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THE ETHNOARCHAEOLOGY OF KALINGA BASKETRY:
WHEN MEN WEAVE BASKETS AND WOMEN MAKE POTS

by

Ramon Eriberto Jader Silvestre

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A Dissertation Submitted to the Faculty of the
DEPARTMENT OF ANTHROPOLOGY
In Partial Fulfillment of the Requirements
For the Degree of
DOCTOR OF PHILOSOPHY
In the Graduate College
UNIVERSITY OF ARIZONA

2000
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I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

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Signed: Ramon E. J. Silvestre
ACKNOWLEDGMENTS

My first exposure to the Philippine Cordillera cultures like the Kalinga was as a child tagging along with my mother to the Sunday open market in the city of Baguio in the Philippines. I was intrigued by the tattooed Kalinga men and women, the men dressed in their hand woven loin cloths and the women in bright colored traditional wrap around skirts with rows of agate and gold beads tied in their hair or hanging on their necks. They sat squat on the sidewalk chewing betel nut and spitting the red chew an amazing number of feet into the gutter! As a child I was impressed. (and those images remained vivid.). Never did I expect that graduate school in Arizona would lead me to do research on a people that had intrigued me as a child. The stereotypes of the Kalinga that I had grown up with faded away as I shared their lives each day for the year of fieldwork. I would be remiss if I did not say that living with the Kalinga was one of the most humbling, yet satisfying, experiences of my life.

Raised by parents who had a unique outlook in life, accepting people for what they are and not for what you want them to be was what my mother, Etta would say, a college professor. when I got frustrated with people I could not understand. Like any teacher she would always have a handful of her college students come to the house to have study sessions or discussions about anything, life in general, maybe just to help her check papers, or just your normal hungry college kid coming home with my Mom to be fed. My father, Silver, was an architect and also dean of the college of a local university, also Tito Silver to most if not to all my friends - did the same. To Mama and Papa who saw the beginning of my life, and this project I am most grateful.

My informal anthropological education started as a child. A year here and there of visiting exchange students living with us in our home in the Philippines from Australia, a bunch of American Field Scholars, a Rotary exchange student from Thailand and Japan, even a bunch of American army brat kids from the field troops that lived in Vietnam during the war who spend a whole summer month with us. I was pretty impressed by the richness of cultures that lived with us in our home. In retrospect, inspite of Catholic schools being a pain, it set a good foundation. College was A Blast! Literally in the Philippines, not withstanding military coups, dictatorships and a People Revolution made life interesting. Trips to see the world, outstanding.

Most of all for graduate school in Arizona and for this Ph.D., I am indebted to:

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From all of you, I draw amazing strength, expertise, experience and impression, as an expression of utmost gratitude and love – I dedicate this work!

Maraming Salamat.
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ABSTRACT

The earliest indirect evidence of basketry through clay impressions extends back to about 11,000 years (in the Jomon Period), in Egyptian tombs, in early Peruvian sites or the cliff dwellers of the American Southwest. An artifact that has had a long tradition – yet their exact appearance in the archaeological record may never be known with certainty because of factors of preservation. The production of basketry is one of the oldest non-lithic crafts in the world and the evidence of this industry has been continued with little change down to the present time and is very sensitive indicators of cultural chronology.

Basketry in contrast to pottery provides a finite number of logical alternatives and the possible combinations are culturally determined to a very high degree. The weaver's relationship with any type of basket is predicated on and conditioned by the fact that all of the weaver's manufacturing choices are physically represented in the finished specimen. It is unfortunate that basketry has not been a major focus of material culture research by archaeologists primarily because of the loss of preservation of baskets in archaeological context. The extant inventory of prehistoric basketry from different parts of the world is but a dim reflection of the original incidence of manufacture. It is unfortunate that basketry has not been a major focus of material culture research by archaeologists and is misunderstood as an artifact class.

This ethnoarchaeological study has been initiated to explore the production technology between basket weaving specialists and non-specialists and the distribution of the craft among the Kalinga in the Cordilleras of northern Philippines. The analysis
of Kalinga basketry technology and evaluating the economics of the craft is discussed. It hopes to provide a parallel and contrasting understanding of basketry production alongside pottery production extensively researched by the Kalinga Ethnoarchaeology Project.

*Investigating the initial processes of basketry production, distribution and consumption among the Kalinga should illuminate the understanding of the prehistory of basketry. In the assumption, that the Kalinga is roughly analogous as a neolithic society, popularized in the turn of the century for their headhunting pursuits and a codified custom law.*
CHAPTER ONE

INTRODUCTION TO THE STUDY

The goal of ethnoarchaeology as a research strategy has been the development of operational models for interpreting archaeological data based on ethnographic analogy.

This ethnoarchaeological case study documents the traditional system of Kalinga basket weavers and the material correlates of technology, production and distribution - providing a more comprehensive understanding of behavioral processes of Kalinga craft makers and the people who consume them.

This dissertation hopes to further clarify the misunderstood and “non-mystical” craft of basketry specific to an artifact class vs. the “mystique” of pottery in material culture studies in general; within a traditional society such as the Kalinga – analogous to a neolithic\(^1\) society (Longacre 1974; Longacre and Stark 1992).

Drawing on extensive Kalinga ethnographic evidence, historical literature and a well-documented assemblage of material culture initiated by Kalinga ethnoarchaeology pottery studies by Dr. William Longacre (Longacre 1974), this study focus is on Kalinga basketry later collected by the Kalinga Ethnoarchaeology Project that was begun in the field season from 1987-1988.

\(^1\) The rationale in the use of the term *neolithic* is used in comparison to societies documented in the prehistoric Southwestern U.S (as discussed extensively elsewhere by Longacre 1974; Longacre and Stark 1992); the similarities in social and political (tribal) systems between these societies and its commonality lies in the organization of a certain technology at least among pottery makers and likewise basketmakers – from the household level to a hand crafted production in a non-market economy yet balanced by the difference in gender specific craftmakers, pottery to women and not always basketmakers to men.
This research initiates examination and ultimately explores discussion of the strong parallels and contrasting differences between the economies of Kalinga basketmakers and potters in the same culture environment. This is one in the multitude of relationships that require further examination to illuminate the full range of factors that encourage the development and the probability of subsequent intensification of production, both in basketry and in pottery.

I further explore other processes such as population growth, deterioration of the habitat and technological change that all contribute to deficiencies in the local resource.

The argument I make to explain in the emergence of basketry as a craft technology is based on economics, in the sense of cultural materialism and perhaps also in cultural ecology among a small-scale tribal neolithic society, like the Kalinga. Relying on the critical distinction between specialists and non-specialists, in the production of basketry and intensive agriculturists transitioning from a past subsistence economy of hunting, foraging, and swiddening and from a dry to a wet rice agricultural production system. The concomitant result is a variety in the functional categories in the Kalinga material culture repertoire, that of basketmakers and of potters.

This ethnoarchaeological study of basketry hopes to make a substantial contribution to archaeological interpretation, as it is a pioneering perspective on the use of ethnoarchaeological research on a “new” material culture focus yet ancient artifact specific to the microcosm of the Southern Kalinga of the Pasil in the Cordillera Mountain Range of Northern Luzon in the Philippines.
The Kalinga Ethnoarchaeology Project is entering its third decade and has long been setting milestones in the field of pottery ethnoarchaeological research under the Direction of Dr. William Longacre in 1973 and the initial results first published in Longacre (1974).


This dissertation is the culmination of the description of the Kalinga Basketry Collection at the Arizona State Museum. A small but well represented collection of Kalinga baskets was purchased by the Kalinga Project's 1987-1988 fieldwork made possible by a National Science Foundation grant (no. 370060), directed by Dr. Longacre and housed at the Arizona State Museum. A parallel collection was also donated by the project to the National Museum of the Philippines in Manila of which this description will likewise support.

Rationale Behind the Study

The analysis of basketry can provide high-resolution information on such specific topics as (prehistoric) subsistence practices including food procurement.
transport, processing and storage, trade and exchange, social status differentiation, regional, cultural, ethnic, and even family or individual "boundaries" and perforce population movements both in time and through time.

There are a few artifacts available to the archaeologist that possess more culturally and idiosyncratically determined yet still-visible attributes than does basketwork. The technical attributes by which apparently similar baskets specimens can be distinguished, that may seem minor and inconsequential are important because it is precisely these details that tend to be most localized in occurrence and most conservative.

"The Mystique of Pottery and the Non-Mystical Basketcase"

Why ceramic specialists-think "highly" of pottery as analytical material versus basketry is self-explanatory but is not totally justified. It is understandable given the ubiquitous nature of the ceramic artifact and its longevity in the archaeological record. The diversity of models, methods and contexts for inquiry is impressive -- but most if not all of these examples are in ceramics. Not to offend the ceramic specialist, I feel the dislike and sometimes total aversion in having to deal with baskets as an artifact class, undoubtedly rises from the fear of simply not understanding the technological intricacies of the craft. Through the years the important evidence of this artifact have been ignored - it has as much diagnostic attributes than any other artifact class.

Basketry in contrast to pottery provides a "finite number of logical alternatives" and the "possible combinations" are culturally determined to a very high degree
The weaver’s relationship with any type of basket is predicated on and conditioned by the fact that all of the weaver’s manufacturing choices are physically represented in the finished basket specimen. Significantly, this fortuitous condition does not apply to lithics and ceramics, the most durable and hence most commonly recovered-prehistoric artifact types. The final forms of artifacts from these two classes often embody little or no evidence of their maker’s manufacturing options prior to final finishing.

Relevance of Basketry as an Artifact Class

One of the properties of basketry, which makes its analysis significant, lies in the fact that its types may be regarded as discrete elements rather than as arbitrary points on a continuum. The basket weaver may twine with a right hand twist or a left-hand twist but he cannot be halfway in between. Furthermore, his method of basketwork is perfectly apparent in the finished product so the craftsman himself (the technology specific to Kalinga males) need not be observed. Consequently, for most situations in basket making there are only a finite number of logical alternatives as Baumhoff states (1957) in his preface to the English translation of Balfet’s (1952) essay on basketry systematics.

Of the greatest importance in the present context, and indeed in any other study of archaeological or ethnographic basketry, is the fact that both the “finite number of
logical alternatives” and the “possible combinations” referred to by Baumhoff (1957) are culturally determined to a very high degree. In actual fact, no class of artifacts normally available to the archaeologist for analysis possesses a greater number of “culturally bound” yet still visible attributes than do the various forms of basketwork. What is meant here, by “culturally bound” or “culturally determined” attributes - is that the range of techno-manipulative alternatives visible in the existing attributes of a finished basket, or related product is to a very great degree fixed or delimited by the customs or standards of the immediate social entity, to which the maker belongs to or within which the maker functions. While these standards are subject to idiosyncratic modification and even occasional borrowing of designs or construction attributes, their collective existence is eminently verifiable. This is not a novel observation, that no two individuals, bands, tribes or societies, or other social groups ever produced basketry of any kind in exactly the same fashion of which this research project further demonstrates.

Because of the unique qualities of basketry as artifacts, and their importance and multifaceted uses in the societies that produced them, the systematic analysis of their nominal and ordinal attributes, method of manufacture, raw material sources, form, decorative motifs, and function can serve both culture-historical and processual goals (Barber 1991).

The analysis of basketry can provide high-resolution information on such specific topics as (e.g., prehistoric) subsistence practices including food procurement, transport, processing and storage, trade and exchange, social status differentiation.
regional, cultural, ethnic, and even family or individual “boundaries” that may perforce population movements both in time and through time. There are a few artifacts available to the archaeologist that possess more culturally and idiosyncratically determined yet still-visible attributes than does basketwork. The technical attributes by which apparently similar baskets specimens can be distinguished, that may seem minor and inconsequential, are important, because it is precisely these details that tend to be most localized in occurrence, most conservative and therefore can be isolated.

Whether the basketry is plaited, coiled or twined, it appears to be an established fact that no two populations ever manufactured their basketry in precisely the same fashion. Not only has this fact been demonstrated ethnographically, but it also is archaeologically valid as well (Adovasio 1977:4-5; 1996; Adovasio, Soffer and Klima 1995; Adovasio, Hyland and Soffer 1997).

The analysis of archaeological basketry presents special problems. Although true to the fact that the differences in weaving techniques are best detected in whole specimens, and that even in sites of favorable preservation whole specimens are not unusually available, it is still possible to extract a considerable amount of comparative data from the smallest fragment of basketwork. These fragments contain an enormous amount of diagnostic attributes and technological detail. Structure is never absent providing a factual basis for a more comprehensive description and being determinable data, for comparison and classification. Unfortunately, archaeologists tend to ignore such attributes either from lack of knowledge, familiarity or the unawareness of the inherent potential of the craft.
If "properly" analyzed and described, prehistoric and ethnographic basketry from any part of the world, can yield rather specific information on a given population's general technological level, subsistence practices, intergroup relationships and movements, degree of conservatism, or conversely, capacity for innovation, but perhaps, maybe even something about kinship and social structure. Of course, connections between ethnographic and prehistoric populations may also be established through basketry analysis by examining technological and stylistic continuities. At the very least, basketry has proven to be a precise time marker as any other artifact class and its role in the establishment of regional chronologies and inter-regional relationships are enormous and offer great potential (Adovasio and Gunn 1975a: 18, 1975b: 71-80).

A Brief Introduction and Glossary to Basketry Technology

It is generally accepted that basketry may be divided into three major classes of weaves that are mutually exclusive and taxonomically distinct. Specifically, it can be plaited, twined and coiled, or some combination of these techniques. The procedures are so distinctive that even when all three are employed in the same specimen (and the

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1 properly - enormous information is encoded into each basket specimen (i.e. technological detail that are diagnostic attributes) and requires proper morphological deciphering codes (e.g., warps, wefts, splices, direction of weaves, selvage, rim construction, etc.). The Kalinga basketry collection "assemblage" will be divided into major groups and sub-classes of weaves and each sub-class will then be divided into various technological types. The entire procedure will reduce the assemblage to progressively smaller units of increasingly greater taxonomic precision.
incidence of this is practically nil), it is easy to detect where one ends and another begins.

The potential number of technological types within each class is relatively great. Assignment of basket specimens to classes or types depends on the identification and quantification of shared attributes or clusters of attributes. Attributes may be defined as features of manufacture, the sum total of which is the individual specimen. Any attribute is the direct product of specific manipulatory techniques that are highly standardized or culturally prescribed within any basketmaking population (Adovasio 1974, 1976; Mowat 1992). Furthermore, weaving elements may reflect a cultural and idiosyncratic attribute that is individual preferences at the least in the microcosm of the Kalinga basket weaver.

A variety of attributes have been employed here to classify Kalinga basketry. Such diverse criteria, as shape of the object, rigidity or flexibility of the weave, and elements of decoration, have been used with widely varying degrees of success. Kalinga basketry manufacturing technology (i.e. plaiting, coiling and twining) and the analysis of the Kalinga collection assemblage is discussed in detail in Chapter Four.

For those unfamiliar with these terms, a glossary follows; the sole purpose is to acquaint the reader with terms used in this dissertation (adapted from Adovasio 1974, 1976; Mason 1904a, 1904b, 1909a, 1909b; Morris and Burgh 1948). The following glossary is not exhaustive and is not intended as a guide to the craft of making baskets. Specific definitions of terms regarding Kalinga weaving techniques are explained in detail in Chapter 4 on Kalinga Basketry Technology.
Glossary

Class of weave:
There are three general classes of weaves, synonymous to technique, technological types, manufacturing technology, or specific manipulatory technique that is plaited, coiled or twined:

Plaited (plaiting)
A class of weave predominant and preferred (traditionally) among the Kalinga, defined in which all elements are active. Single elements or sets of elements (or strips of material) pass over or under each other at a more or less fixed angle (about 90 degrees). Synonymous to plait or plaited.

Coiled (coiling)
A basket weave that involves sewing stationary horizontal elements (which is the foundation) with moving vertical elements (that is the stitch).

Twined (twining)
The technique involves by passing or moving (active) horizontal weaving elements called wefts, around stationary (passive) elements called warps.

Basketry Terms

Attributes
Idiosyncratic manipulatory technique(s) that an individual weaver manufactures a particular basket. For example, the type of rim he uses to finish his carrying basket, the kind of splice treatments he uses in finishing mat selvages or how one weaver bundles up his foundation for a coiled basket. Weaving attributes therefore can then be (taxonomically) further divided up into structural categories or types.

Center
The point at which, the production of a coiled or twined basket begins or is initiated. Plaited baskets (e.g., mats) possess no center; the use of the term center of a finished plaited basket is used as reference (distance) from the rim, but is not a true beginning.

Elements
Weaving (elements) is the raw material, or fiber construction materials used to weave a basket specimen (e.g., rattan, bamboo etc.)
False Plait or Braid
An ornamental finish on a plaited basket (if found), or a braid that is
manipulated to make an edge on a (e.g., Kalinga pasiking, or backpack) holds the cover
in place, versus the tie (as an attachment) that holds the lid or cover to the main body of
the basket.

Foundation (also know as the Coil, it is the structural unit of coiled basketry)
In coiling it is the raw material used as the coil foundation, core or base, which
provides the framework to the coiled basket itself. There are several type variations to a
foundation and can either, be bundled, stacked, a single rod or a combination of
elements (e.g., rods, reeds etc.). Materials therefore vary.

Interval
In plaited basketry, the interval is the consequence of element engagements.
Therefore by definition, the term principal interval is the overall (over 50%) plaiting
technique involved and determines whether the plait is a simple plaited basket or a twill
plaited specimen. So, if for example the interval is 1/1 with a single, or equal number of
elements, the basket is simple plait with a 1/1 interval; and any interval in excess of the
(e.g., 2/2, 3/3), produces a basket specimen that is twill plaited. In the vast majority of
Kalinga basket specimens, the interval will be uniform except for an occasional
accidental shift. A small minority will exhibit many different intervals, however
specifically elements forming parts of a finished edge or (or in baskets with decorative
designs).

Open plaiting
A variety of plaited basketry in which the elements are spaced at intervals, the
resulting form is an open-plaited basket, often seen in sieves, or net-like basketry forms.

Rim
In plaiting it is the finishing (element) of the basket specimen, it further provides
the structural reinforcement to a given basket that binds the selvage.

Note: Rims in Kalinga plaited baskets have been used here as a major taxonomical
category, in the method in typing, as it identifies how a Kalinga weavers work varies
(specifically the “maglalaga” or specialist), from the other.

Selvage
The edge of a twined or plaited basket. Selvages can vary and can either be
clipped, or cut or folded back in, as in a finished selvage.

Simple Plait
A variety of plaiting (technique) that involves single or several equal number of
elements that pass over each other in a 1/1 interval.
Shifts

Are intentional at times accidental alterations in a plaiting technique, where intentional shifts consist of a regular sequence of changes that impart a particular pattern in the basket specimen (so you have what is commonly termed as, for example a "herringbone" or "checkerboard" pattern etc.). These shifts can then be recorded, from the point of principal interval, which is altered to the point that it is again re-established.

Stitch

The element that is sewn or material used as a sewing element that normally binds or reinforces an attachment such as a handle, rim, foot or base. In coiled baskets it is the element that is sewn over the foundation, and binds these elements together.

Stitch slant

In a twined basket, it is the term that defines the pitch or how wefts “lean” in twining. The stitch slant may be down to the left or right. When the stitch slant is down to the left it is commonly called an S-twist, since the paired wefts have been S-twisted when viewed in a vertical position. When the stitch slant is down to the right it is called a Z twist for the same reason. Stitch slants in twined basketry specimens are occasionally altered for decorative effect.

Strips

The weaving elements in (plaited) basketry, normally cut to size, thinned and are decorticated, usually rattan and bamboo among the Kalinga. Generally it is any weaving element, or the raw material that is usually finished and used for weaving.

Splice

A point along a weaving element (specifically in coiling) where one stitch ends and the other begins. In plaited and twined baskets, a splice refers to the method of insertion of a new element in plaiting, or as a warp or weft in twining.

