionally good.
20.	natotoiyat		Eat berries.
21.	ngoceat		Eat berries.
22.	etereat	Acasia tortilis	Berries eaten by goats.
23.	sim		Ropes to tie bee hives in tree.
24.	molowat	Acasia albida	Carve wood bowls from wood, cows eat berries.
25.	ngosat	Balanites aegypiaca	Eat berries, leaves for soup, carve wooden spoons.
26.	gunat	Vangueria species	Eat berries, make inges (mixer) from stems.
27.	ongokat		Make inges from stems, feed calves bark soaked in water so grow fatter.
28.	gorat	Dichrostachys cinerea	No use.
29.	sitetat		No use.
30.	okat		Eat berries, soak bark in water and drink for back pain (bark of root that is).
31.	ekapelimanat	Acasia nilotica	Used for fence material.
32.	naminkeok		No use.
33.	ceiwat		Eat berries.
34.	kuglat		Eat berries.
35.	nyongtat	Tarenna graveolens & Teclea nobilis	Eat berries.
36.	sim		Ropes to tie bee hives in trees.
37.	tarmit		Eat berries.
38.	edomeat		Eat berries, dried stems used as firestarters.
39.	porokoyat		No use.
40.	gulabsat		No use.
41.	mucoiyat		Hafts for hoes, etc.

42.	nawaiwaiyot		No use.
43.	adob		No use.
44.	labot		No use.
45.	dergwat	Thus natalinsis	Branches draped over doors and around when someone is ill.
46.	pelmat		No use.
47.	sektat	Oxytenanthera abyssinica (bamboo)	Stems hollow and used to drink beer through.
48.	jarat		Small red ants not eaten that were on bushes.
49.	kodat		No use.
50.	edeblo		No use.
51.	sangasangat		No use.
52.	tarmitat		No use.
53.	kauwat		Eat bean-like berries.
54.	mukat		Long grass on bank of river bed.
55.	kilil		Long vines growing up trunk of trees, used to make strings to thread beads.
56.	bugetat		Eat berries.
57.	mutean		Use stems for light sticks to beat people or herd cows.
58.	teokat	Ziziphus abyssinicus	No use.
59.	iyolonyat		No use.
60.	sedumat	Kigelia arthiopica (sausage tree)	No use.
61.	kasemat		Sorghum-like - eat.
62.	dirat		No use.
63.	tigjat		A grass.
64.	dedeat	Albizia gummifera	Bark soaked and drunk for body pain.
65.	guleyat	Ziziphus abyssinicus	Eat berries.
66.	geled	Terminalia brownii	No use.
67.	tobjat	Lannea humilis & triphylla	Roots eaten raw for food, rope made from bark by chewing to strings.
68.	lomcat		No use.
69.	corowat		No use.

70.	nasadat		Place stem in fire til hot and sap flows then drip in ear for pain.
71.	umkat	Commiphora species	No use.
72.	murunyat	Heeria reticulata	No use.
73.	adacao		Grind stem of bush in water then put in eyes for conjunktivitis.
74.	geon	Ficus sycamorus	Eat berries, children extract sap for chewing gum.
75.	eyelel	Acasia drepanologium	Soak roots in water and used as tick medicine.
76.	nyimat	Acasia etbaica & gerrardii	No use.
77.	orok	Acasia mellifera	No use.
78.	epetet	Acasia nubica	Roots soaked in water and drunk for body pain.
79.	ekodokodwoi	Acasia senegal	No use.
80.	esmwat	Acasia seyal var. fistula & var. seyal	No use.
81.	elemu	Adenium obesum (desert rose)	No use.
82.	ketutat	Albizia amara var. sericocephala	No use.
83.	ketketat	Albizia anthelmintica	Soak bark in any fluid, water or milk, and used for tapeworm.
84.	elomac	Balanites pedicillaris	Cook berries for food.
86.	emejan	Boscia sp. B. dawei ?	No use.
87.	No word.	Delonix alata	No use.
88.	No word.	Butyrospermum niloticum (shea butternut tree)	Eat berries.
89.	No word.	Bridelia sclero neura	No use.
90.	No word.	Calotropis procera	No use.
91.	nabolowat		Trunk of plant used to make a cloth to stopper gourds and to wrap tobacco.
92.	nagerengerat	Cassia singueana	No use.
93.	nabukol		Eat leaves raw with sugar; soak bark and drink for body pain.