Tapered Twill Plait

A technique in twill plaiting, in which the curve is imparted to the wall of a container by decreasing the width of the plaiting strips as they approach the rim.

Twill Plait

A variety of plaiting (technique) in which the weaving elements in a set pass over two or more in the other set, in an alternate interval. Each crossing must involve two or more elements in the set.

Types

I use the word “type” to denote a purely classificatory label. Whether or not these types reflect fixed mental templates among Kalinga basketweavers is a question this research would like to explore.
Warps

The vertical passive or stationary element in any woven specimen. Normally the more rigid elements found in a basket specimen (but not to coiled baskets).

Weft

The horizontal active element in a woven specimen, normally more flexible as it moves and engages the warps. Note: number of wefts and warps can vary.

Work Direction

The direction of a weaving element, more so for coiled baskets in which the sewing element is sown along the foundation of the coil. In plaiting, weaving elements are bi-directional.

Work Surface

Assigning work surface(s) is dependent on the functional type of basket defined. The situation is further complicated for fragmentary basket specimens. In coiled baskets, it is the surface in which the sewing awl is inserted to make a path for the stitch. In plaited and twined baskets it is the front side (as in Kalinga winnowing and rice containing baskets it is the “polished” side of the decorticated rattan or bamboo). Thus, the non-work surface is the reverse, though in some specific baskets, the unpolished side is the working surface.

Analogy and Archaeological Interpretation of Basketry

Problems and Constraints

In contrast to the study of ceramics – the analysis of archaeological basketry presents special problems and has not been a major focus of material culture research by archaeologists primarily because of the fragility in the preservation of the object. It is understandable given the former’s organic quality - its preservation in the archaeological record barely exist if at all visible, (e.g., mat and cord impressions on pottery; charred pieces of vegetal fiber; an awl) or some other artifacts that may come close to indirect evidence of basket weaving. Furthermore, only in very limited and geographically
circumscribed areas can the recovered basketry sample be considered representative. For example, the fact that most of the pre-Columbian basketry mentioned in excavation reports at Paracas was obtained from funerary sites may mean that we have received a skewed picture regarding the development of basketry in the Andes (King 1965). Or, the general observation that the Anazasi in the American Southwest had an overall preference for coiled baskets (Morris and Burgh 1941), on the contrary may reflect a differential preservation of the basket type by the intrinsic durability of the technology and not a local popularity of this technique.

Unfortunately, one of the most important problems encountered by the basket analyst is comparability of data, since most published information of most perishable components of many archaeological assemblages if often lacking or is incomplete (Adovasio et al. 1986)

The nature of the artifact is highly problematic. If at all present, basketry always seems to be in a specific fragile environment. So much is to be said about how special excavation is necessary (e.g., specimens found in dry sites vs. wet sites, in submerged, or waterlogged and perma-frozen contexts) that require special handling, cleaning and stabilizing procedures, to name a few, that can be tedious and if not expensive in the specific preservation, conservation and laboratory processes it involves. the list and the expense could be endless (e.g., Adovasio 1977:6-14; Adovasio, Soffer, Dirkamaat et al 1992; Adovasio, Soffer and Klima 1996). for discussion on handling in situ prehistoric basketry specimens.
Basketry technology is further complicated by the relation of the making of baskets to textile, as both are clearly related. It is sometimes difficult to point out where the dividing lines between them occur, as both employ common structures. There is no clear line of demarcation between basketry and cloth or sometimes between basketry materials and textile. There are claims that basketry may predate cloth or vis a vis. is pure speculation (e.g., Emery 1966; Hurley 1979).

For purposes of this research the term(s) basket(s) or basketwork is by basketweavers or basketmakers. will confine its definition to specifically the craft production of basketry unless otherwise noted. Though it is not the aim of this research to explain all of basketry technology in detail, as this general topic has been discussed extensively elsewhere (e.g., Adovasio 1970a, 1970 b, 1977; Mason 1900, 1901, 1904; Rossbach 1973; Weltfish 1930), the major types or classes of weaves in the manufacturing employed specific to the Kalinga Basketry Collection assemblage will be analyzed (i.e. plaiting, twining and coiling).

Correspondingly, the distribution of certain technological-type baskets within the Kalinga household inventory and the variation between products and of the basketmakers is explored initially. Therefore a working knowledge of basketry technology is presented, necessary to understand the entirety of basketry production and the preference for a weaving technology found employed by the Kalinga.

It is in this latter context where ethnoarchaeological research can make its largest contribution. The organization and material patterning of basketry production in small-scale societies can be better understood and the probable links into the processes of craft
specialization, in the understanding that it is one form of economic intensification. I will discuss why economic intensification is the broader process into which craft specialization is juxtaposed, what it means and its possible measurement.

The Relevance of the Ethnoarchaeology of Basketry

Extending ethnographic data into the past has been the concern of ethnoarchaeology, pioneered by Frank Hamilton Cushing (1886), F.W. Hodges (1893) and the term first suggested by J.W. Fewkes in (1900) his study of Tusayan migration myths in the American Southwest. Through the last few years the "New Archaeology" has evolved, matured and developed into behavioral archaeology, a specialized and sophisticated means of testing hypotheses, inferences and constructing models (e.g., Binford 1965, 1983, David 1971, Gould 1978, 1980; Kramer 1979; Longacre 1974; Schiffer 1978, 1992, 1996; Staski and Sutro 1991; Skibo 1992).

Structural and contextual archaeology likewise has developed an ethnoarchaeological tradition, in the understanding of material culture underlying social structure (Braithwaite 1982; Hodder 1979, 1982); as a medium for symbolic content (David 1971, 1992; Miller 1985); and more recently, a number of archaeologists have examined ideology in past societies using feminist approaches, specifically culture constructs of gender (Gero and Conkey 1991).

These new perspectives on the use of ethnoarchaeological research have emerged, in the last twenty years that are important to archaeologists studying prehistoric societies. Prominent among the new approaches, are the elucidation of site formation processes (see Schiffer 1983; 1987), and the refinement of various methodologies and approaches, to recover and analyze the material and symbolic remnants of the prehistoric village. We seek alternative models to explain patterning in the distributional data to those proposed by previous research (e.g., Longacre 1974; Plog 1983; Stark 1993; Upham 1982).

Drawing from traditions of ceramic ethnoarchaeological studies, my research seeks to document and understand the parallels in the production, distribution and consumption of Kalinga basketry vis a vis Kalinga pottery. The general Kalinga economic and ecological (albeit ceramic) ethnoarchaeological literature has provided the data base and research strategy in the exploration of the mechanisms that underlie Kalinga basketry production and distribution. This project further parallels Kalinga ethnoarchaeology pottery research that is important in comparative material culture
studies in economic exchange networks, and craft production. The interest in the links between basketry and pottery production among the Kalinga is little understood.

Distinguishing full-time craft specialists from part-time specialization in the archaeological assemblage, provide better inferences for understanding prehistoric socio-political structures. Identifying part-time specialization and its probable associated exchange systems in small-scale societies like the Kalinga, may provide the archaeologist more informative and reliable studies of (e.g., production, intensity, scale) in small-scale societies.

My approach derives a similar focus (from ceramics), where the assumption that the artifact encodes information on the strategies of production (e.g., Rice 1987, Arnold 1985) -- particularly the narrowing of choices during production. This narrowing of choices, referred to as standardization, is believed to be an indication of increased craft specialization and variability, a preliminary field observation of my research on Kalinga baskets with the Kalinga Ethnoarchaeology Project (1988).

The central task of this "new approach", to the study of basketry as an ancient artifact, vis a vis ceramics (successfully achieved by ceramic archaeologists), is to infer the development of basketry production and specialization in antiquity. A concept, I would like to borrow from the pottery experts (e.g., Arnold 1985; Rice 1987, Balfet 1965, Benco 1988, Longacre 1974, Schiffer 1978, Skibo 1995 et al.); ethnoarchaeology continues to be one of the most useful strategies employed for developing broad-based research models.
It is unfortunate that the under-represented artifact class of basketry does not have the longevity and representation that ceramics do, to be considered a "ubiquitous artifact" in the building of comparative research. To redress this research bias, this interest investigates specifically basketry technology, production and economics, and examines the interplay between agricultural intensification, craft technology specialization and the heterogeneity of the Kalinga economy, as basketmakers and potters live, work and trade. The occurrence and use of basketry in most, if not all, existing Cordillera small-scale "tribal" groups like the Kalinga, is representational, supported by the evidence of the scope and range of the variation of functional forms and the prolific industry observed among them.

Ethnographic collection research has enriched archaeological interpretation and has supplied archaeologists with evidence between the prehistoric and historic cultural traditions of societies in general. Basketry is a viable research parallel for the (KEP), as a comparative study to Kalinga pottery and the ethnoarchaeology of material culture in general. It is as significant as pottery in the predominance of the craft among the Kalinga.

Hypothetically, if indeed basketry is not a prime mover in state formation in contrast to pottery (see Brumfiel and Earle 1987 review), to understand basketry production among small-scale "tribal" groups like the Kalinga should measure greatly on comparative studies on the role of basketry technology and its uses; in hunting and collecting bands, or in the transition to settled village life, from incipient and settled village agriculturists, to the domestication or processing of plants such as rice, or
probably to theories of the origins of agriculture (e.g., MacNeish et al. 1967; MacNeish 1992). This Kalinga case study is valuable and unique, as it focuses on the beginnings of an investigation on product specialization and intensification, as it is expressed through basketry production, on one hand, and on the other, alongside pottery production.

Basketry in Antiquity

The production of basketry is one of the oldest non-lithic crafts in the world and its antiquity known to extend back to about 11,000 B.P. [at least to the Jomon Period, see Aikens (1981); Aikens and Higuchi (1981); Aikens and Rhee (1992)], probably even beyond but their exact appearance in the archaeological record may never be known with certainty because of factors of preservation. The evidence of this industry (e.g., Guitarrero Cave in Peru dated to about ca 8600 to 8000 B.C. by Adovasio and Maslowski 1980:265; Inca Cueva in Argentina 9th to 8th millennium B.C. by Aschero 1984, as well as Figini, Carbonari, & Huarte 1990) has been continued with but little change down to the present time. Basketry can be very sensitive indicators of cultural chronology as they are for example in the American Great Basin (Adovasio 1974) and the Southwest (Morris and Burgh 1941). Moreover, they can provide novel and informative insights not only into the general technological milieu of late Paleolithic societies as at Pavlov I (Adovasio, Soffer, and Klima 1994, 1995, 1996; Adovasio.
Adovasio, Hyland, Soffer and Klima 1998) in central Europe and Monte Verde in Chile
(Adovasio 1996) but also in countless later populations as well.

The antiquity of the origins of the word and the historical accounts of its use
promotes curious examples - such as in the use of the Sanskrit work *pitaka* a “basket”.

to designate certain scriptures of Buddha (as it used interestingly in Tagalog to mean a
wallet). It is further found in the Sanskrit word *Tripitaka* meaning the “Triple Basket”.
a term applied to the three classes into which the Buddhist canonical writings are
divided: the *Vinayapitaka* (The Basket of Discipline), the *Sutrapitaka* (The Basket of
Discourses) and the *Abhidharmapitaka* (The Basket of Metaphysics). The word basket
appears to be used in the sense of a collection or place of storage.

The Romans used a round box called a *capsa* for carrying rolls of manuscripts.
These receptacles appear to have been made of osiers or reeds. For Juvenal in *Satires*.
when describing the various possessions in the house of Codrus. refers to a basket in
which his books were kept. *vetus graecos servabat cista libellos* (an old basket
containing Greek books) (*Satires* iii, 206 as footnoted by Bobart 1936: 8).

Though purely conjectural, that the earliest water vessels were baskets lined
with clay or variations on the theme, therefore promoted that basket making had been
called the mother of pottery (much to the aversion of the ceramic archaeologist).

Furthermore, as the potter may have used a basket mold long before the invention of the

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2 Older evidence of weaving has been found at Upper Paleolithic sites of Pavlov in the Czech
Republic, dated to 25,000 to 27,000 years in the form of impressions of “flexible” twined netting and
basketry on fired clay Renfrew 1996 (223, 318-319, 395). The evidence of the craft is a large sample of
negative impressions on fired clay from the Gravettian site of Pavlov I and Dolni Vestonice I and II
indicates a complex plant-fiber perishable technology existed at these loci (Adovasio et al 1998).
wheel. For pieces of pottery from the Neolithic have been discovered that show that the clay have been molded round a basket structure gives rise to the conjecture of the antiquity of the craft (London Guildhall University museum label, 1997).

Researchers have offered a variety of explanations for the origins of pottery production in the American Southwest. Many have argued for indigenous development from basketry, with initial mud-coating of basket interiors, followed by fiber-tempered vessels made without basket molds, and finally by the firing of clay vessels (Amsden 1949; Cushing 1886:485; Holmes 1886; Morris 1927:159).

Henry Balfour draws attention in the Fourth Report of the American Bureau of Ethnology (1893), which points out how great has been the influence of basketwork upon the ceramic craft in its early origins:

...The basketweaver leaves its mark upon the potter not only in shapes given by the potter to his vessels, but also in the surface ornamentation which he applies. The clay-lined basket suggests the superiority of clay over basketry for certain purposes, for cooking or for holding water. and the separation of the clay lining from the basket-work envelope presents the possibility of using vessels of pottery alone, although the advantage of molding these in basket-work shapes has been fully recognized. But clay, molded in a moist state upon a basketry shape, takes the impression of the texture of the latter, and these are stereotyped in the firing. As a result we get vessels of pottery whose surface is embellished with a regular and beautiful, though accidental pattern, which is an imprint of the basketry structure. Even where basket work has not been employed in the process of making of a pottery vessel, we may often see, in the finishing touches the imitation of its former self-imprinted image, its effect as ornament having readily been seized upon (Balfour 1893; 109).

From Balfour we learn that there have been...

"...cleverly reproduced from permanent clay negative impressions, the actual forms in positive of prehistoric North American basket textiles which had themselves long since perished"... (Ibid, p. 110). In Henry Balfour's "The Evolution of Decorative Art", 1893 pp.109-110.
The Greek geographer Strabo, writing in the first century concerning the Nile River, gives an early historic evidence of the ancient craft:

...The excess of water discharging itself into the plains near the sea, forms lakes and marshes, and reed-grounds, supplying the reeds with which all kinds of plaited vessels are woven”...(Bobart 1936:11)

Discoveries by the British School of Archaeology in the (1930's) in Egypt have been quite numerous classic colonial archaeological “plundering” and in the excavations in 1912 found in the Fayum prehistoric settlements were baskets of the “pre-dynastic” period. Coiled basketwork linings used to line pits of granaries in the sand. These latter artifacts were found by Flinders Petrie (1919, 1921-1922) to belong to the Badarian period (8000 to 10000 BC). Likewise, further supported by the later discoveries of Egyptian funerary basket type coffer (also by Petrie) outside Cairo in the early 1900’s. Howard Carter’s (1923) publication of the excavations of The Tomb of Tutankh Amen several basket types made of rush (split papyrus stalks) or fragments were found but never really given very much thought.

Of interest here, is the rare Egyptian shabti baskets found in the mummy cases that contained food for the sustenance of the shabtis – little figures who accompanied the members of the royal household in the underworld. According to ancient Egyptian belief that - all had to do some kind of manual work after death, and as royalty they were not accustomed to labor, these shabtis were supposed to work for them.

The basket was used in ancient Egyptian writing, and is represented in hieroglyphic: (wickerwork basket). (wickerwork basket with handle). A wickerwork was also used.

The older word for "basket" was (variant) Called nehet. but in later times, from the XIIth Dynasty onward, this was replaced by denit.

The basket is also seen on a man's head in the sign found in the verbs for "to carry" and "to load". as well as in the noun for "works" or "construction". thus:

In the Decree of Canopus, promulgated in the ninth year of the reign of Ptolemy 111(239 B.C.), mention is made of a certain Menekrateia who was
fadenu(t) or “basket-bearing” priestess in the presence of Queen Arsinoe Philadelphos. Copies of this decree are inscribed in hieroglyphics, demotic, and Greek on a limestone stele in the Egyptian Museum in Cairo. A cast of this stele is in the British Museum.

On the well-known Rosetta Stone there is inscribed, in the three writings, the Decree of the priests of Memphis made in the ninth year of the reign of Ptolemy V. In this decree mention is made of Areia, daughter of Diogenes, who, it is stated, was also a kanephoros or “basket bearer” of Arsinoe Philadelphos. The Greek version κανηφόρος is the name given to the basket-bearing virgin at the Greek festivals.

These brief glimpses on the development of basketry, as a craft does incorporate the assumption that basketmakers rose to meet certain needs. Furthermore, by its functional versatility, if not its superiority, on specific utilitarian situations and ritual occasions, have identified the social or economic relevance in which the superiority of the craft becomes advantageous. In short, the existing inventory of (prehistoric) basketry from different parts of the world is a dim reflection of the original incidence of manufacture.
A Review of Previous Publications on Prehistoric and Ethnographic Basketry and Important Ethnographic Research Collections

Although most publications of this time focused on ethnographic basketry materials, notable and significant exceptions include Holmes (1884), Nordenskjold (1894), and Mindeleff (1896). Works by Mason (1885, 1894) include discussions of prehistoric examples. In the early 1900's Mason published several articles (1900, 1901) that culminated in his volume on aboriginal American basketry (1904), and his technological treatise on Malaysian basketwork (1909a; 1909b), this research collection analysis of the latter work is based upon an ethnographic collection known as the W.L. Abbott Collection at the Smithsonian Institution. Mason was Head Curator of the Department of Anthropology at the National Museum of Natural History. About the same time a parallel ethnographic collection on Philippine basketry was collected, a collection I had worked with on a previous research project (Silvestre 1986).

Mason's classic study discusses and illustrates several "types" of North American basketry initially then followed by his work on Malaysian basketwork, distinguishable principally among ethnographic materials. Mason's work constitutes the first significant attempt at taxonomy, albeit on a regional basis; it provided much of the stimulus and orientation for further basketry analysis.

Shortly before Mason completed his monograph, Pepper published the first significant treatise of Basketmaker-Anasazi Basketry, in (1902). Pepper described miscellaneous remains from San Juan County, Utah, and discussed various technical aspects of the assemblage. Between 1902 and the early 1930's, a considerable body of
literature was produced on materials from many parts of North America, but most of these "studies" are abridged portions of site reports, and often consist of little more than few lines commenting on the recovery of one or another kind of basket. As might be expected, most of these works deal with the arid American southwest.

A complete listing of the monographs and articles from this period is beyond the scope of this work (see Morris and Burgh 1941, Cressman 1942, Adovasio 1970a for additional references). But mention should be made of Loud and Harrington's report on Lovelock Cave (1929), which contains one of the first in-depth analyses of a large quantity of basketry from a single archaeological site. It should also be noted that the German scholar, Lehman, produced the first major treatise on technology and classification during the early part of this period (1907). Baumhoff (1957) and Balfet (1952) have pointed out that Lehman's taxonomic system was unwieldy and difficult to be practical.

Weltfish in (1930, 1932a,b, 1940) published comprehensive articles that not only contained significant observations on basketry analysis but also attempted to trace the antecedents of ethnographic distributions – a challenged endeavor that was disadvantaged by the scarcity of published data. Her later works treated various technical problems in basketry analysis (1932a), and offered the first major attempt to systematize the vast diversity of prehistoric basketry from the American southwest (1932b). Despite the paucity at least at that time of well-preserved perishable materials, the role of textiles, including basketry, in the prehistory of the eastern United States was
investigated by Miner in 1936. In (1937) Vogt published the first large-scale synthesis of prehistoric European basketry and textiles.

Morris and Burgh’s study of Anasazi basketry (1941, 1954) was another milestone, although restricted to materials ascribable to Basket maker II through Pueblo III contexts, their work remains one of the most thorough of its kind. The basic methodology they developed is still widely used and underlies most of Adovasio’s extensive research (1977) on classification and procedures for analyzing basketry (Adovasio 1977:3).