94.	No word.	Commiphora campestris	No use.
95.	edomeat	Cordia gharaf	Eat berries; dry stems for fire-starting.
96.	ebolisat	Croton dichigamus	No use.
97.	elekedeit	Dracaena species	No use.
98.	murukutat	Diospyres mespiliformis (African ebony)	Eat berries.
99.	mosat	Euclea candelabrum	Used to make bee hives, and sap used for glue.
100.	ongokat	Fagara chalybea	Inges made from stems.
101.	gubulat	Gardenia jovis-tonantis	Seeds ground and soaked in water and drunk to induce vomiting.
102.		(same as #95 above)	
103.	ekereat	Harrisonia abyssinica	No use.
104.	tesgwanat	Juniperus procera (cedar)	Bark used to cover bee hives from rain.
105.	namelentenyat		No use.
106.	lemit	Olea chrysophylla	Bark soaked for worm medicine.
107.	iyolunyat	Obetia pinnatifida (stinging nettle tree)	No use. (shares name with stinging nettle grass)
108.	nangeringerat	Osiris conpressa	No use.
110.	rao		Like millet (?).
111.	cebrakat	Pappea ugamdensis	Eat berries.
112.	sosat	Phoenix reclinata (wild date)	Branch used for posho stirrer. Eat fruit (?).
114.	dukwacat	Pleurostylia	No use.
115.	egarat		No use.
116.	esyokon	Salvadera persica	Stems used to brush teeth
117.	jogmat	Sclerocarya birrea	Eat berries and eat ground seeds.
118.	etiatia	Sesbaniz species	No use.
119.	naseran	Steganotaenia araliacea	Make flutes from hollow bark.
120.	etetwai	Storculia rhynchocarpa	No use.
121.	coricor	Strychnos innocua (?)	No use.
122.	ekwir		No use.
123.	Dont't know	Teclea species	

124.	lobot	Terminalia brownii	No use.
125.	rereat		A tree. Roots boiled in water for children or chewed by adults for body pain.

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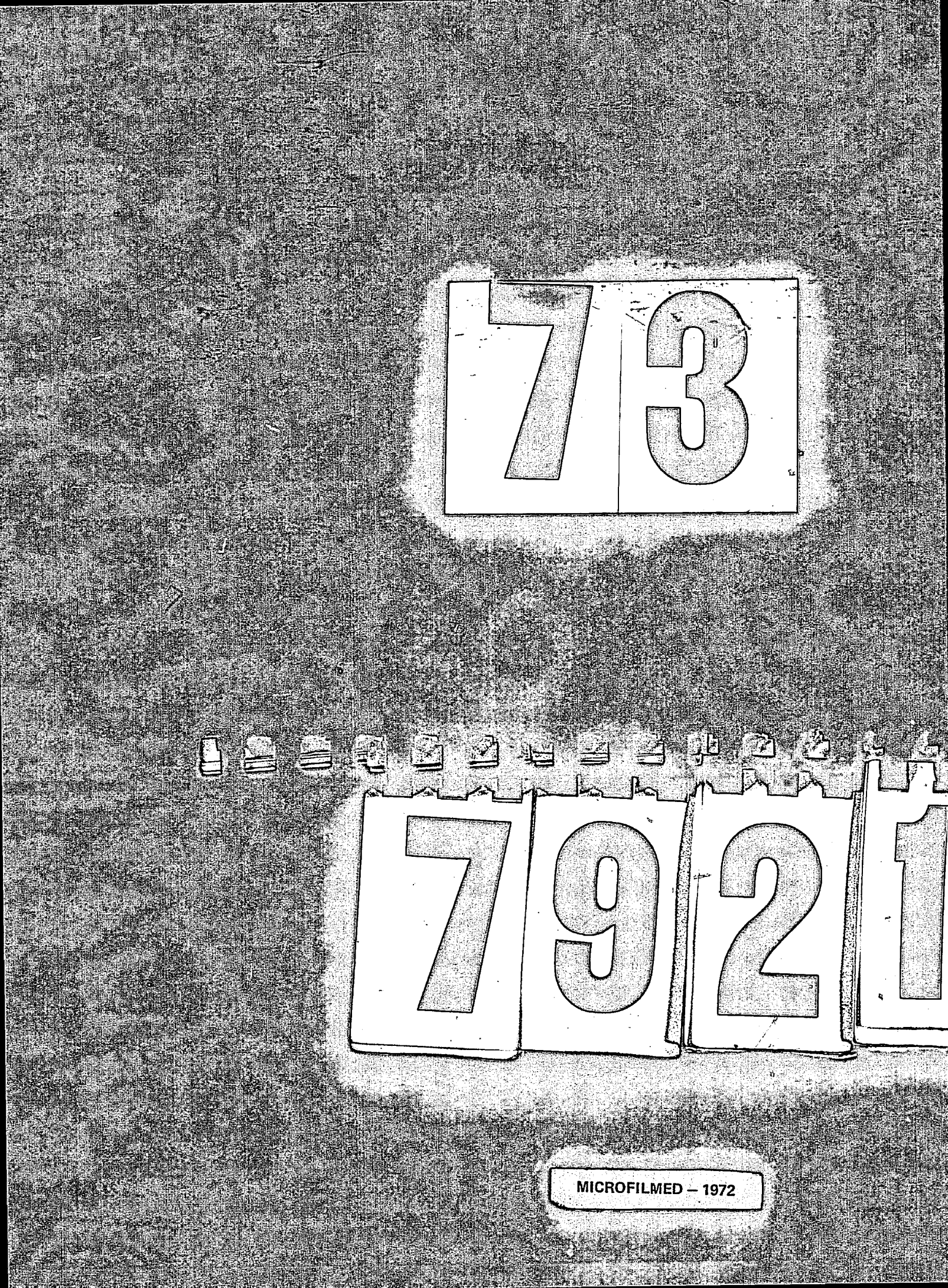
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