Leroi-Gourhan in 1943 published the first comprehensive taxonomy L’Homme et la Matiere since the pioneering effort by Lehman in 1907 - a relatively widely circulated volume but the system was never generally adopted. A number of site reports published in the late 1940’s and early 1950’s include analyses of large quantities of prehistoric basketry, although not exclusively from the Southwest. Among the more important are Cosgrove (1947), Burgh and Scoggin (1948), Haury (1950), Martin et al (1952), Heizer and Krieger (1956), Rozaire (1957), and Price (1957). Concurrently, a number of articles appeared on archaeological basketry and textile assemblages in the Old World. of particular interest is Vogt (1947). These analyses were technically competent, but their employment of diverse and occasionally imprecise descriptive terminology has hampered large-scale comparison. It is interesting that lack of systematization and taxonomic precision continued to characterize basketry research despite the publication of an updated version of Leroi-Gourhan’s classificatory scheme by Balfet in 1952 (as quoted in Adovasio 1977:3-4).
Prehistoric basketry descriptions appeared with some frequency in the 1960’s and often included exceptional discussions of assemblages dated via radiocarbon. Works by Rozaire (1961, 1969), Taylor (1966), MacNeish et al (1967), and Lindsay et al (1968) are notable, as well as the brief but thorough description of basketry impressions from the Deh Luran region in Iran by Hole, Flannery, and Neely (1969).

In 1970, a large-scale comparative study of prehistoric basketry was published by James Adovasio, based on reanalysis of most of the chronologically well-controlled collections from the western United States and Mexico (1970a). This was followed by a series of analytical, descriptive, comparative, and interpretive studies on assemblages and detailed evolutionary and developmental sequences from many parts of the world [(Adovasio 1970a, 1970b, 1974, 1975, 1976; 1996 and publications with co-authors, Adovasio and Gunn 1975a, 1975b, 1986; Adovasio and Andrews 1976; Adovasio and Lynch 1973; Adovasio and Maslowski 1980; Adovasio et al 1988); King 1974a and 1974b, Rozaire 1974, Tuohy 1970 and 1974]. In North America, the oldest basketry, textile and cordage are assignable to the mid-twelfth millennium B.P., though very few specimens have been recovered in well-dated contexts (see Andrews and Adovasio 1996 and Adovasio et al 1997, 1998 for a more extensive treatment of this theme. Mention should also be made of an excellent study by Scholtz (1970), of a voluminous assemblage from the Ozark Bluff of Arkansas, and in the arid Great Basin such Meadowcroft Rock Shelter (Andrews and Adovasio 1996; Stile 1982), textile, cordage and basketry (Adovasio et al 1997).
Dr. Adovasio continues to do so today to be the pioneer in current prehistoric basketry and textile research (e.g., 1996, Adovasio et al 1994, 1995, 1996, 1998). Currently, I have been informed (James Adovasio 1999 personal communication), of his research with a large sample of negative impressions on fired clay from the Gravettian sites of Pavlov I and Dolni Vestonice I and II, Czech Republic that indicates the oldest woven fabric and related basketry fragments in archaeological context from these Pavlov sites in Eastern Europe, dated at about 29,000-25,000 B.P. Specifically represented are seven varieties of the basic types of twining, five types of cordage, and a single type of plaiting in the form of a semi-rigid or rigid basketry (Adovasio, Soffer and Klima 1994, 1995, 1996; Adovasio, Soffer and Hyland 1997; Adovasio, Hyland, Soffer and Klima 1998; Adovasio, Soffer and Klima 1998; Soffer, O., P. Vandiver and B. Klima 1995).

While the present emphasis is comparative and evolutionary, purely ethnographic and descriptive works of high quality continue to be produced, but still limited at present (e.g., Bell 1988; Blehaut 1997; Dransart 1992, 1993; Mowat et al 1992, 1993; Riviere 1993; Tanner 1982, 1983; Tobert 1993; Turnbaugh and Turnbaugh 1987).

It is understandable that most if not all of these prehistoric (archaeological) examples are in the western and southwestern areas of the United States, or at the famous pre-Columbian sites in the Andes, considering that the preservation of these artifacts is excellent in arid desert environments.

On the other hand, there are excellent examples coming from water logged/peat
bog environments. Of the largest and most representative occurs at the Ozette site, among whale hunting Makah Indians (AD 1750) in Washington in the northwest American/Canadian border (Gleeson and Grosso 1976 in Croes ed. 1976). Of the woven materials found, was an assemblage of 1330 baskets, 1466 mats, 142 hats and 37 cradles, not including other weaving, hunting and fishing equipment. Specific cases in similar environments are, [e.g., the Iceman (ca 3365-2940 BC) from the Otztaler Alps of South Tyrol north of Italy; and the Barrow site in Alaska], are good cases in point. Likewise, works by Coles and Coles 1984, 1989; Coles and Lawson 1987 on European wetland archaeology; Glob (1969) on Bog people; Guthrie (1990) on Frozen Fauna of the Mammoth Steppe; Hansen, Meldgaard and Nordqvist (1991) on the Greenland mummies, are excellent examples.

Archaeologically, the oldest evidence of basketry and related fiber artifact production from Asia, including late Pleistocene/Upper Paleolithic and so-called "Mesolithic" sites in China, Japan and Russia and is presently no older than 13,500 B.P. (Derevianko and Medvedev 1995; Hurley 1979; Zhushchikovskaya 1996). Unfortunately organic preservation factors for basketry and related fiber technology in archaeological sites are rare for Southeast Asia, they do exist; as in the Ban Chiang Site and Khok Phanom Di in Thailand, but well-dated contexts are problematic (Higham 1989; Higham, Kijngam et al.1984; Pyramarn 1989; Suchitta 1980).
Current Ethnographic Research in Southeast Asian Basketry

In the region of Southeast Asia, where basketry making is prolific, there is a handful of current and ongoing excellent Southeast Asian ethnographic research studies and museum ethnographic collections on basketry. Specific to Eastern Indonesian basketwork, research by Dr. Ruth Barnes (Curator at the Ashmolean Museum in Oxford), interestingly parallels my interest on basketweavers, gender specific among men from Lamalera on Lembata and by women in Lamahalot in eastern Indonesia. Dr. Barnes makes an excellent comparative ethnographic case in point, in the analysis of the distribution and variations in the difference of materials used, technique, shape and decorative type forms between what is purely utilitarian and what is specific to ritual baskets (1999-personal communication). Her research interest with The Abbot Ethnographic Collection of Indonesian baskets at the Smithsonian Institution at the NMNH in Wash. D.C. coincides, with an excellent collection from the Philippine ethnology collection, I had worked with as a visiting fellow at the Smithsonian Institution. These separate researches developed a formal typology of baskets to facilitate the study of regional, material, technological and functional forms on regional type distributions (Silvestre 1986) merit more comparative cross-cultural material research.

The Pitt Rivers Museum at Oxford has an excellent ethnographic collection from the American Southwest and Southeast Asia specifically Indonesia that is historically well represented from the early 1800’s to the turn of the 20th century. Linda Mowat, Curator Pitt Rivers Museum at Oxford (1999 personal communication).
Hitchcock's (1986) research is on the parallels of the crafts of basket and textile weaving in eastern Sumbawa in Indonesia, where basket producing areas and those with strong textiles traditions use the same design and have been found to be complementary to each other and gender specific to women.

Jean Francois Blehaut research on Iban Baskets (1997). presents an excellent ethnographic perspective and a comparative treatise in the variation in typology, specific to ritual use of basketry and the subject of basketry pattern decoration specific to males weavers, or specific basket types woven only by women for ritual among different Iban groups in Borneo, as well as the changing role of Iban baskets (1999 personal communication). "The original function of Iban baskets as tools, combined with their intimate relationship with a number of rites, including those directly related to the rice cult, has resulted in a shift of this primary function towards that of ritual objects or objects of prestige, which in extreme cases have lost their primary purpose. This shift has in turn had an influence on the development of shapes and of decoration"...Other decorative techniques, seldom seen nowadays (though dealers have been known to oblige), are the addition of shells or coins, sometimes buttons and, for some of the baskets used during the festival of the dead (Gawai Antu), tufts of human hair"... (Blehaut 1997: 3).

These ethnographic researches are excellent treatises to understanding basketry as material culture, yet the links in understanding of the relevance of the material technology and behavioral patterning in ethnoarchaeological research and archaeological interpretation is yet to be further realized.
Pre-Columbian Basketry

Though fairly representative albeit regional. the popularized Pre-Columbian plaited workbaskets as a prehistoric archaeological assemblage is here given merit and mention.

Penny Dransart’s work (1992, 1993) at the Institute of Latin American Studies in London has been on Pre-Columbian workbaskets, illustrating the prehistory of plaiting as a technique. The prehistoric use of these rectangular lidded baskets containing spindles and spun yarn. similar baskets depicted in the Codex Mendoza as part of a system of tribute payments and the trading of surplus products was dependent on a large scale of specialized basketry production.

Aztec workbaskets are illustrated in some postconquest Mexican codices that have an appended Spanish translation: The Codex Mendoza shows these rectangular lidded plaited baskets served different purposes (Ross 1978:55-56). Ross, further observes that they appear as containers in tribute lists of items sent by various communities to the Aztec city of Tenochtitlan where some towns sent 400 small baskets called canastillas of refined white copal incense in these baskets. They likewise were also used for storage of precious items as the Codex Mendoza characterizes as a thief, a man peeping into such a container (Ross 1978:114). The same type basket is seen elsewhere in the Codex as from Bernardino de Sahagun (1950-1969) [1577] Book 8. Chapter 16 depicting these container baskets of yarn spinning equipment. It is in this context, which is of interest here. Elizabeth Brumfiel (1991) has seen the use of these baskets in an archaeological site provided by a mass burial in San Andres Cholula in
which spindle whorls were found with both male and female interments and an ethnographic report that this practice has been currently observed among present day highland Guatemalans (Brumfiel 1991:247). Robert Zingg noted a sexual division of labor in the types of spun fiber by Huichol men and women of Mexico (1982:445). Although baskets themselves rarely survive at archaeological sites, spinning equipment such as pottery spindle whorls have been found (Smith and Hirth 1988).

In the indirect evidence of basketry, the parallels of weaving both baskets and textile alongside the occurrence of pottery (e.g., ceramic spindle whorls and bowls) increase the importance of these weaving artifacts. In the context of contrasting parallels of these same artifacts occurring in the same material culture environment, reinforces the need for more broad-based approaches to ethnoarchaeology – thus serving the ultimate interest of strengthening the archaeological interpretation (e.g., in product intensification or specialization).

More recently, it has been applied in examining and furthering ideology in past societies using feminist approaches, specifically culture constructs of gender on the propositions of associated female vs. male production work [Brumfiel (1991) in Gero and Conkey (1991)]^2.

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^2 Brumfiel’s argument rests on the assumption that virtually all spun yarns were converted into woven cloth, and that both tasks were primarily the responsibility of women and girls (though likely in this context, it still has to be tested - it may not be so in other groups were weaving is not gender specific and both women and men participate in the production of the craft or on the other hand, gender specific to men). Historical accounts present a narrow and paradoxical stereotype of women’s work. A closer look at what she (Brumfiel) identifies as clearly women’s work in Mesoamerica namely cooking and weaving, as may be observed in the archaeological record, enabled her to examine the dynamics of women’s work and the strategies adopted by women in the local community for dealing with the tribute demands of the expanding Aztec state (1991:228). She further suggests that in some areas there is part time intensification and specialization of the production of fabric, which may have resulted from the
Holmes in (1888:206) and Mason [1904 (reprint 1988:496-498)] document actual workbaskets from the Peruvian coastal desert sites in the central Andes. These reports are drawn from the work of Reiss and Stabel (1880-1887), whose illustrated three volume publication dealt with excavations of the burial sites of Ancon from 1874-1875 though somewhat representative of these basket types, there were intrinsic problems from the poorly documented and highly disturbed site. The infancy of Andean archaeology typified by this work were meant to bring forth a fairly representative type of various categories of objects found in the excavation of burials commonly found in the area but not of burial basket types. It is unfortunate that the description of basket technology between ..."a basket made of split reeds lashed together with decorative binding whose contents consisted of cloth remnants"...(Reiss and Stabel 1880-1887: Volume 3, Plate 88, No.6 and Plate 75, No. 18), versus a ..."plaited basket"... does not make any specific distinction. It further complicates the problems in having to establish the exact contexts and the difference between male and female burials, or whether there were differences that may have occurred chronologically though time (Dransart 1992). Such uncertainties complicate the identification of the uses of the different types of baskets found in this particular milieu. Strong and Evans (1952: 142.147) also documents similar examples from the Huaca de la Cruz site in the Viru valley ascribed to the Huancaco of the later period of the Moche on the Northern Peruvian coast. Thus.

participation in some form of market exchange through the selling of agricultural products in urban markets. This would have enabled them to purchase fabric required for tribute payments. Hence the idealization of weaving (fabric or baskets) and cooking can be seen to possess a wider political significance since women who could perform these tasks well were capable of furthering men’s positions in the social hierarchy (Brumfiel 1991:224-225).
it appears that there was a long tradition in placing these work baskets containing spinning equipment in graves which she (King 1965:246) dates to the Tiwanaku to post-Tiwanaku period ca (AD 600 – 1200), but may also give us a skewed picture of the development of basketry in the Andes (e.g., King 1965, 1974a, 1974b).

Whether the Incas used such baskets is more problematic – unfortunately atypical of how some archaeologists have been somewhat blind as far as basketry as an artifact is concerned. Uhle (1991) seen as the pioneer of scientific archaeology in Peru, published a remarkable study of the Pachacamac site on the Peruvian central coast carefully documenting architecture, textiles, wooden objects and pottery – unfortunately he ends his treatise with..."the presence of work baskets taken from these graves in resemble those from older cemeteries"(Uhle 1991:96).

Penny Dransart’s conclusion on the occurrence of plaited basketry (specifically in Pre-Columbian workbaskets) is appropriate when she mentions the inability in reaching a competent interpretation of whether the patterns created by the plaiting technique in the Central Andean workbaskets were seen as symbolic messaging – though it is clear that some of the objects contained within the workbaskets were perceived to be imbued with symbolic meaning. Central Andean workbaskets were utilitarian but the productive work in which they were employed was held to have had a significant value (Dransart 1992: 131-145). The plaited technique in evidence in these workbaskets in Mesoamerica relates to the Aztecs – however when combined with spindle and ceramic bowls, rectangular plaited baskets constitute a powerful symbol of women’s socio-cultural achievements in Mesoamerican society (sensu Dransart 1992).
The overall manufacture and occurrence of basketry is so prolific and widespread - yet there is very little known about the production of a material culture given its ubiquity in this specific arid area. It is in this latter area where ethnoarchaeological research can make its largest contribution. The organization and material patterning of craft production in general is so poorly understood - more so for prehistoric basketry and in a region where the articulation of the factors of subsistence, ecology and the environment need to be factored in.

Constraints with the Literature

A further observation can be made of the literature in general and that is the lack of consistency in the terms for weaving techniques, and this could prove to be confusing. The immediate requirement for the analyst is the expertise in identifying the technology to differentiate the specific morphology of basket structure, or the technique involved in a specific weave, or the combination of weaves. There seems to be no attempt to synthesize the literature and its limited application to archaeology with the exception of a handful of ethnographic and archaeological site reports. The problem with the specificity of the archaeological literature limits a "broad based" comparative approach to an artifact class that already has inherent limitations specific to its organic nature, fragility and preservation characteristics and the archaeological environment in which it is found (e.g., arid versus wet sites). The research results from these types of site reports are favorable, albeit aspecific.
Despite the plethora of prehistoric examples, the ethnographic, contemporary, descriptive and illustrative basketmaking literature is enormous, and this list is not at all exhaustive! (e.g., Adovasio 1970, 1975, 1976, 1977, 1996; Adovasio, Soffer and Klima 1995, 1996, 1998; Bell 1988; Bird, Hsylop & Skinner, 1985; Boas 1928; Emmons 1903; James 1909; Jasper and Mas Pimgadie 1912; King 1965, 1931; Kroeber 1905, 1925, 1944; Mason 1889, 1904, 1908, 1909a, 1909b; Rossbach 1973, 1986; Rozaire 1969; Tanner 1982, 1983; Turnbaugh and Turnbaugh 1987).

It is unfortunate, but to date, there seems to be no published work that covers the ethnoarchaeology of basketry production specifically. Or in the event, that should merit an ethnoarchaeological treatise, the observation and treatment is made in passing and is a minor topical discussion of the existence of the craft is broached.

Problems in Basketry Nomenclature

The other impetus for this research is the frustration with the existing published accounts of basketry. Initial analysis of the problem of basketry technology nomenclature had led to the formulation of certain propositions:

- Technological analysis and description constitutes one of the many aspects of the study of basketry. It can be separated from or correlated with other aspects such as design, historical development, use and significance.

- Each aspect further delimited – sometimes chronologically, geographically, technically, and the fact that each aspect tends to have its own specialists and its specialized nomenclature clearly contributes to the problem of terminology.
Though there are many dimensions for classifying basketry, the structural make-up of basketwork and their component parts provide essential data. Structure is never absent, providing a factual basis for more comprehensive description and determinable data for comparison and classification.

If technological information about a basket is to contribute to knowledge of any field of basketry study; three essential elements must be considered: first, to understand and to be able to record its technical nature; second, recorded information must be communicable; and third, a basic vocabulary (e.g., Mason 1908, 1909a, 1909b; Adovasio 1970, 1977, 1997) of essential terms, presupposes a comprehensive classification of basketry forms.

The Relevance of Paleoethnobotanical Research

Paleoethnobotany may provide this study and further research interests of this nature, another useful tool to consider in increasing inferential specificity of the occurrence of prehistoric basketry, as a multi disciplinary approach provides a multiscalar perspective offering more interesting results than a single one.

Relying on diagnostic artifacts alone for interpretation, specific to the intrinsic problem of basketry preservation, makes paleoethnobotanical research fill that lacuna in further understanding the organic analysis, of a seemingly unpopular archaeological pursuit of an artifact class - that of basketry.
Recent Directions in Paleoethnobotanical Interpretation

Archaeobotanists have made significant strides in the past decade in the production of reliable results in their field – in having to find evidence of plant remains because of the increased sophistication in the field and laboratory procedures and the explicit concern in the process of inference (for current survey see Hastorf and Popper 1988). The record of plant remains has several qualities that make the analysis a unique tool for investigating for example, food processing, economic bases of culture change, or subsistence practices as specific to diet, fuel, or plant use, as in basketry. Plant remains provide direct evidence of the basics of economic systems – food and use: the broad patterning in the plant remains, when identified through comparative analysis of large systematic collections, is significant in terms of shifts of human-plant behavior. The principles of plant ecology provide an empirical basis for inferences from the plant remains about the evolving systems of human-plant interactions that produced them. These qualities make plant analysis valuable in generating and testing hypotheses about the dynamics of the evolution of economic and cultural systems (e.g., Hastorf 1993; Hastorf et al 1994; Hayden B. 1990; Johannessen and Hastorf 1994).

The interest by Paleoethnobotanists on plant remains recovered from archaeological sites, along with ethnoarchaeological research, have recently been tested providing unique data for economic studies of prehistoric cultures. Hastorf's research (1988) for example, shows that the plant debris at a winnowing work area in a barnyard, may represent many activities: chaff and seeds from domesticated plants from the winnowing; weed seeds that are mixed in with the winnowed crops; wood chips for
chopping wood in the same location; and the remains of a lunch eaten at the same spot: one can infer that many activities did occur in one archaeological context. Paleoethnobotanists have used their data to study other activities, such as seasonal occupation (Bohrer 1970), site habitat, land use and fuel use (Asch and Asch 1975; Asch. Ford and Asch 1972, 1992).

Faced with the possibility that a particular botanical sample can reflect a wide range of activities, paleoethnobotanists have begun to develop methods for testing that have been successful in dating and determining prehistoric crop production, processing and consumption. Hastorf’s research in Peru (1993) shows that studying crop ecology provides evidence of prehistoric production that can be associated with prehistorical crop systems based on modern evidence of crop distributions and restricted crop patterns (Hastorf and Popper 1988: 123-125).

Hastorf’s (Hastorf and Popper 1988: 119-144) excellent example in the exploration of the information content of archaeological collections, suggests, that more and better ethnographic studies on plant “production, processing and storage” undertaken by paleoethnobotanists would be very beneficial in studying formation processes. Their involvement likewise is important, in the planning and excavation of sites and in the interpretation of archaeological results. Of interest to this study is the emphasis of the potential role of paleoethnobotany in contributing to both economic and ecological anthropology; and ethnoarchaeological interpretation and the occurrence of basketry production and as a viable material culture artifact for analysis.
Of interest to this study and the issue in the results of this examples do show that the relevance of paleoethnobotanical interpretation support the validity and potential of basketry or related woven artifact classes. Though there may be limitations to cultural interpretation, the above excellent examples further suggest that the understanding of the processes in the archaeobotanical record is of interest to (my ethnoarchaeological study on basketry), plants and related plant remains (e.g., Asch et al 1988; Ford 1979; Marquardt and Watson 1983).

In the Kalinga basketry assemblage; the techno-manipulative attributes (e.g., plaiting preferences, and rim finishes or splices) by which apparently similar basket specimens can be distinguished as in rattan winnowing baskets. (see Silvestre in Skibo and Longacre 1994: 199-207) that may seem minor and inconsequential. are important: because it is precisely these details that tend to be most localized in occurrence and most conservative. To benefit the archaeologist, their maybe probable links by comparing the distribution and of these “techno-manipulative weaving attributes” within or among Kalinga groups or within the Cordillera region. Hypothetically there is potential value in identifying for example technology within a weaving assemblage or group, delimiting the area of occupation or degree of interaction between prehistoric populations and plant use is possible. Unfortunately the crucial sequential Kalinga archaeological data is too meager to attempt to determine if there is for example some kind of development. Determining necessary or sufficient conditions or testing models about the evolution of Kalinga village agriculture must await the results of future investigations.
Archaeological formation processes are indeed complex but so is the relationship of material culture and behavior -- but it can be understood (Schiffer 1983; 1987; 1989; 1992). Ethnoarchaeology has come along way providing the archaeologist and other specialists an employable technique to better understand material culture and human behavior. If indeed qualitative results of an ethnoarchaeological research on baskets as artifact is expected, it will be more successful with the help of paleoethnobotanical data. From these confident examples, the relevance of paleoethnobotanical research only further increases the potential towards a research database that will further understand the links between plant and basketry production. and it uses in prehistory. I would hope that archaeobotanists and paleoethnobotanists move actively towards theory production.

Note:
Following Ford (1979:299) and Marquardt (1988:226) distinguishing the definition between archaeobotany, which they refer “to the recovery and identification of plants by specialists regardless of discipline”, and paleoethnobotanists, which “implies their archaeological or anthropological interpretation by particular specialists”.

The Kalinga Ethnoarchaeology Project

The initial interest in this particular material culture stems from my research with the Philippine basketry collection at the Smithsonian Institution in 1987 as research fellow. The Philippine Ethnographic Collection at the Asian Ethnology Department of The National Museum of Natural History is one of the largest ethnographic collections found in the United States. The beginning project (Silvestre 1986) developed a formal typology of Philippine baskets to facilitate the study of their regional, material, structural, functional forms and variations, of which there is no such
classification of Philippine baskets to date. Earlier studies describe isolated specimens (e.g., de los Reyes 1967; Jenks 1905:123; Lambrecht 1932, 1958, Moore 1980) or techniques of construction, but provide no systematic account of their ethnographic distribution. Preliminary research at the Smithsonian Institution’s Philippine Collection has revealed relevant dimensions on classification and analysis that can be extended to other ethnographic collections.

The following year (1987), Dr. William Longacre, whose research among the Kalinga had focused on ceramic ethnoarchaeology, a gender technology specific to females—suggested that, I may be interested in basketry weaving produced by virtually every household, a technology specific to Kalinga males as a useful parallel line of research for the Kalinga Ethnoarchaeology Project, henceforth the (KEP). This was a research opportunity I could not miss. The goal of this project initiated for the (1987-1988) field season was to fill the lacuna in both Philippine ethnography and pioneering basketry ethnoarchaeological research. The preliminary results of this research proposal appear in The Ethnoarchaeology of Kalinga Basketry: A Preliminary Study (Silvestre 1994: 199-200; see Longacre et al 1991; Longacre and Skibo 1994 for an overview).

These results support the initial inquiry that the subtle diagnostic attributes that exist in Kalinga basketry relate to Kalinga social behavior and organization. The discovery of a link between Kalinga basketry attributes and Kalinga social behavior and organization may have important ramifications for the testing of ethnoarchaeological models and may have great potential in contrast to the richness and success of Kalinga pottery studies (e.g., Aronson et al 1991, 1994; Graves 1981, 1985, 1991;

Longacre points out that..."the implications for archaeology resulting from these types of comparative research are many...the findings bolster our suspicion that aspects of the behavior and organization of people are subtly encoded in stylistic correlates in materials they make and use. Discovering these correlates gives us a powerful tool for studying patterns of behavior and organization in the prehistoric past... (Longacre 1981: 64)". Understood in the broadest sense, ethnoarchaeology provides data from contemporary, most often, non industrialized systems that aid in generating models that are able to connect variability in human behavior to variability in the archaeological record (see Longacre 1981).

The Kalinga Ethnoarchaeology Project henceforth the (KEP), is unique in its longitudinal nature and has provided the time-depth data collection and analysis as any ethnoarchaeological project in the world. specifically in pottery studies. Long-term researches with an interval studies research approach such as this, in a single area, have documented numerous changes in economic and social spheres throughout the period. The KEP specific to basketry research covers and analyzes data from the villages of Dangtalan, Dalupa and Guinaang.

Outline of Dissertation

This dissertation consists of seven chapters. of which the first and second chapters discuss the theoretical and methodological basis for the data analyzed in this
case study and the unfortunate absence of literature that deals exactly with the
ethnoarchaeology of basketry. Initially, an overview of basketry production and its
occurrence, as an artifact class is discussed, clarifying the misunderstood “non-
mystical” basket vs. the “mystique” of pottery, the relevance of basketry in antiquity. A
review of previous archaeological, ethnographic basketry literature is examined, as
there still is, a striking paucity in current data, specifically in the archaeology of
basketry, as a comparative artifact for analysis.

In contextualizing this case study, examining the research setting characteristics
and the articulation of the aspects of geography, history and culture is discussed in the
third chapter.

Weaving technologies utilized by the Kalinga are then presented in the fourth
chapter. Focusing on the preference for a particular manufacturing technology, the
specific classes of weaves, functional categories primary in creating a typology, in
Kalinga ethnolinguistic terms as the Kalingas perceive what is the product of a general
basketmaker from a maglalaga or weaving specialist.

Chapter five is the analysis of the Kalinga basketry industry and how it
articulates with examining the technique and structure of Kalinga baskets specific to its
makers; the finishing techniques that identify idiosyncratic differences between weavers
and the choices they make in basketry production. Basketry production is examined as a
village-based craft specialization and the possible correlation to craft technology
standardization that can be examined and measured at the household and village level is
initially investigated and discussed.
Chapter six focuses on the Kalinga basketry production system, product intensification and the economics of exchange. This chapter articulates the organization and scales of production of a village-based craft that specialize and intensify production from a multi-causal rationale. Basketry production, distribution and the economics of basketry as a craft in historic context, and recent historical events that have altered the Kalinga traditional material culture is examined.

The final chapter concludes the relevance and constraints of this research, clarifying the significance of an ancient artifact that is more often than not, misunderstood, yet proven to be a relevant resource for ethnoarchaeological interpretation, in the understanding of human behavior patterning and material culture research.

Summary

This study expands and seeks to expound integrated approaches to understanding both basketry and pottery production and distribution systems as they occur alongside each other. The production of basketry at least among the Kalinga - be it simply made by the semi-skilled household basketmaker or the weaving specialist of the village, is interrelated with the weaving community and the villagers that consume them. Furthermore, the interplay of the community and the agricultural environment - thus determining the occurrence of basket weaving in its simplest form and provide choices that favor or limit the development and intensity of production and
specialization (a similar concept in pottery see e.g., D. Arnold 1991; Aronson et al 1991).

What has been a system of household production was becoming a system of a household industry; the resulting patterns were intriguing and have suggested a trend towards intensified production. Originally observed and corroborated by the KEP pottery production research (see Graves (1991) and Longacre in Dangtalan from 1975-1980. Stark (1993) in Dalupa).

This study is not designed to provide either a single model or the direct application to a particular Philippine archaeological society or elsewhere. It is a study that aims to contribute to the understanding of basketry as an exigent research artifact that enriches the understanding of basketry production system, alongside or in contrast to ceramics, as significant, in building cross-cultural research models from an ethnoarchaeological research perspective. Ethnoarchaeological research has proven to be an extremely effective tool for exploring issues in the production, consumption and distribution of material culture.
CHAPTER TWO

SETTING THE STAGE: KALINGA AS A RESEARCH SETTING

THE HISTORY AND THE SOCIO-ECONOMIC ORGANIZATION

OF THE KALINGA

The Study Region

Data collected for this specific study are from the Kalinga villages of:
Dangtalan, Dalupa and Guinaang – all in the area of southern Kalinga. Village of
residence is Dangtalan in the municipality of Pasil (Figure No. 2.1).

This chapter introduces the Kalinga area as a research setting by summarizing
Kalinga geography, political and socio-economic structure providing the framework
from where this ethnoarchaeological case study in basketry is to be understood.
Examining the articulation of these spheres is necessary to understand the rise of
basketry production technology, distribution and consumption.

Despite the number of historic and ethnographic research on topics of Northern
Cordillera regional history; (see e.g., Fry 1983; Keesing 1962; Lambrecht 1932: 1939;
1958; Prill-Brett 1978 for a survey), and specific to, Kalinga society (see Barton 1949;
Dozier 1966; Worcester 1912, 1913, 1914); certain specific topics that affect the
interpretation of the Kalinga as a society is still little understood.

Previous ethnographic research in Kalinga society, politics and economy
conducted in the region has grown in the last few years and has been described in detail
elsewhere [Bacdayan (political system) 1967, 1977; Barton (ethnography) 1949; De
Raedt (ritual) 1989, 1991; Dozier (ethnography) 1966, 1967; Lawless (cultural ecology
Research on the rise of Kalinga craft production is rare, specific to the unique focus on basketry in this study. The Kalinga Ethnoarchaeology Project has produced excellent results in Kalinga pottery production research, in the last 25 years (see Longacre and Skibo eds. 1994 for overview and research topics). The project has been a long-term commitment to pioneering ethnoarchaeological research that is unique primarily because of its longitudinal nature and the time-depth success in episodic research in ethnoarchaeology that began in 1973.

This research in the ethnoarchaeology of Kalinga basketry is initiated specific to this area – of further interest and consideration in this research is the occurrence of gender specific craft makers, of baskets to men and pottery to women. The diversity of craft makers, their craft products, and the articulation to the Kalinga ecosystem and the resulting craft making economy is discussed.

Geography

The northern Philippine Island of Luzon is characterized by a rugged mountain mass and referred to as the gran central Cordillera. Elevations range from 6,000 to 9,600 feet, about 200 miles long (in a north-south trend) and 40 miles wide at its greatest width, encompassing almost 9,000 square miles. Major rivers found in Northern Luzon have their headwaters in the Cordilleras; the Suyoc river which flows into the Abra, the Chico flowing into the Cagayan, the Magat and Agno rivers - all
originating from these mountains. A landlocked territory located within 120 degrees 50' east longitude - 17 degrees 15' and 17 degrees 35' north latitude. The Region contains six provinces: Kalinga, Apayao, Abra, Mountain Province, Ifugao and Benguet. The cultural designations also denote languages (see following Figure No. 2.1).

When the old Mountain Province was created in 1908, two of its sub-provinces were Kalinga and Apayao. On June 18, 1966 the old Mountain Province was divided into 4 regular provinces, and the sub-province of Kalinga and Apayao were merged to form one province, at the time of fieldwork (1988) the province was called Kalinga-Apayao. But on February 14, 1995, the province of Kalinga and Apayao was divided into two separate provinces. Kalinga is now a separated province of the known Kalinga-Apayao and has eight regular municipalities. They are: Balbalan, Lubuagan, Pasil, Pinukpuk, Rizal (Liwan), Tanudan, Tinglayan, and Tabuk is the capital town (Philippine National Census Office 1996) See Figure No. 2.2 Map of Kalinga Province.

Kalinga is bound on the east by the Cagayan valley, west by the province of Abra and south by the Mountain Province, at the highest elevations in Benguet, coniferous forests, though dwindling, is still to be found and the climate relatively cool. By contrast, the foothills of Kalinga give way to more tropical vegetation, cut by swift flowing streams east of these ranges, which serve as natural boundaries and to some extent delineate individual cultural complexes.
Figure No. 2.1 Study Area, Kalinga Province in Northern Luzon, Philippines and Distribution of Cordillera Ethnic Groups (Adapted from Baker-Capistrano 1998:15)
Figure No. 2.2 Map of Kalinga Province and Municipalities
(Adapted from Stark 1993: 63. original illustration drafted by Ronald Beckwith)
Five main rivers drain Kalinga. In the southeast portion of the region is the Tanudan River formed by headwaters arising from Barlig, Mountain Province. It flows generally from south to north until it merges with the Chico River at Naneng, Tabuk. Draining the central lengthwise section is the Chico River formed by headwaters start from Sabangan and the municipalities of Mountain Province. It also flows generally northward. It converges with the Pasil River at the village of Tomiangan, which is also in the municipality of Tabuk. Joined by two rivers, the Tabuk section of the Chico River is considerably large making its floodwaters more damaging and treacherous during the rainy days and typhoons. The Pasil River formed by headwaters arising from the vicinities of Belwang and Ma-init, Mountain Province, flows eastward until it converges with the Chico. With headwaters emanating from the Kalinga-Abra boundary west of Balbalasang, is the Saltan River. It flows toward a northeasterly direction until it converges with the bigger Chico River at Pinukpuk Proper. The Kal-uwan River flowing eastward until it converges with the bigger Chico River at Ammacian is formed by headwaters from west of Mabaca, Balbalan. These five main rivers of the Kalinga territory all embody the lower Chico River that drains the municipalities of Tuao and Faire in the province of Cagayan. This lower Chico River flows eastward until it empties into the mighty Cagayan River at Barangay Donggao in the municipality of Faire.

The ethnohistory of the Kalingas as a people that have come to occupy the Cordillera remains a subject of considerable debate – as most of the indigenous groups in the region, have been called “Igorots”, and the origin of the word likewise, is not
clear and its history is traced back to the Spanish (Scott 1966: 155-156). Igorots include the Kalinga, Ifugao, Bontoc, Isneg, Tinguian, Ibaloi, Kankanay, Gaddang and the Ilóngot (See Fig. 2.1 map also shows distribution of Cordillera groups) – this skewed perspective and discrepancies exist among the names imposed by them by historical and some ethnographic literature and must be guided accordingly – older Kalingas, notably men distinguish identity and themselves generally by their home village (for other examples see Scott 1966:166; Ellis 1981:184).

The word Kalinga according to Keesing (1962: 221) comes from the word meaning “enemy” by fearful neighboring Ibanag villagers and Scott (1969:63) suggests a Bontoc origin for the word. In the turn of the century, Kalingas and their neighboring tribes used more localized names for themselves and were defined by irrigation and drainage systems (Dozier 1966:240; Keesing 1962:221-224); as the amount of agricultural land specifically, the valuable ownership of rice fields (in traditional social structure), figure greatly in most Cordillera groups (Barton 1922: 402).

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1 The Spanish word Ygorottes had pejorative connotations and it is meant to mean from the mountains, pagan and tribal. Scott’s (1966) argument is partly based on the earlier writings of Filipino scholar, Dr. Trinidad Pardo de Tavera (see Jenks 1905:27), who submits that the word “Igorot” is a derivative of the root word “golot”, meaning mountain chain and the prefix I, meaning “dweller in” or “people of”, hence from the mountains. Through the years, the use of the term by contemporary “Igorots”, have come through a resurgence, among the younger general Cordillera inhabitants - a “renaissance” of pride and indigenous identity as they continue to fill important social, political and educational roles in the Philippines and have been Christianized.
The Cordillera in Philippine Archaeological Context

The first post-Pleistocene migration to affect the Philippines was supposed to have come either from Japan or the coast of northern China, down through Formosa (now Taiwan), to the Philippines, and the western islands of Micronesia into Melanesia, New Guinea and the nearby islands. As far as the Philippines was concerned, the most important of these migrations was the one that brought Austronesian-speaking people (all the Filipino languages are Austronesian) to the islands. Heine-Geldern (1932) infers that the ancestors of these people moved from the north into southern China where they presumably developed the proto-Austronesian language. From southeastern China they moved on, after many generations, across mainland Southeast Asia into the Malay Peninsula around 2500 B.C. Then traveling mainly by water, they went east through the Indonesian islands and at some point the route split into two branches. Some people supposedly continued to the east, eventually populating Polynesia; others moved north through Borneo and Sulawesi into the Philippines where it was presumably the major source of the Filipinos. This movement continues on into Formosa, now Taiwan and a few continued all the way to southern Japan.

Otley H. Beyer (1947; 1955) presented the first reconstruction specific to Philippine prehistory. He considered his thesis nothing more than a modification of Heine-Geldern's reconstruction though there actually is considerable difference. Evangelista (1967:81) summarizes (Beyer's) views by saying..."Beyer views the process of culture growth in the Philippines in terms of waves of migrations from the Asiatic mainland of discrete racially homogeneous groups of peoples, each arrival introducing a diagnostic set
of culture-complexes and stimulating changes in the culture and society of the previous
arrivals”. For a more detailed history of Philippine archaeology see Evangelista (1969),
and Jocano (1975, 1998a, 1998b) for a current discussion of Philippine prehistory and its
regional articulation to the pre-history of insular Southeast Asia discussed by Bellwood

The Kalinga in Philippine Archaeological and Historical Context

Beyer (1947), in an attempt to explain the cultural differences found throughout
the Philippines, and specific to the Cordillera has hypothesized separate waves of
migration and settlement. His theory based largely on migrants (proto-austronesian) he
refers to as Indonesian type A. entered northern Luzon around five thousand years ago.
Arriving from south China in boats and moved up the rivers through the Cagayan
valley. They mixed with the Negritos to some extent and the modern Isneg, the northern
and eastern Kalinga, the Ilongot and to a lesser extent the Tinguian and Ibanag are
numbered among their descendants. They were dry cultivators who supplemented their
diet by fishing, hunting, and gathering.

Around 1500 B.C. marked by a later group of settlers (Beyer calls Indonesian
type B) arrived. These people entered the mountains from the middle Ilocos coast, and
came from south China and Vietnam. Pushing inland through major waterways, they
settled primarily in the Bontoc area. Probable groups sailing further up the coast to
Luzon’s northernmost tip and of their descendants are the modern Ibanag. These people
brought with them a village system socially and politically more complex than that of
the earlier arrivals. Clothing was also made from bark cloth; but basketry and plaiting may have been known (Ellis 1981:184).

Between 800 and 500 B.C. Beyer's (late Indonesian B) from south China and Vietnam moved into the interior, entering areas already occupied by former migrants. Beyer cites the Kankanay, the Tinguian, the Ibaloi, the Ifugao, and later through diffusion the Bontoc, as evidencing racial, cultural, economic, and political traits reminiscent of their ancestors. These people introduced wet rice farming and a socio-economic system in which families of prestige and high rank formed a special elite class within the society, based on the ownership of large land holdings, and strengthened by food distributions on special occasions. High ranking families exercised a dominant influence in the group and assured the continuance of their power by marriage within the social rank (sensu Beyer 1947).

Around 300 B.C. these *austronesians* were said to have brought with them a material culture technology, which included loom-woven textiles, more elaborate pottery, highly developed systems of terracing and irrigation, as well as metalwork.

Beyer's reconstruction has been challenged by later researchers (e.g., see Solheim 1975; 1979; Bellwood 1978, 1984, 1985, 1997) and current evidence seems to point to *in situ* development of the various cultural and social traits evidenced by the people of the Cordillera today. It has been argued that the retention of static cultural and racial characteristics by given groups over hundreds if not thousands of years is extremely unlikely because this theory makes no allowance for varying local responses to population increases, ecological changes, inter regional trade, colonial expansion etc.
The case for *in situ* development of cultural variants found today is further strengthened by linguistic studies which strongly suggest that the majority of Cordillera languages stem from one base, and that local variants developed only during the Christian era. Keesing (1962) argues that widespread population disruption and dispersal occurred after the arrival of the Spanish. In response to Spanish pressures, lowland runaways moved up into the mountains, forming discrete new population units or merging with groups that already occupied the area. It seems clear from Spanish accounts that many people did flee to the mountains, but Keesing's reconstruction cannot be completely validated without extensive archaeological investigation. Very little has been done to date, but Maher's (1973) work has already clouded Keesing's assumption that the Ifugao may have moved into their present location from the upper Cagayan valley during the Christian era. Maher's excavations in central Ifugao suggest that some rice terraces there may date from as early as 1000 B.C. This, in general, supports Beyer's suggested date for the terraces, though not his general theory of migration patterns (sensu Ellis 1981).

At this point, one can say very little that is definitive about the original settlement of the mountains, except that the inhabitants of this Region migrated from the Asian mainland. The chronology and manner in which the mountains were settled are still very much in doubt.

From this perspective, the present racial geography of the Cordillera, as well as the Philippines and as in Southeast Asia as a region (of which the vast majority of the inhabitants today are of Southern Mongoloid phenotype), is not due entirely to local
evolution - but brought about by population movement since the time that the first modern humans entered the region. It is true that that all populations are subject to natural selection, and where breeding groups are small will be especially subjected to genetic drift for proportions of specific genetic polymorphisms. These types of in situ differentiation among relatively isolated populations have been fundamental in the formation of Homo sapiens, but insufficient to explain the geographical distributions of races prior to AD 1500. Some of these, such as the southern Mongoloids of Southeast Asia have closely expanded on a very large scale to absorb, replace or surround pre-existing populations. Major expansions such as this could presumably occur only when populations in considerable numbers demographically and technologically advanced would impinge on less resistant groups (e.g., Bellwood 1994; Brues 1977; Krantz 1980). On the other hand small groups of hunters and gatherers certainly did move quite large distances during the span of human evolution, even to regions previously but slightly settled. The Cordillera groups should have witnessed fewer phenotypic boundaries broken only by major environmental boundaries to human interaction. Organized agriculturists can quickly dominate sparse groups of hunters - during the Pleistocene gentle variations can be expected but among groups at least in northern Luzon reveals a sharper interface just as they do today.

Shortly after the settlement of Manila in 1565, the Spanish dispatched an expedition headed by Juan de Salcedo to explore Luzon's northwestern coast and investigate reports that rich gold mines existed in the northern mountains. Salcedo's expedition was a success and he returned to Manila with a sizeable quantity of gold.
Additional expeditions were conducted over the next fifty years to collect more gold. However, the mines did not yield the great riches that had been expected, and Spanish efforts to seize and control this territory were met with armed resistance in every endeavour. All the Cordillera mountain groups were formidable opponents to the Spanish colonial administration (Scott 1977), resulting in many deaths and considerable destruction of settlements. It was not till the late 1880's that the Spanish established garrisons and settlements in the area (see Scott 1977: 707; 1982).

During the seventeenth century the Spanish turned their attention to establishing and consolidating control over the more easily defended lowland Regions of the north. Missions and military garrisons were established on the north and west coasts as well as in portions of Pangasinan and Nueva Vizcaya. From the north coast, intrepid Spanish missionaries moved south up the Cagayan River and its tributaries. Missions were established on the Abuiug River in Apayao. In the west, efforts to convert the inhabitants of the Abra River valley met with considerable success.

During the eighteenth century Spanish efforts to control the north centered on the peaceful relocation of infieles, a Spanish pejorative for pagan infidels. There was a concerted effort to place these people in communities that could be easily serviced by the clergy and policed by civil and military authorities. This program, augmented by continuing military actions, had some success. From both the east and the west the Spanish began to nibble away at the margins of the Cordillera, forming new settlements of Christian converts and moving other converts into previously formed Christian towns.
In the east considerable progress was made along the headwaters of the Magat River, a major tributary of the Cagayan. Military and ecclesiastical control was extended from the mouth of the Cagayan River in the north, as far south as the junction of the Magat River, and considerable resettlement occurred. Efforts in the Apayao area and among the Kalinga of the Chico River met with mixed results. In 1689 Spanish missionaries established a more permanent church in a town called Tuga and belongs to what is now known as the capital of Tabuk (Almazan 1985), as quoted in (Stark 1993:67).

On the west coast (South China Sea) the Spaniards were pursuing similar policies with much the same results. The narrow coastal strip was under Spanish control but the foothills of the interior mountains were so close that coastal lowlanders and their mountain neighbors were in almost constant contact. The effective conversion of adjacent pagan groups was heightened by their close proximity. Missionaries pushed into the mountains to the east, urging the resettlement of the people and establishing missions ever further from the coast. While they did not succeed in establishing lasting stations at any great distance from the coast, considerable numbers of highland pagans were resettled in locations in the coastal foothills and the adjacent lowland areas.

The nineteenth century brought with it new military expeditions launched in defense of Christian towns and settlements, predicated by a policy that only force would subdue the mountain people. The need to subjugate the mountain people was an overall economic concern. During the middle of the nineteenth century the Spanish accelerated their relentless determination to wrestle control of the mountains and the native
inhabitants. New political boundaries were drawn and provinces governed by the military were created.

In Abra, generally good relations already existed between the Spanish and the Tinguian. From this area Spanish raids were launched against both the Kalinga and the Bontoc. However, it was not until the end of the nineteenth century that military garrisons were firmly established in the Kalinga areas.

In the Cordillera Region, a Spanish military detachment established a base in (Bontoc) 1852 but this isolated outpost fought continually to defend itself and to suppress hostilities. It was not until 1892 that a mission was established in the same town, but missionary activities seemed to have little effect on the hostile conditions, which prevailed.

In the Kankanay area, the military district of Lepanto was created in 1854. From Lepanto raids were launched against the Bontoc, Tinguian, and western Ifugao region. By 1880, military garrisons were posted in various towns throughout the area and missionaries had arrived.

The attempted occupation of the Isneg area was perhaps the most disastrous. In Apayao where intensive 17th century missionary activity had been long forgotten, efforts to reopen contact were poorly handled and the result was continuing conflict. Missionary efforts met with no success and the Isneg remained "unpacified" at the time of American arrival in the early twentieth century.

In the east, the Kalinga had been constantly raiding the Christian settlements of the Chico River Valley since their establishment in the middle of the 18th century. In the
first half of the nineteenth century, during lulls in the hostilities, occasional missionaries ventured into the Kalinga territory that bordered on these settlements but no stations were established until the 1850s. The first two were in northeastern Kalinga. Periodic uprisings occurred; churches and garrisons were sacked but Spanish efforts continued. The situation remained unstable in the Kalinga-Apayao area. In about the 1870s setting up missions were closed because of deteriorating circumstances and it was not reopened until the late 1880's. Despite continuous efforts, the Spanish never subdued the Kalinga and the basic structure of their society was largely intact at the end of the Spanish regime (sensu Scott 1974).

Spanish rule in the mountains came to an abrupt halt in 1898, when Spain ceded the Philippines to the United States for twenty million dollars at the end of the Spanish-American War 1908 (Fry 1983). There were a series of brief engagements between Americans and Filipino nationalist forces seeking full independence and the last stand made by nationalist forces took place in the mountains (at the turn of the 20th century). Before United States control was fully established, there was considerable strife both within and between certain Cordillera cultures. Freed from the restraints placed on them by an organized military presence, redress for past offenses was sought, feuds erupted, and the result was substantial economic and political disruption, especially among the Kalinga, Ifugao, and the Bontoc (Worchester 1914). By 1902, effective control had been established by the American administration of which these events may have had profound effects on most mountain people and their crafts.
The new administration established some form of order. headhunting and tribal warfare seem to have lessened throughout the Region (De Raedt 1991: 363). Trails, bridges and some feeder roads were constructed. Eventually this network of communications greatly facilitated direct contact between cultures. Because of the Region's temperate climate, a new government center was established in Baguio and roads were constructed to serve it. Baguio thrived and expanded, and substantial numbers of lowlanders and mountain people have come to the city to exploit new economic opportunities.

Other centers of commercial, governmental, and religious activity were established in less accessible areas, and contact among the people of the region was expanded and intensified. The developing mining areas of the Kalinga, Ibaloi and the Kankanay, and the new jobs created, attracted men mostly for wage labor from throughout the Region. Schools were opened, large-scale logging operations were established, and intensive vegetable farming was begun. The bulk of this activity was centered in the Kankanay and Ibaloi Regions (Benguet and the old province of Lepanto), areas that had been most affected by Spanish influence.

In the more remote areas like the Kalinga, traditional values and patterns of living continued, although modified by the suppression of headhunting (see Dozier 1966; De Raedt 1991). the assimilation of the non-Christian population into the mainstream of lowland life was the goal of the early twentieth century American administrations. Though later policies based in part on the understanding that rapid
acculturation might be disastrous as seen during the Spanish occupation. The "new" colonialists encouraged a slow and gradual assimilation.

A 1932 circular from the Bureau of non-Christian Tribes cautioned government personnel...

"Not to attack or despise the customs and traditions of the locality and not to offend the religious sentiments of the non-Christians... Religious practices, usages, customs, and traditions which are not contrary to law, morals, and good customs should be tolerated and respected" (Keesing 1934:33).

While such policy slowed the breakdown of traditional cultures, events had been set in motion to radically alter life among the Kalingas, specifically, and to most of the Cordillera mountain groups.

During the Second World War significant military activity occurred within the mountain region, resulting in widespread destruction of property and loss of life. Headhunting among the Kalinga temporarily subdued by the American administration resumed specifically against Japanese soldiers for the duration of the war (Dozier 1966: 205). At the cessation of hostilities, life resumed its normal pattern. But the war, coupled with changes in education, government, business and religion have left their mark. The cessation of head hunting did not mean the cessation of tribal warfare and conflicts documented in the 1960's by (De Raedt 1966; van Furer-Haimendorff 1970) have continued. Consensus holds that the last head hunt taken in the Kalinga Region was in the mid-1980's (Stark 1993: 69) specific to this research setting, a generally warfare ridden area (see Drucker 1988; Rood 1991).
Today the Kalinga are classified as cultural minorities by the Philippine government and as such are given political autonomy. The successful resistance of the Kalinga and some of the neighboring Cordillera groups to outside influences for most of their history and of their geographical remoteness has controlled and to some extent prevented an overall absorption of the broader Philippine society. Small-scale societies like the Kalinga, and cultural minorities in the Philippines in general, unfortunately become somewhat disenfranchised by the predominant Philippine infrastructure in providing access to basic medical, nutritional and overall development concerns on their future as a people.

The presence of the Kalinga Ethnoarchaeology Project for the season from (1987-1988) in the Kalinga area was well known from within the Pasil municipality and the neighboring region between the locals and likewise even among the rebel insurgents known as the New Peoples Army. Overall, the KEP was very well received and the study region was relatively peaceful, except for the rare warning for raids and when the immediate evacuation of the team to a safer town was deemed necessary, or the occasional kidnapping threat for any of the graduate students for ransom from some "hoodlum". They were almost always diplomatically and at times monetarily thwarted.

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2 Within the encompassing category of tribal societies described, being Filipino my concern is on smaller and more vulnerable sort of "marginal societies" referred to by Swift (1978). The term seems to have the advantage of calling attention to the process of marginalization and "detribalization" (see Eder 1981,1982). Where by such Philippine small-scale tribal societies once relatively isolated and self-sufficient have become marginal, sometimes becoming the larger assimilated, yet never totally accepted by the majority "host" culture. Still seen to have the trappings of being uncivilized, ignorant and pagan - the same "host" culture that brought them political oppression, social stress, introduced diseases and cultural disruption. Were the Kalingas lack solid economic, social and political linkages to broader Philippine society still needs to be addressed by the Philippine national government.
by Dr. Longacre’s influence and connections with the important local village
“politburo” (author’s journal entry, dated March 1988).

The KEP initiated by Dr. William Longacre in the early 1970’s in the region
through the last 25 years, has always been welcomed and have built the positive rapport
and friendship between the Kalinga and future field researchers. Kalinga society and
culture have changed greatly through the years – and change typifies the nature of
anthropological archaeology during the same period. One of the developments
associated with the rise of the New Archaeology (ca1960) was the return to
ethnoarchaeology (see Longacre 1991b: 1-10). Longacre has reviewed the historical
development of ceramic ethnoarchaeology from the 19th century through the present in
greater detail (Longacre 1991a). It is instructive to examine the KEP in historical
perspective to shed light on the changing nature of the research design, as it has evolved
through the last two and half decades, further, considering the changes in method and
theory responsible for the evolution of the research project through the years (see
Longacre and Skibo 1994).

When Dr. Longacre first visited in the summer of 1973, the Pasil Villages were
relatively isolated and ignored by the Philippine National government. It was not till
after the government’s decision to build a series of hydroelectric dams on the Chico
River, one right in the municipality of Pasil (meeting the tributaries of the Pasil and
Chico River) that the Kalingas were thrown into international news. Charges of human
rights carnage and slaughter inflicted by Philippine Military forces on the Kalinga, and
the constant armed raids against rebels’ insurgents in the Cordillera region was so
rampant, that numerous Kalingas were tortured and killed protecting their tribal land. The Chico River Dam project would have destroyed several communities (Drucker 1977, 1988; Winnacker 1979). This strife lasted about ten years during the dictatorial reign of the Marcos “dynasty”, until it was overthrown by the Aquino government in 1989 and the cancellation of the Chico River Hydroelectric Dam Project. Corazon Aquino’s new government pulled out the Philippine Armed Forces and the armed conflicts with the Philippine Communist party (New Peoples Army) stopped. By the time of my initial field research with the (KEP) in the late 1980’s, the Kalinga population had considerably risen. Out migration in search of wage labor increased, as the locals could no longer produce enough food for themselves.

The introduction of lowland produced material goods such as metal cooking pots, enamel plates, glasses and plastic containers has proceeded at a rapid pace over the past fifteen years. Lawless (1977:26) reports that in 1973, only a few Pasil households had these items. Longacre (personal communication) observed that such introduced items were not common in Dangtalan in 1975-1976, the year he lived with the Kalingas. However, by the time I had done fieldwork in 1987-1988, such items were present in all Dangtalan, Dalupa and Guinaang households, and often in large quantities.

Moreover, the character of traditional systems of Kalinga material culture was at the onset of change and modification. The dynamics of pottery making changed (Stark 1991a) to a more specialized pottery production in Dalupa, from the time the KEP started in the village of Dangtalan (1973) from a formerly intensive household pottery production to a diminishing mode of production in the same village until 1987 (see
Stark 1993: 131-175 for Dalupa pottery production). In as much as the bulk of the KEP research was in pottery research, the initial project to examine basketry production, produced by men in the household level, as a viable parallel research was initiated.

This dissertation research on the ethnoarchaeology of Kalinga basketry is the result of the year I spent with the Kalingas, as one of the six graduate students from the University of Arizona with Dr. Longacre, when he returned to the field from 1987 to 1988. The varied research topics published in *Kalinga Ethnoarchaeology: Expanding Archaeological Method and Theory* (Longacre and Skibo eds. 1994) are the result of that year and the changing nature of the research design as it has evolved through the years, considering the changes in method and theory responsible for that evolution (Longacre and Skibo 1994:1-11). The Kalinga Ethnoarchaeology Project has produced excellent research results by taking advantage of the longitudinal nature of Kalinga data collection.

**Kalinga Society: Political Structure and Economics**

If tracing the origins of the Kalinga has been problematic archaeologically, as noted earlier, disagreements also persist over the character or nature of their political organization.

The Kalinga's have been a popular "colonial" laboratory (Lawless 1978) for American anthropologists in the early 20th century (e.g., Worcester 1912. Beyer 1918. Cole 1922. Barton 1949. Dozier 1966) and have been "popularized" for their head hunting forays and their complex customary law of peacemakers known as the *bodong.*
Ranging from being classified as “tribal and classless” (Dozier 1966, Takaki 1977), or “incipient class like stratification” (Barton 1949:145-146), these disagreements are partly due from different historical periods and social milieus. They are neither typically peasants in contemporary Philippine society. Neither is the Kalinga a “chiefdom” as suggested by Service (1971) or Lawless (1977).

The Kalinga can be categorized as a “tribal”4 society. The Kalinga function on the peripheries of the national Philippine economy, built upon a geographical remote isolation with an unceasingly enduring existence. A traditional barter economy is predominant but a growing cash income has crept in, but the former is still commonplace. The resistance of the Kalinga to overall economic and political influence and assimilation stems from their inherent fierce belief in maintaining tradition is evidenced throughout their history.

The bilateral kin is of vital importance among the Kalingas as the main kinship group (for further details see Barton 1949: 66-73).

..."The Kalinga kinship group, consists of any individual of the descendants of his eight pairs of great-great-grandparents - that is to say his brothers and sisters, first, second and third cousins and all of the ascendants and descendants of all these categories with the exception of the descendants of the last one...the basis of the interplay between the kinship principle and the territorial principle in Kalinga social organization"...(Barton 1949 p.32).

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3 Barton(s) field research involved time spent in 1916 for four months and in 1941 for five months; while Dozier field research from 1959 to 1960.

4 “tribal” The notion of tribal society is a complex thorny debate (Fried 1975), but the alternative terms aboriginal and indigenous (Swift 1978), likewise the term warrior society (Scott: 1979) also pose some difficulty. It is for this specific purpose that I use the term and not the intention to include all peoples - to delimit the different kinds of peoples is important and the term “tribal” in Southeast Asia still remains common.
In comparison, common to other agriculturists from around the world, the fundamental Kalinga group is the family or household (Takaki 1977: 103) states that... "The unit of economic management is the household, it is the production unit as well as the consumption unit"... This unit is comprised of a complete or partial conjugal couple, their dependents and perhaps (extended kin) an aged parent, aunt or uncle of one of the spouses: responsible for daily social and economic activities - the primary production and consumption unit. All resources owned individually or jointly are managed by the household (Barton 1949: 32-39; Takaki 1977) although each individual's personal kin composed mostly of a larger group of relations can and may supply social, political, and economic financial support (Dozier 1966: 61).

Wealth among the Kalinga is traditionally a function of the yield of the ricefields that one owns and inherits. The abundance of agricultural holdings and a bountiful harvest enables one the attainment of the highest social status. The baknang or the social elite posses both prestige and power in village decision-making, ascribed traditional positions of social stature is defined by ceremonial feasting to gain affluence and political power.

The Kalingas do operate and have a political organizational unit known as the region\(^5\), above the level of the individual household, kin, or settlement. This unit operates within the domain of a regional political organization (Bacdayan 1969:64; Barton 1949:137; Dozier 1966: 55; Takaki 1977:27; Graves 1994:15). Spatially the

\(^5\) Graves use of the term *region* parallels my definition; likewise my use of the term village is used in the same context as Stark (1994), in her use of the term community and settlements.
region encompasses at least one settlement and sometimes as much as 9 to 10 settlements and all its members and the surrounding territory claimed by and under the control of the regional population (Graves 1994:15). The major political function of the region is to establish and enforce bodongs or peacepacts with some or several corresponding regions.

In spite of social change the traditional institution of leadership (the pangat) remains its political as well as judicial power and is apparent. Leadership is not exclusive of the elite or the underprivileged: pangat may come from either distinction and hold positions by virtue of their leadership skills and political ability by leading successful lives. Leaders (old men laklakay) or pangat are primary to the functioning of any Kalinga ili or village: contributions to public disputes are invaluable and are the customary “judge advocate”. They are effective leaders whether it entails tribal warfare or simple matters of the village. Questions that are largely legal and may affect the whole village are set out for these pangat or laklakay to deliberate and are settled by custom law involving the maintenance of the bodong or peace-pacts (Bacdayan 1967).

Peace pacts have been maintained for generations and individual peace pact holders pass their responsibility down to the next generation. Unfortunately, the only threat to this system of custom law is the introduction of guns, enabling local delinquents to defy custom by force. Interestingly at the time of fieldwork, the combination of peace pacts and the policing of the rebel insurgents of the New Peoples Army (against the Philippine government) have actually maintained peace among these Kalinga villages.
These codified systems of custom law that revolve around peace pacts remain the prime facet of Kalinga society. Peace pacts link the *ili* or villages and the regional areas to one another through agreements that do: (a) guarantee justice when a crime is committed, (b) bring to an end tribal wars caused by blood feuds, (c) ascertain peaceful areas of trade, travel and commerce and even (d) institute alliances that permit intermarriages. Peace pacts seem inherent in strengthening tradition and yet being able constantly re-adjust, given the modernization of Kalinga norms of behavior and control today.

Materially and spatially, the Kalinga household is signified by a discrete physical structure of a house and within it a common sleeping and eating area. Kalinga architecture too, has changed considerably through time (Dozier 1966. Lawless 1978. Trostel 1989), along with it a changing perspective of "value and prestige". What was then "typical" of Kalinga houses were, till about the turn of the 20th century: was an octagonal thatch-roofed house, to have been owned by the rich or the *baknang*; and the four-sided thatch house, for the poor or the *lawa* or *kapos*. Through time (early 1970's), and the introduction of galvanized iron or metal sheets (GI sheets), the Kalinga's have started to replace their traditional thatch roofs with this material. The use of metal cooking pots is increasing and replacing traditional clay pots, electronics (battery transistor radios), as well as the growing use of "luxury" goods (e.g., metal kitchen utensils, canned food, tools, gas lanterns and "western" construction materials). a

* pangat The political system of the Kalinga in many respects resembles that of (Sahlins 1963) the Melanesian “Big Man”, rather than a "chiefdom" as suggested by Service (1971) or Lawless (1977).
contemporary manifestation of wealth and prestige. My initial observation of house size and quality seems to characterize the socio-economic differences of the Kalinga (in the village of Dangtalan). For further discussion on the analysis of household wealth correlates in the study area see (Trostel 1989).

On the question of socio-economic inequality among the Kalinga, foreign ethnographers have displayed incredible naiveté and have reviewed them (the Kalinga) as “essentially classless” (Dozier 1966:118. Takaki 1977), or characterized by “incipient class structure” (Barton 1949). Though these disagreements regarding the political structure stem partly from historical factors; unfortunately, the differentiation in inheritable wealth is tremendous. The poorest households may have one to three small ricefields, the richest, thirty to forty large ricefields. The poor households may have one swidden, the rich, four to five, and the difference in the number of working and domesticated animals is apparent (e.g., water buffalos or carabao for plowing and for a meat source for ritual: chickens, pigs and on occasion a number of dogs). These economic differences continue to grow among the Kalinga. The wealthy or baknang households posses both prestige and power in the decision making of the village. But as off farm income opportunities become common (e.g., contract work, government, and wage labor) as well as the opportunities for college education, the class has begun to change. Those traditionally wealthy families who have taken advantage of educational opportunities have maintained their positions. Former baknang families have lost their power to a growing “educated elite” (e.g., college educated and privately or government employed)
the access to cash can make it easier for the "new rich" to hold traditional feasting or the *palanos*, a conspicuous consumption of meat to gain prestige and political power and also, most visible during weddings and funerals.

**Kalinga Belief System**

The traditional Kalinga belief system may be described as spirit worship. These spirits called *allan* continue to live in the spirit world that includes dead ancestors and nature worship. Inhabiting natural objects such as mountains, bodies of water, footpaths, rocks and trees. The living must maintain harmony between these spirits, as it is believed that these spirits likewise maintain harmonious relationships among themselves. Kalinga beliefs are highly ritualistic and rituals are performed by women mediums and healers known as *man djajawak* and are called in the event one is needed. If the living neglect or in any way offend the spirits, they may encounter bad luck and become ill. Specific sacrificial rituals may entail the gathering of kinsmen to partake in a meal during which an offended spirit through the medium is remembered and appeased (Magannon 1972). The spirits, especially of dead kinsmen, are also invited to come and partake of the meal. The essence of worship takes the form of remembrance and acknowledgement.

Today, despite the presence of Christian mission organizations (the Catholics, Protestants and Methodists), traditional cultural practices are still predominantly followed by the larger population interspersed with an occasional Christian element. The slow but growing assimilation to the contemporary Philippine way of life is becoming more apparent today.
Celebratory social village festivities and ritual almost always revolves around the cycle of rice cultivation, marriage, births and deaths. The use of gongs or *gangsa* and dancing takes place to formalize ritual. Others may involve the slaughtering of pigs and water buffalo, accompanied by the reading of animal livers and the resulting prognosis affecting important decision-making.

Within the kinship group and the village, there are numerous gatherings within the range from simple to all encompassing in the course of a typical year. To celebrate marriages and funerals, the entire breadth of the kinship groups is always involved and is required to partake and contribute to almost all aspects of preparation and expense. These occasions range in complexity, from simple sacrificial ceremonies that entail the killing of a chicken to cure illness, and celebrations that mark the end of harvest season to which siblings and immediate family is involved.

Political and economic changes in Kalinga is described elsewhere (see Lawless 1977, 1978; Stark 1991b, 1993) and have substantially affected Kalinga economics and subsistence. Hunting and fishing that were important components of the traditional Kalinga subsistence have diminished greatly (Lawless 1973: 107; 1975:30) and environmental degradation resulting from deforestation, traditional slash and burn and the results of over swiddening. Mine tailings from mining activities in the surrounding area has further polluted riverine food resources for the Kalinga (Lawless 1973:102). Currently (1999 personal communication), Longacre tells me that a recent landslide in Dangtalan formed a lake and as a community project the lake has been stocked with a common Asian cyclid known as the *tilapia*.
Environmental and ecological degradation affect the overall subsistence patterns, and relatively "balanced" ecosystem of the Kalinga. Though at the onset, seemingly unimportant to household craft production and use, it is one of the components that is furthering material culture change - displacement and at times abandonment of certain basket types (e.g., eel traps, locust holding baskets).

Summary

This chapter has set the stage on Kalinga, as a research setting. It blends the archaeology and history of the Kalinga as a people. Emphasizing the physical and political geography that have shaped the village settlements of the Cordillera region. Unique as a culture group, popularized in the western world for their former headhunting pursuits and custom law and evidenced by a long history of ethnographic research.

The last century has ushered considerable changes among the Kalinga, and this culture group is no exception to the modern global influences that affect small-scale tribal societies, the impact of change on their social, economic and political systems, alongside ecological degradation. The Kalinga known to have been fierce warriors, survive and withstand these dynamic historical processes yet still controlling the amount of acculturation they accept.

At the onset these influencing spheres of change seemingly inconsequential to craft technology are to be found as contributory factors that affect several facets of material culture; that of the basketmaker, his product and the people that consume them. The following chapter (Chapter 3) discusses in detail the relevance of basketry as an
artifact, the antiquity of the craft and the history of basketry production among the Kalinga, further presenting the rationale for my research on the ethnoarchaeology of Kalinga basketry.
CHAPTER THREE

KALINGA BASKETRY PRODUCTION IN PERSPECTIVE

The Relevance Of Kalinga Basketry Production

Production is the groundwork of all economic models; before the distribution and consumption of goods can be fully understood the social and spatial contexts of production must be defined (Mills and Crown 1995:1). Both basketry and pottery production among the Kalinga is a relevant form of craft specialization to study ethnographically (see Longacre & Skibo eds.1994 for Kalinga ethnoarchaeology research overview). Whether they be in the Philippines, Southeast Asia, Latin America or Africa, contemporary households worldwide, turn to specialized craft production as an alternative subsistence strategy, when faced with insufficient agricultural landholdings [e.g., for basketry in the Cordillera (Jenks 1905; Lambrecht 1958; Parker 1913,1914); in pottery see (e.g., Arnold 1980: 147; Scheans 1960:9; and specific to the Kalinga pottery see Stark 1993: 175-177)].

Understanding the Kalinga basketry production system requires a working knowledge of the entire basketry weaving economy - involving the social relations that Kalinga basketmakers establish to control the technological production, consumption, and the exchange of their craft. To further this examination the observation of these factors and their intimate relationships to the environment is identified; from the natural resources available to the general basketmaker, the different household basket types woven by them, defining the difference between the product of a Kalinga basketmaker and that of a "specialist" basketweavers or a maglalaga. As these different techniques employed in
making baskets are refined, the production of specific-type baskets at times intensified, defines the process of being called an expert. Identifying the production of specific basket types and distinguishing this specific complex weave that make a specialist is explored.

Kalinga basketry production is a segment of a dynamic economic system, a network that changes and shifts in response to internal and external factors. This chapter focuses on the history of Cordillera basketry manufacture, their functional categories and the differing techniques involved. The types of weavers and their corresponding expertise in their skill in the mastery in the making of certain basket types are investigated. The basketry production economy is finally best described from a multi-causal approach in determining the articulation of craft specialization and intensification among basket weavers – linking technology, economics and ecology of the Region.

Cordillera Regional Basketry Production

Throughout the highland Cordillera in northern Luzon Philippines, groups such as the Kalinga and their neighbors the Ifugao, the Bontoc, the Illogot, the Isneg, the Kankanai, and the Benguet (Ibaloi) have had long craft prehistory’s (see previous map Figure No. 2.1, for Cordillera culture group geographical location). From basket and fabric weaving, pottery and woodcarving, all playing requisite roles in day-to-day living.

Basketry and its makers have always played an indispensable role among the people of the Cordillera, representing a fine blend of the Cordillera environment, its peoples, and their material technology continually serving as tools on their own. Today
some of the more isolated groups still make baskets, differing between Cordillera peoples, between villages, in production technology, economic necessity, varying in form and serving daily utilitarian function or in traditional ritual ceremony.

Worcester in (1906:840) comments that basketmaking was one of the most important industries in Bontoc; Lambrecht (1932; 1939; 1958) a Belgian missionary living among the Ifugao in the 1930's, documents that basketmaking provided a livelihood for the poorer members of the village. The feared, headhunting Kalingas traditionally may have had specific "head" baskets, called the pasiking. The neighboring Ifugao's call it a hango and in Bontoc it is called a fungao, a specialty among the weavers in the towns of Barlig, Ambawan and Kanyu (Jenks 1905: 122).

Among the Ifugao, the traditional hunters backpack is called the inahmutan [see following photograph (Figure No.3.1) reproduced from Ellis 1981: 238; Hamilton 1998: 96-97]. The form takes its name from a fiber called abnut, processed from the leaf stalk of the bangi palm. It is uniquely characterized by a fine woven split leaf fiber attached to the backpack basket that doubles as a water proof rain cape that protects both the basket and the wearer, these woven backpacks are primarily used while traveling, used for personal accoutrements, hunting provisions or at times to carry food when working the ricefields.
Rice containers and produce baskets differ in size, shape and function at least among the Cordillera groups (see Hamilton 1998; Ellis 1981). Specific to the Kalinga: the *langaya*, *labnak* or *lukgud* (see the following photographs on pages 109-112), normally used by the Kalinga women for *palay* or rice, *camote* or sweet potato or harvesting coffee are multi-use and when inverted provide protection from the occasional monsoon rains. Among the Ifugao, a basket called the *tudung* (shaped like a long trough, but relatively flat on one end) works both as a container basket and protection from rain, when flipped over the head (see photographs in Hamilton 1998: 120-121). When laden with produce it is then flipped on its back and carried with a
Rice is the most prestigious staple among the Cordillera highlands and its importance in both their diet and ritual is a matter of direct observation involving with it specific baskets. Among almost all the tribes in the Cordillera, certain baskets play a specific role in ritual and ceremonial context. Among the Tingguian, Cole (1922: 265-266) reports the use of a winnowing basket in a ceremony for the purpose of naming a child. The child is placed on an inverted winnowing basket while an old man or woman gives the child its name. The child in the basket tray is then lifted a few inches from the ground and dropped several times while the name is repeated. On the third drop, the child is strongly advised to be obedient and industrious. Otley Beyer (1909), observed that among the Ifugao village priests, baskets covered by beeswax is solely used for sacred ceremonies. Pieces of cooked sacrificed pigs or chickens and rice wine called “tapuy” are placed in these baskets and consumed by the priests as the ritual progresses.

Dr. Bacdayan an anthropologist of northern Sagada and a Bontoc himself, attests that the sacred takhu (the Bontoc backpack sangi without a lid), belong to an entire kinship group or to a number of related kin groups that functions significantly in Bontoc ritual feasts called the hegnas (Bacdayan in Hamilton 1998:48). The basket is said to memorialize victims of headhunting or those family members that have died violent deaths. These baskets are kept inside the home in a special place warmed by the heat emanating from the hearth and kept in it a piece of dried meat, a little tapuy (stored in a bamboo tube), and occasionally replenished by the head of the family. Village welfare
feasts or the begnas centers on these men's' houses and these baskets. When this occurs, the kinship group is mobilized to contribute time, food or money to sponsor these feasts. To neglect the takha, is thought to be responsible for any abnormal behavior as well as to risk the dire consequences in the form of physical and especially mental illness (Bacdayan 1999-personal communication). The Bontoc takha is similar to the open-backpack version of what the Kalinga call a pasiking.

Cherneff (1980) observes that in every Bontoc house three small baskets called pagikaten are attached to one of the walls near the cooking hearth. When the family sacrifices a chicken for ritual purposes, a small chicken bone or intestine and a small amount of rice are placed in each basket as an offering to the ancestors. When a house is abandoned the pagikaten is left on the wall and a set of new baskets are made for the next dwelling.

The Kalingas likewise have similar small woven conical baskets called an allut to drive off evil spirits from their homes – attached on the wall by the cooking hearth and sometimes adorned with chicken feathers 1.

During harvest among the eastern Ifugao in Mayaoyao (Lambrecht 1930: 1932), baskets called the hallag to carry rice bundles from the field to the granary figure prominently in ceremonies associated with the harvest and the rice deity by local village priests. The basket themselves is addressed and is asked for its assistance both before and after the first bundles of rice have been cut and gathered. After the first ten bundles of rice

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1 Certain storage baskets among the Iban are kept only in the longhouse, called the baka, lanji and nyahak containing charms being essential tools in Iban society, and often a proof of the gods interest in their owner (Blehaut 1999, personal communication).
is carried in from the fields to the granary in the hallag, the attending priests again addresses the basket and invites certain deities to attend the ceremony and assure a bountiful harvest. After the rice is bundled and carried to the granary for storage and later pounding, the hallag basket is again incorporated into a ritual associated with the rice god Lagul - in the likes of carved wooden granary god figures called bulul. Both basket and bulul are thus firmly intertwined in this ritual that assure a bountiful harvest and inexhaustible rice supply (Lambrecht 1932: 133-140).

Dozier (1966:200) makes comment about his Kalinga informant's historical account of a basket-like container used after a successful headhunt.

..."The returning successful headhunting party proceeded to the village from which the leader had come or from which most of the party had been drawn. Here excitement and joy welcomes the warriors, and the potol, or the evidence of the kill, examined. Preparations for the rituals and festivities also begin at once, one end of a bamboo stalk about 6 to 10 feet in length and about 3 inches in diameter was fashioned into a basket by stripping the sides. Called a sakolang, it was then taken to the outskirts of the village and planted in a sacred shrine called the podavan. The basket-like receptacle was lined with hibiscus flowers, and the potol (a collection of a head or heads, hands or fingers) placed inside”.

The description I infer from this and from a number of Kalinga informants, comes close to a chicken nesting basket (page 140), were a similar size bamboo pole is cut, partly split on one end, splayed, and a quick plaited conical weave is made on this (top) end of the bamboo pole. The other end is sharpened and spiked into the ground that befits a nice holding basket display of body parts.

Although there are several informant accounts of baskets in use for headhunting, and Kalinga ritual (De Raedt: 1989), all are described from a purely utilitarian perspective, specific headhunting type baskets are mostly inferred or at times popularized. Neither have I found specific Kalinga ritual baskets, from a specialized form of ritual production (e.g.,
attributable to a shaman or priest), as been documented among the Bontoc (i.e. takba), in headhunting ritual.

Among the former headhunting Iban in Sarawak similar baskets were used in the past to receive human heads at the foot of the house steps after a successful headhunt: specific baskets are woven only for ritual (e.g., ritual warpath, wedding dowry baskets, and funerary type baskets), and differ from what is purely a utilitarian product (Blehaut 1997 and personal communication).\(^2\)

When asked, older Kalingas seemed to infer from their ancestral stories of the existence of “head baskets”, but whether the pasiking specifically used for ritual purpose is not confirmed. One could conjecture, that the same pasiking, that accompanies the Kalinga male in his forays in the forest, might have been likely used, as a “head” basket, at one point in history. It makes practical utilitarian sense.

The time factor, should not be ignored either, particularly in a dynamic society like the Kalinga, as old customs disappear, these “old” customs were themselves influenced by at least a century of American contact and prior to that of the Spanish in the mid-16\(^{th}\) Century, or with other local Cordillera tribes, or lowland trade influences.

\(^2\) Baskets used specifically for rituals include the square baskets or mats in open, checker weave (kelingkang) and conical, splayed bamboo receptacles with twined borders (kelingkang, teresang), used for offerings (miring) and suspended in a variety of places, outdoors as well as indoors. Splayed bamboo poles with twined borders (seregang) are set in farms at sowing time and on other occasions, particularly to acknowledge omens. Their height is dependent on the omen that is to be acknowledged (Sather 1985: 16), the highest containing offerings to the stars, such as, at sowing time, the Orion belt (bintang tiga. Blehaut 1997).

Special wedding baskets (takin bangin, selok menarang, selok sundang menarang) are involved in the belah pinang wedding ceremony, where they hold the areca nut, which is to be split at the climax of the ritual. The bride may later use them on subsequent visits to her in-laws (nyundang pinang) to carry her wedding finery. These baskets, traditionally manufactured by the bride's in-laws themselves, are prestige items in which great effort is spent, and usually carry elaborate designs (sensu Blehaut 1997).
Today's differences between Cordillera groups are therefore, not necessarily original, but may also be the result or the degree of Christian missionary focus, for example, on certain tribes close to city centers like the Bontoc or the Benguet-Ibaloi, but may also be temporal. There are thus reasons to think that the Cordillera groups have borrowed some pre-existing patterns, some of which have undergone little change, but that they also have invented their own "designs" partly drawing on a common Cordillera stylistic pool.

Note on orthography:

Reading through the literature on languages of the Cordillera, there seems to be no single established orthography standard in writing. Pronunciations of terms may differ from village to village and between regions. Spellings that do not match an orthographic modern standard have become established in contemporary literature (e.g., from *Igorrotes, I golot* to Igorot, meaning mountain people) In some instances names and spellings are adjusted by native Kalinga speakers and local Kalinga field research assistants.

Kalinga Basketry Production

Basketry among the Kalinga along the Pasil River is made by virtually every household and its widespread everyday use is evident in food preparation, transport, storage, processing rice, trapping fish and the making of traditional Kalinga thatch houses of interlaced bamboo walls and floors. For the most part, Kalinga baskets serve a predominantly utilitarian purpose and at one time may have been used in ceremonial headhunting activities and ritual contexts (De Raedt 1989). ^3

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^3 DeRaedt (1989) mentions the use of baskets in a ritual called sakob (meaning cover) but these descriptions are from a purely utilitarian perspective and not exclusive, were the basket involved is a container used for offerings for this specific ritual.
Basket weavers among the Kalinga are men and training starts when young boys are old enough to watch older males, siblings, fathers, or grandfathers make simple fish traps, chicken coops and nesting baskets. In almost all instances Kalinga men can weave simple-plaited baskets; complex weaves and more complex forms used for food containers, storage and transport are left in the hands of a “specialist” or “expert” (the same term used by Kalinga specialist potters), a skilled weaver known as a *magdala*ga, in contrast to one that is not a “non-specialist” or “semi-skilled” basketmaker. Village weavers make baskets when the need arises, whether it is for household use, or for the harvest season when the need for container and winnowing baskets are in demand. In the absence of a local expert or weaving specialist a neighboring village weaver may come sell or trade his wares for coffee, rice, sugar and the luxury of canned food.

The three basic tools of the Kalinga weaver include: a wire awl *chju'ut*; a small knife *gi'pan* and a short machete *bolo* or *vye'jang*. A variety of bamboo *vwuyu* or *huyu* (*schizostachyum lumampao*), a vine like bamboo called *anes* or *anes* and rattan *iwoy* (*calamus usitatus*) varying in local terminology for characterizing pliability and use, are the dominant materials and are found in their natural environment. Weaving techniques includes simple and twill plaiting, some wickerwork (stake and strand) or simple twining, but only as knots or ties. Non-existent in the Kalinga weaving repertoire, but favored “pure” coiled baskets has been found in a number of Kalinga households, which today are considered expensive heirloom (second and third generation) rice storage baskets. Coiling as a technique is the preferred technique of its neighboring tribe the Ifugao specific to coiled rice storage baskets called the *kulbong* or *ulbong*, both among the Ifugao that make
them and the Kalinga that traded with them. The preference for technological types or weaving techniques may be purely idiosyncratic. Most of the raw materials are harvested from the nearby forest, cut to size and decorticated and a number of creeping wild vines known as *nito* varying in color (e.g., *lysoodium circinnatum, l. flexuosum* or *l. uponicrum*) are generally used only as ties.

Generally, baskets are not decorated or colored and their aesthetic impact is solely dependent upon material, form and weave. To say that the Kalinga basketmaker were uninterested in decoration and pattern would be fundamentally wrong. Decoration* and pattern however, are always directly and logically related to the intrinsic structure of the basket. Decoration therefore takes the form of interlaced braids that provide strength, of strips of reinforcing bamboo and pattern is achieved through the symmetrical placement of these structural variations in weaving, a combination of weaves, varying the direction of the weaves and the differing widths of the same material.

When not in use, Kalinga baskets are often stored in the houses for several years suspended from a hook or shelf on the wall, or a wood beam in the roof. Cooking was done in a hearth, in the house, and the smoke that poured through the thatch roof left a continuing deposit of soot on the baskets. In addition, they were sometimes rubbed with animal fat as a preservative and this oily coat accelerated the accumulation of soot. The end result of a basket in regular contact with human hands was a deep brown patina that could not be achieved in any other way. In the case of baskets that were infrequently handled and left in storage or disuse, the encrustation of soot was so great that the baskets
turned a solid black, were the rattan and bamboo are almost obscure. An element of aesthetics in older baskets, to which most galleries of tribal art would differentiate from “heirloom” pieces to new pieces, are largely serendipitous.

Central to Kalinga basketry are all the forms used in Kalinga subsistence, from rice farming, the gathering of vegetables and tubers in swidden plots to hunting and trapping fish and the building of traditional Kalinga houses. The variety of Kalinga baskets types range from holding or container baskets for rice and other produce, to burden baskets.

Carried like a backpack, the pasiking is generally held in place by sturdy woven straps of rattan, which pass over the shoulders and underneath the arms and in their popularized headhunting past, referred to as a “head” basket.

The lahnak are winnowing trays primarily used for rice and are found in abundance. Variations occur from area to area but the preferred square type by the Kalinga is predominant. A handful of the non-Kalinga trays are round but all are relatively flat, providing a broad surface necessary to separate the rice kernels from the chaff. The lahnak (Figure No. 3.2) is also used in most instances as a container to dry meat, coffee beans, or vegetables and as a communal serving tray for cooked rice. Kalinga container baskets like the langaya (Figure No. 3.3), lakba, or lukbud are made and are carried to sit and balance atop a woman’s head, and in most instances laden with heavy loads of sweet potato, coffee beans and rice – differing in the finishing of the rim, the body and the base.

\footnote{What I mean by \textit{decoration} here is what is over and above the requirement of the basket’s primary function.}
Figure No. 3.2 The *labnak* or square winnowing basket and the upturned *lukgud*

Figure No.3.3 A *langaya* in use in the foreground
Figure No. 3.4 A Kalinga woman busy in the processing of rice and the evidence of the variety of basket forms and other tools in-use in the village. An empty “likgud” and a “lungaya” filled with palay or rice stalks as it is pounded in the wooden mortar or “lu song” with the pestle or “lal o”.

Photograph by William A. Longacre
Arizona State Museum
Figure No. 3.5 Young girls help and are trained early in the processing of rice as it is the most prestigious staple among the Kalinga. The importance in both their diet and ritual is a matter of direct observation, involving with it specific baskets. The lungayu (foreground). labnai (winnowing basket), or the lukgud, used by the women for palay or rice, camote or sweet potato, or harvesting coffee.
Figure No. 3.6 Women and children are busy pounding glutinous rice, called *diket* in the making of rice flour for sweetened rice cakes, and popularly served during village feasts. These holding baskets are multi-use for rice, rice flour and for other agricultural produce.
Kalinga men and women wear small baskets called the kalupita tied to the waist or against their hips to contain rice seed during planting and items like tobacco, lime, pepper leaf and betel nut \([\text{Piper betle} \ (\text{Piper. Linn})]\) or bowa, when traveling. Some basketry examples have two or three compartments inside: one to carry food or rice, the second for matches and tobacco and a third for more valuable possessions. The latter is often referred to as a secret compartment, but would obviously fool only those unfamiliar with kalupita construction. In the home or in the field, small and shallow conical baskets called a tal-talupao or jam-jamus (a diminutive of the regular or larger food container/holding baskets called the talupao and/or the jamus) is traditionally used. Lined with banana leaves, they serve as plates and trays for cooked food, its circumference the size of large dishes. Unfortunately, regular plastic and enamel plates are now replacing these basket plates. A similar type used by the Ifugao called the hukup and among the Bontoc the giyag is found and Jenks (1905:123) refers to these as eating trays – differing in form from one Cordillera group to another. The Kalingas also use half-cut coconut shells called, chuyug or diuyug, and have traditionally been used as food bowls, sometimes decorated by carved incised geometric lines on the outside surface. Special container baskets used for the storage of these bowls are called allat, ayat.

Almost every Kalinga household seems to have a special type basket, for a specific purpose. From the previously mentioned basket plates, to eel traps called udjaey, to chicken nesting baskets or the kagongkong, chicken coops or fukyut chi mamuk and small fish traps, the kob kobong, all are plaited and some knotted with a twine technique. Open
twill-plaited techniques are found among snail sieves or sakmung, or the padapad a sieve used for sugarcane wine. As hardy rattan is braided for hot pot rests known as a chikon: to hot pot holders or patutay: pot rests or the balukag, specifically used by women to carry water jars and pots on their heads (simple-plaited pandanus leaves wound around a rod foundation), all are made, by Kalinga men.

It is unfortunate that some types of baskets have disappeared from the Kalinga basketry repertoire. Eel traps and locust baskets known as the hukus or fokus, no longer exist and will probably be found only in museum collections, these examples we collected, are now at the Arizona State Museum and for technological comparison, specimens from the Bontoc and Ifugao are found in the UCLA Fowler Museum Collection (see morphological and Cordillera culture group comparisons of locust baskets in the Kalinga Basketry Typology section as reproduced from Baker-Capistrano 1998: 111-113).

Riverine food sources (i.e. fish, eel, and fresh water shrimp) have dwindled through the years brought about by overall river pollution, and these functional types abandoned (1988). Though recently (1999) a resurgence of a variety of a fresh water cyclid known as the tilapia is found at nearby Kabunyan Lake in Dangtalan (personal communication William Longacre).

Locusts, traditionally was considered a delicacy (a food source high in protein), among the Cordillera people. Kalinga locust baskets were made, to keep the insects alive - in tightly woven twill-plaited baskets with an open plaited bottom to provide ventilation, until ready for cooking, boiled and dried, and at times pounded, and stored in bamboo tubes as seen by Barton (1922: 395). Among the Ifugao the basket, is called a butit, differing in shape
and construction and is a combination of interspersed plaiting and twining, and a combination in the use of bamboo and rattan [see following reproduced photograph of Ifugao locust basket in use, (Ellis 1981:212)]. At this point in time, the Cordillera people have abandoned making locust baskets as locusts’ swarms rarely occur in the Kalinga environment. It is apparent at this point, that locust baskets reveal specific Cordillera group affiliations, by shape and style.\(^5\)

Woven hats were traditionally worn by Kalinga men, and may have denoted married or bachelor status. The use of a bachelor’s hat *kata gang* is photographed and documented (courtesy of the UCLA Fowler Museum Collection); and among the southern Kalingas of Pasil the same hat is called an *apagok*. It is not known whether married Kalinga men wore similar hats commonly found among the Bontoc men known as the *kinawit* or the *hallaka*.

Both hat baskets serve as a “pocket” to keep matches, tobacco and an occasional pipe, secured on the head or forehead by a string. Though it is not a common sight today among younger Kalinga and Bontoc males, it is more commonly seen used by older Bontoc men (see Bacdayan 1998:39, 41).

Worchester (1912)* likewise documents the common use of rattan caps among the Kalinga in Lubuagan, (where the territorial lines of the Kalinga and the Bontoc had joined at that time).

...“However the Kalingas are not content to take these rattan caps as they find them and will decorate them with agate beads. During village festivities well to do Kalingas will deck themselves out in colored fabric blankets, and their hair with tufts of red and

\(^5\) I use the term *style* to mean identifiable technological elements that contribute to what the Kalinga or the other Cordillera groups themselves perceive as the differing or unique elements present in the basket commonly identified and specific to that particular group.
yellow feathers, hibiscus flowers and marigolds’… (Worchester 1912: 873.874); see the following photograph (Figure No. 3.7) reproduced from Ellis (1981:232).

It is apparent that Cordillera groups will adopt certain forms from other culture groups and change them according to individual or group preferences in the choice of raw material, weaving technology or stylistic elements.

*Note: The period 1903-1910, are the years Dean Worchester served as Secretary of the Philippine Interior under the United States regime.
Figure No. 3.7 The Kalinga, in their past history has been known to be the most ornamented and bedecked of the Cordillera groups. The use of colored feathers on a woven rattan male headdress, colored agate beads for personal adornment and highly intricate colored embroidery, with attached shells and beads on wrap around skirts, jackets and loincloths as seen here in the early 1900's photographed by Charles Martin of the Field Museum of Natural History in Chicago (Ellis 1981:232).
Other than hats, Cordillera groups also weave rain capes to protect them from the monsoon rains, common in this part of the country. In the absence of traditional material, and the former use of the *bangi* palm a source of the fiber *ubnut*, Kalinga rain capes called *ana'aw* today made out of cogon grass are still commonly found (Hamilton 1998:119).

Figure No. 3.8 The Kalinga raincape or *annanga* made of cogon grass

The traditional Kalinga *annanga*, similar to the Ifugao *innanga* made out of plaited rattan and the hair-like *ubnut* fiber, is now rare. The example in the following page is provenienced from the Ifugao. (Figure No. 3.9) at the Fowler Museum Collection, UCLA. (also in Hamilton 1998:118.119).
Figure No. 3.9 Cordillera men working in the fields formerly wore a rain cape such as this made out of the midribs of the *bangi* palm, called *abnut*, on a woven rattan base (this specimen provenienced from the Ifugao).

Fowler Museum of Cultural History Collection
Cat. No.X78.2421

Photograph reproduced here from Hamilton (1998:118)
Some Kalinga households have a rectangular suitcase-like storage basket, called a *lampipi* used for the storage of clothes. The occurrence of this particular basket type is common in lowland groups, and was probably brought in by trade. The Kalinga use the same Ilocano term *lampipi*, but instead use rattan and a twill-plait technique in making these storage baskets. It is a known non-traditional Kalinga basket type. Similarly, the popular Philippine lowland sleeping mats made of pandanus, woven in a simple plaited one over one (checkerboard) technique is also used by the Kalinga, but instead use a pandanus-like material called *huri* (*corypha elata*) in making these sleeping mats or the *ohyfok*.

Bamboo and cogon grass are predominant materials in traditional Kalinga architecture. Historical literature documents octagonal houses in the turn of the century (Barton 1949:10-11; Dozier 1966:13-14), the last house in my village of residence had burned in 1955 when a fire swept the entire village of Dangtalan. Traditional Kalinga octagonal houses have now been replaced by a square or rectangular shape, but the traditional plaited bamboo-wall construction is still commonly used. Cogon grass is used for the thatch roof and differing types of bamboo are used for house construction. *Payutan* or old growth bamboo is used for house posts and walls, and the younger growth, *pasingan* is used for the folding bamboo floor called a *cha ta gon*. normally taken down to the spring, to be scrubbed and washed.

A growing influence of lowland construction is slowly being seen among the Kalinga and the Cordillera in general, with the use of wood or galvanized metal sheets for walls and roofing (Dozier 1966). He further notes that metal sheet roofs denote a changing
perspective on prestige in the Region and a metal sheet roof, along with wood floors is a sign of the baknang or the rich.

Basket Ownership

Among the Kalinga, baskets tend to be owned by individuals and not by families. There were several instances when I offered to buy a basket made by some weaver and she would say, "ask my husband this is his". In one other instance I asked a mother to sell me her small fish traps and said that she would ask her son who wove them, he agreed and I paid his mother the amount, only to be asked to give the money to her son. Though only men weave baskets, these examples show that Kalinga women by virtue of them using the craft value ownership. I have approached Kalinga women in the field and admired the value of the older basket they were using. I would offer to buy the baskets; all will be gracious but will almost always decline to sell. Older baskets have "stories to tell" and elicit "stories of sentiment". One may have belonged to her great-grandmother, another may have been woven by her husband and given to her. A basket believed to have brought her luck when selling her vegetables in the village market - in no circumstance would she sell it for fear of an angry husband. In every case scenario I have left empty-handed. These incidents indicate the well-defined ownership of baskets among the Kalinga. A household may possess many baskets but a particular member of that household owns each basket and the responsibility for maintaining or selling the basket is the owner's regardless of age or generation.
Traditionally the most widespread use of ethnographic collections and archaeological prehistoric assemblages whether they be in basketry (or pottery) seem to lie in formulating typologies which form the basis of chronologies - in basketry, (e.g., Morris and Burgh 1941, Mason 1908) and in pottery (e.g., Willey and Sabloff, 1980: 143).

In their simplest form, these chronologies may provide a temporal type sequence but more importantly they are believed, to reflect a culture historical relationship through time and are based on the similarities and differences between styles, types and attributes that are relatively contiguous through time and or space.

There are a number of assumptions that need to be set forth for a typology of a collection of material culture or artifact specifically basketry, to gain the belief and "respectability" that pottery has had through the years.

1. Material culture can reflect the culture of a people in such a way that the forces of change that affect a small scale tribal society like the Kalinga are reflected in the their basketry or pottery.

2. Typological or attribute similarities, idea or even the skill are believed to be of cultural contact or diffusion – people in the study area make and acquire baskets and pots through trade, exchange or migration and perhaps even in conquest in their "headhunting" past.

3. To recognize that there is more than just a simple one to one relationship between basketry to the environment. This perspective unfortunately stems from
examples of a gross simplification of comments in the recognition of prehistoric basketry artifacts as a minor offshoot from a number of archaeological site reports.

It is understandable, that the analysis of archaeological basketry presents special problems. Although true to the fact that the differences in weaving techniques are best detected in whole specimens, and that even in sites of favorable preservation whole specimens are not unusually available, it is still possible to extract a considerable amount of comparative data from fragments of basketwork. These fragments contain an enormous amount of diagnostic attributes and technological detail. Structure is never absent providing a factual basis for a more comprehensive description and being determinable data, for comparison and classification. Unfortunately, some archaeologists tend to ignore such attributes either from lack of knowledge, familiarity, or the unawareness of the inherent potential of the craft.

Beyond this factor, there are a few statements that shed light on the relationship of basket weaving to the environment, or how it articulates with the rest of the culture, for example the analytical methods and cultural interpretations of archaeological plant remains, prehistoric agriculture or cultivation etc. The relevance of paleoethnobotanical research may provide a potential research tool for furthering interests in the ethnoarchaeological application of the study in the antiquity of basketry as an artifact, as summarized later in this section. For a current review of paleoethnobotanical research see Asch (1992) Hastorf (1993) and Hastorf and Popper (1988); Hastorf et al. (1994).
Little is known ethnographically about the occurrence of craft specialization - particularly the relationship of basketry to the ecology or environment on the one hand, and to culture on the other. Successfully achieved by ceramic ethnoarchaeological studies, such as the relation of pots to the other aspects of the cultural system such as kinship and social structure as observed by (e.g., Longacre 1970, Deetz 1965, Hill 1970).

The problem with this assumption is that the evidence from the historical documentation and archaeology does not support the relationship of the material culture, that is basketry to the socio-political and cultural history process (perhaps a tall order from the perspective of an organic artifact). But it can be understood from an ethnoarchaeological perspective when both basketweaving vis a vis pottery making is observed within the same environment. This is an initial attempt in developing a working research model and it aims to achieve the following goals:

First, it hopes to provide cross-cultural comparisons and generalizations concerning a series of relationships or contrasts between baskets and pots among the Kalinga, as both crafts occur within the Cordillera region or similar societies in Southeast Asia.

Second, to understand the relationships, parallels and contrasting differences between these crafts and the possible generalizations between material culture through ethnoarchaeology with its particularistic and culturally specific interests to derive general principles that are useful in interpreting the emergence and occurrence of basket weaving alongside pottery making.
Ethnoarchaeological research will provide this investigation a greater confidence in relating other material technologies such as basketry, alongside pottery making in a greater number of prehistoric cultures, to discover what these "formation processes" actually are (e.g., Schiffer 1983, 1987), than was possible through the use of ethnographic or archaeological analogy alone. Clearly there are differences between these technological systems and to discover what these processes actually are, intrigue me.

The focus is on the basketry producing Kalinga, which is the interface between culture and the environment in one hand, and the actual basketry on the other. Technological analysis is inevitable and is a concern, but the focus is with the interrelations of basket weavers, their environment and behavior patterning. These relationships amid a village population of basket weavers to the environment and ethnicity are viewed as a series of feedback mechanisms. Presented as processes that help explain the probable emergence and evolution of Kalinga basketry specialization from general household basket makers, learning from childhood a particular weaving technology specific to a particular basket product, mastering that particular skill, being part-time specialists and transitioning to a full-time basketweaving specialist.

Typological Constraints and Significance

The purpose of most classificatory processes or operations of typologies is to create specific types and the variations in the definition of a particular type arise from different positions on how they are set (e.g., Hill and Evans 1972; Cowgill 1982). One
determines the differing approaches to classification are equivalent and unordered, nonequivalent and ordered or hierarchical (see Dunnell 1971).

An ordered or hierarchical structure of categories is the basis for taxonomic classification, which specifies including relations and is exemplified in this study by the type variety system. Taxonomic classification is broadly defined simply as creating types (e.g., Rouse 1960: 315–317). Analytical classification, analyzes attributes to isolate and describe modes (sensu Rouse 1960). Certain attributes that the analyst uses to decipher a community wide standard for manufacture and use of the basket (or artifact), can be defined as the “standard” (in pottery see Rice 1987:277), concept, custom or a “microtradition” (e.g., Longacre 1981:49-66), which governs the behavior of the craftsperson of a community which is handed down from generation to generation. One must be guided by the definition that not all attributes of the artifact are modes of manufacture. Further divided up, into procedural and conceptual modes of manufacture. Procedural modes of manufacture would include for example basketry plaiting elements, (or in pottery, temper, and other mineralogical inclusions in clay); conceptual modes of manufacture would include stylistic and decorative elements.

This research is not a treatise on design and style, in attempting to determine whether decorative basketry patterns carry a meaning, but it is essential to recognize the many facets of the subject without gross over generalizations. A reference to specific ethnicity and to a particular time frame or period is necessary. To recognize these patterns are technically of several types and may have been acquired in different ways, and is critical in the argument on “style” or “artifact variability” (e.g., Braun 1991; Carr
This "new generation" of artifact variability studies has heightened the interest in constructing adequate theory and explanation. Despite this amplified role of the concept of style and its derivatives, such as for example, stylistic behavior or analysis or other style realms such as technological style, which encompass the techniques of manufacture and execution (e.g., see Lechtman 1977), we still have yet to reach a precise definition.

Specific for the purpose of my research, the definition of manufacturing choices sets the standard for the classification of technological attributes (i.e. plaiting, twinning or coiling) used for the making of Kalinga basketry. The inclusion of a Kalinga native system of classification provides insight into how the people themselves perceive, describe and use their baskets. A native classification is significant as there are sizes and shape differences among basketry types, as well as seemingly minor structural attributes directed related to functional diversity.

In Kalinga pottery (see Longacre on Dangtalan 1981:53; Stark on Dalupa 1993:165) rice cooking vessels and vegetable/meat cooking vessels are differentiated lexically though some of the size terms overlap (e.g., oggati meaning small or lallangan meaning large both used in either type of cooking pot). Precise measurements of ratios of vessel sizes and proportions correlate with shape classification as Kalinga rice cooking pots or ittoyom and can be distinguished from vegetable/meat cooking pots
or the oppaya by the relative more restricted aperture, steeper rim angles and a lower ratio of aperture height (see Longacre 1981:54).

The following criteria for a native classification in the Kalinga basketry typology presented will include - size, shape and use (content) or category. Further delineated by size variations, local names and functional types, intrinsic to the mechanics of basketry type (or artifact) for that matter. I have also included, the materials used for these specific types, the overall technology used divided into the general classes of weaves and varying combinations of weaves if so employed.

Notes on Kalinga terms that denote size (diminutive) in specific type baskets:

The difference in the terms used in smaller size baskets, are often a native Kalinga “diminutive” of a specific basket type. For example the flat-bottomed basket plates called jam-jamus (about the size of a large dinner plate), is a smaller type basket of the same but larger form called jamus. These larger type baskets (jamus) is normally used as a container for holding, but not specific to, shelled beans, or skinning fresh coffee beans after it has been through a threshing process. The diminutive definition of jam-jamus translates to, - “like the larger” jamus. “but smaller” or a smaller basket trying to be a larger type. Likewise in Kalinga water jars, the general term for a water storage jar is immosso a smaller water jar is called in-immosso. Interestingly only one other basket type was found to be a given a diminutive - a basket with a conical bottom called a tal-talupao also used as basket plates by the Kalinga as differentiated from the larger container basket type talupao.

In contrast to Kalinga pottery where (see Stark 1993: 165) vessel size classes are based on volume, and volume is measured in terms of a chupa system of measurement. The chupa-based measurement is employed throughout the Philippines for the measurement of grains and legumes. Among the Kalingas of Pasil, re-used milk cans of a popular Philippine milk brand known as “Alaska”or similar cans of evaporated milk, approximately 350 cc of dry pounded rice, as a standard for measurement.
Native Classification Of Kalinga Baskets

The ethnolinguistic system of classification is of value because it provides insight in which the Kalinga culture of basketmakers and users perceive their baskets. Such societies classify containers according to shape and function. There is significant size, and shape differences among basket types, as well as these “minor attributes” directly related to functional diversity as seen in the Kalinga Basketry Typology following (Figure No. 3.1).

Basket type categories that are presented in the Kalinga Basketry Typology are further delineated by the skill of the weaver. The specialized type baskets seen in the typology are categorized by the “technical-skill” and mastery of a twill-plaiting technique, developed by the specialist weaver or maglalaga as he decides to transition from a non-specialist basketmaker. The “standardized” product of a maglalaga is further identified by the Kalingas themselves as the product of such weaving specialist. Each and every maglalaga specializes on a basket type or a number of types. This is not to say that the non-specialist or semi-skilled basketmaker do not produce “fine” baskets, but among the Kalinga, the specific functional categories and the refinement of the technological “experts” skill is dependent upon whether one is a maglalaga or not.

\*The use of the term “minor attributes” are individual weaver’s “stylistic” elements or (manufacturing choices), at times standardized among specialists or attributed to a specific weaver, identified by how he finishes his work, his final rim stitches, for example, or how he splices his rattan, or as he uses a specific number of elements for a bundle type of rim foundation.
Figure No. 3.10 Kalinga Basketry Typology

The following photographs depict the complete Kalinga Basketry Typology showing the various functional categories founding the Kalinga basketry industry:

Rice Holding and Container Baskets:
- *langaya*
- *luk fya or luk bu*
- *luk gud*
- *fyaloku*
- *tal aupa or tal tal aupa*
- *jamus or jam jamus*
- *lab nak*, winnowing basket

Notes: All measurements are mean dimensions based upon a household inventory data of basket types. Rice holding and container (or burden type) baskets for (e.g. rice, vegetables, coffee beans), in many cases the same type of basket is used for both holding and carrying (i.e. *langaya, luk fya* and *luk gud*), unless otherwise specified.

Specific Functional Categories:
- *a lat.*, a holding container for coconut food bowls
- *apagok* or *katagang*, a bachelor's hat
- *kalupita*, carrying satchel
- *buyu*, betel nut holder
- *pasiking*, lidded type backpack
- *pasiking*, un-lidded type

Traps, coops and chicken nesting baskets:
- *kob kob ong*, small fish traps
- *u’d jae y*, eel traps
- *fikus*, locust baskets
- *kagong kong*, chicken nesting basket
- *fik yut chi manuk*, chicken coop

Sieves:
- *saknun*, snail sieve
- *pada pad*, or *pacha pad*, wine sieve

Other related woven, non-container types:
- *chikon*, hot pot rests
- *balu kag*, pot rests
- *patu tay*, braided hot pot holders
- *allut*, house charms
Baskets used predominantly in the harvest, production and processing of rice and other agricultural produce:

**lang'aya** (mean size) D=50cm./H=23cm deep walls, round rim and bottom

The *lang'aya* is a traditional Kalinga heavy burden type, rigid plaited basket that is round in the base and has a round rim. Characterized by deep walls and a supporting bundle of whole rattan rods or *takod* encircling the outside the basket that provides added strength to its structure. Most often used by Kalinga women for carrying heavy loads of bundled harvested rice (*palay*), sweet potato (*camote*), coffee beans and vegetables. Almost always it is carried on top a woman's head. This basket is a weaving specialist product.
lak'pfiya or lak'ba  \(D=40\text{cm.}/H=20\text{cm.}\) shallow walls, round rim and bottom

The lak'pfiya or lak'ba seen by the Kalingas as a more rigid holding and carrying basket, with a round rim and a supported round base, twill plaited with shallower walls when compared to the langaya. Likewise used for rice, root crops, coffee beans and vegetables also carried on top a woman's head. Among the neighboring Tinguians (Abra Province) of the Kalingas, the same basket is common and appears to be configured from an Ilocano style of basket: many aspects of Tinguiian material culture (see Worchester 1912:923) show evidence of a certain degree of assimilation with lowland Ilocano neighbors. A weaving specialist product, more common as lowland traded item.
luk'gud  D=38cm./H=22cm.  round rim with a square bottom

A twill plaited container and holding basket, which is square at the base and round at the rims. Both its rims and bases are scored and strengthened by varying types of material but mostly of rattan, bamboo and a strip of wood that is lashed to its base to strengthen the structure. Also carried on the head, predominantly plaited and seen by the Kalinga women as not for long distance carrying nor is considered as a heavy burden basket. It is a lighter type basket by virtue of its more flexible structure, as thinner (rattan) plaited elements are used. A weaving specialist product.
alatoy (gimata among the Bontoc)

Though the Kalingas in the Pasil region talk of the use of a gimata, (the same shape type structure as the Kalinga lukgud but called an alatoy with attached handles, more commonly used for transporting bundled rice popular among the Bontoc. The presence of it in the Kalinga Basket Inventory is not common. the Kalingas describe it as a bamboo-carrying pole or the alatoy (and a pair of baskets) is attached to each end, which is then carried across the shoulders. The origins of some basket types indigenous to a specific Cordillera group is unclear, for some types may be used and identified to be traditionally viewed as their own. the borrowing and assimilation of some basket forms are common and are seen to regionally overlap, such as the pasiking. Local names and variations on attachments for example, or shape types may vary but can be identified as assimilated and has a local “variation” specific to a particular region or Cordillera group. Like the gimata which is primarily and commonly used by Bontoc men for transporting bundled rice from the rice fields to the granary for storage and likewise used for carrying heavier produce such as. sweet potatoes and vegetables (Bacdayan 1998:41); as seen in the following photograph.

Reproduced from Jenks (1905. plate cxx)
fyā'loku

Carrying basket for soil and/or rice seedlings usually with attached wooden handles. Technique: simple plaited, mostly rigid elements

Photographer: Kathy Hubenschmidt
Digital output: Jeff Raby
tal'upao (tal' talupao)

Shallow tray like, round rim basket with or without a reinforced base, seen used for food preparation, such as sorting (e.g., beans, coffee) and a holding basket for smaller quantities of produce. It also used as food tray for communal eating. Smaller baskets known as the tal' talupao is used as individual food plates when lined with banana leaves. Average sized talupao is about 30 cm. to 35 cm. in diameter a twill-plait technique is employed and is a product of weaving specialists.
ja´ mus or jam´ jamus  

D=35cm, H=12cm.

This shallow basket has a round rim and a slightly conical bottom. This shallow tray-like basket with a round reinforced base or foot is also used as a holding basket for smaller quantities of food (e.g. beans, coffee), similar to the tal'upao but has a shallow conical base. The diminutive size jam´ jamus traditionally served as food plates; currently being replaced by western type plastic and enamel plates from the lowland Ilocanos. A diagonal twill-plait technique is used and is also a weaving specialist basket.
lab'nak (winnowing baskets)  L/W=50cm./H=10cm.  square flat tray

These traditional Kalinga square winnowing (twill-plait) baskets are abundant and are in constant use in almost every household as a shallow square tray. The coiled rim of bound rattan provides the edge to its flat tray characteristic. The common occurrence of this basket type in every Kalinga household is essential in rice production and preparation. Its wide flat surface makes it an ideal basket type for drying items such as beans, coffee and meat. Some Kalinga specialist weavers solely specialize in making these square basket trays and are seen as a specialization in specific Kalinga villages (e.g., Tulgao, Tinglayan). It is a common type basket bartered for rice, as a trade item but mostly purchased. It also serves as a serving tray for sweet rice cakes or chekot, cooked rice or meat at village feasts and serve multiple functions.

(Capistrano-Baker 1998, plate 1.1)

A Kalinga woman using the labnak for sorting coffee beans as well as primarily for winnowing rice
Specific functional type categories:

a'lat

Large storage basket for traditional coconut shell food bowls (chuyug or chuyug); varying in size and is dependent upon the number of bowls the household owns. It is an open-plaited construction with a cylindrical body, a round bottom and a constricted rim opening with a "lattice" open-plaited lid fastened by small rattan loops. A non-specialist product.
Among traditional Kalingas the colorful hat decorated with geometric patterns with the use of dark and light "nito" vines (*lysodium circinatum, l. flexuosum* or *l. aponicum*) interspersed with red, yellow and black, and is the mark of a Kalinga bachelor. Though rarely seen among unmarried Kalinga males today, this (photograph) example has been reproduced with permission through the courtesy of the UCLA Fowler Museum Collection, FMCH X96.1.71 in (Hamilton in Baker 1998:125). Some of this hat's common to other Cordillera groups double as "pockets" for personal items (e.g. matches, a pipe and tobacco, or betel nut).
kalupita

Used on the shoulder and or tied to the waist, this satchel bag carried by both Kalinga men and woman, lidded, two or three part (2. or 3 part), of finer and thinner elements of rattan are used for this type carrying basket, used to contain tobacco, a pipe and/or betel nut chewing paraphernalia. a “secret” compartment may hold valuables and small personal accoutrements.

These basket types have been traded locally, in the Cordillera region and with lowland groups as early Spanish colonial period. Described in (1789) by Spanish friar Francisco Antolin, as a tightly woven basket with two overlapping compartments are carried to serve as a container for the little scales used to measure gold dust for barter, and it is also used as a pillow at night when traveling (Scott 1974: 4-5, 13, 181-184, 334).

This larger type kalupita, here missing a strap, may contain an inner secret compartment; shapes may vary from this example, to square or rectangular.
The following photo is a group of Kalinga men (circa early 1900), one in the center holding a kalupita.

The following photograph is the smaller version, pocket size, specific to betel nut chewing, tobacco. is called a buyu.
Among the Kalinga, the *pasiking* can either with or without a lid, a backpack type basket, woven entirely of rattan, variations in shape types, with or without a lidded cover, abound among Cordillera groups. The Bontoc call it a *fangao*, the Ifugao, a *sangi*, but call it a *pasiking* if the backpack does not have an attached lid. The pasiking is the popularized traditional "head hunters basket". hence a man's basket. It is mostly twill plaited in construction among the Southern Kalingas maglalaga or specialist weavers and a seen by the Kalinga as a "fine" specialty product of Bagtayan and Guinaang.
The un-lidded type *pasiking*

(ASM Cat. No. 88-77-893)
Photographer: Kathy Hubenschmidt
Digital output: Jeff Raby
Traps, coops and chicken nesting baskets:

kob kob'ong

Small, globular shaped fish traps made and used by young Kalinga boys made of bamboo or anos used in ricefields to catch "mud fish" or in the vernacular palispis. Most often found about 3-4 months from the time the rice crop is harvested and until the fields are turned over in preparation for rice planting. The traps tended by children are set at dusk and gathered in the morning. It is a common basket type that Kalinga boys learn the craft of simple plaiting and provide a popular pastime for small groups to gather and make fish traps. Some households may have 20-30 of them and are seen hanging in bunches from house posts to dry in the sun.
ud’jaey eel traps (abandoned type)

Though eels and larger river fish are rarely found in the rivers and streams that surround these villages today (due to pollution brought by mine tailings), the eel trap in the Kalinga Basketry Collection was made especially for the Kalinga Ethnoarchaeology Project. The eel trap has a spring loaded-cover at its (entry) or mouth and a half-shell coconut is attached to cover the opposite end of the trap. An overall rigid simple-plaited, warp and weft construction is employed. The Pasil Kalingas had used a bait of small fish and worms attached to the end of the trap; as the eel is attracted to the bait, it triggers the spring mechanism that shuts the cover trapping the eel.

length 146 cm.
Arizona State Museum Cat. No. (88-77-672)
Photographer: Kathy Hubenschmidt
Digital output: Jeff Raby

length: 130 cm.
This specimen is from the collection of the Fowler Museum of Cultural History
(Hamilton in Baker 1998: 98)
fukus locust baskets (abandoned type)

Locusts and some other insects such as water beetles (see Longacre 1995:278), winged ants (see Skibo 1999) had been and still are a delicacy among the Kalingas and the Cordillera, especially when locust swarms were common in the past. These examples (seen in the photographs on page 139) [is reproduced courtesy of the UCLA Fowler Museum Collection, FMCH X78.2192a, b] are twill plaited, with a slatted bottom to allow for air circulation (Hamilton in Baker 1998: 112). Among the Bontoc it is called an őwus, and among the Ifugao a butit (see Ellis 1981:212, figure 202). Both the Bontoc and Ifugao have similar construction preferences, combining bamboo that forms most of the walls and rattan twined and twill plaited as tying structures, to hold the bamboo elements together; finishing rims on the neck are twill plaited and the overall body is a rigid simple-plait.

Height: 46 cm.
A Kalinga locust basket or fukus
Gift of the weaver: Agsilao of Dangtalan. Pasil to the KEP
ASM Cat. No. 88-77-689
Photographer: Kathy Hubenschmidt
Digital output: Jeff Raby
Variation in technique, raw material and shape of locust baskets from other Cordillera groups

42 cm.
Kalinga fikus or bokus

47 cm.
Ifugao hutit

58 cm.
Bontoc ifwus

These baskets are from the collection of the Fowler Museum of Cultural History, Los Angeles, CA. Reproduced from the Catalogue on the Exhibition of Cordillera Baskets from the Philippines (Hamilton 1998: 111-113)
Kalinga houses normally have a number of chickens and nesting baskets are made especially for this purpose. It is normally seen under the eaves of the house. They are made out of a piece of bamboo pole (about 5-6 feet), split part-way towards the top, splayed and strips of bamboo are then woven to form a conical type basket forming the "nesting" area for hens to lay and hatch their eggs.
Chicken coop

Chickens run free during the day in most Kalinga villages, but are confined at night in these chicken coops and either set above ground under the bamboo floor of the raised Kalinga house. Most Kalinga men make their own chicken coops and are seen as a measure of a household's economic status by the number of chicken coops found in a home. Chickens along with dogs, pigs and water buffalo figure greatly in traditional ceremonial rituals and feasting. The number of animals one own is a measure of prestige in most Cordillera groups.

Photographer: Kathy Hubenschmidt
Digital output: Jeff Raby
Sieves:

sak'nung snail sieve

Round sieves with an open-plaited construction is used predominantly by women as a holding basket for edible fresh water snails (a delicacy in the Kalinga diet), commonly found in wet rice fields. Kalinga specialist weavers are able to differentiate what is a local Kalinga construction type, versus what is Ifugao more often square shaped with horizontal open plaits; the Kalinga use a diagonal open-plait.

Photographer: Kathy Hubenschmidt
Digital output: Jeff Raby
pada pad or rice-wine sieve

Similar to the Ifugao example photographed here, called a *gubun di bayah*. The Kalinga also likewise use a sieve called a *pacha pad*, in the making of sugarcane wine or *basi*. A sieve similar to the plaited construction of the eel trap, open on both ends, it is used to fit traditional clay jars used to ferment Kalinga sugar cane wine.

The sieve in-use, set inside porcelain Chinese Jar filled with fermented wine. The jar is dated from the Ming Dynasty.

The sieve on the left is 44cm. in length

Note: When I first stumbled on this object at the Smithsonian Collection on Philippine baskets labeled woven object: Kalinga sieve or eel trap. I could not decipher why it was a called a sieve or a trap without any lids on either end, until I saw a similar sieve in the UCLA Fowler Museum Collection on Cordilleran baskets, photographed here as it used in a Chinese heirloom rice wine jar, separating the mash from the fermented liquid (Hamilton in Baker 1998:88).
Other miscellaneous basket types:

chi'kon

Hot pot rests, pot stands are braided rattan that serve as trivets for hot cooking pots.

Photographer and digital output: Jetf Raby

balu'kag pot rests

Used by Kalinga women to balance water jars on their heads when getting water from spring source, also used to help pad a woman’s head and support a heavy basket laden with rice or sweet potato. Checkerboard plait wrapped around a bundled rattan foundation.

Photographer and digital output: Jeff Raby
patu'tay    hot pot holders

Braided hotpot holders to protect Kalinga women's hands from handling hot pots out of a cooking hearth into a pot rest.
allut house charms

Woven house charms seen in Kalinga houses, against a wall, or hanging close to the cooking hearth. These small conical plaited baskets adorned with chicken feathers to drive off evil spirits from their homes. Kalingas appease them with the occasional offering of rice or a piece of chicken intestine or bone.

Note:
The Cordillera people carry various types of magical charms, from love charms for example among the Ifugao called agayok to make women sexually irresistible to men; to amulets or kiwil that protect warring Ifugao men invulnerable to weapons. The charm itself whether it be a piece of stone for example is normally wrapped in woven plaited rattan.

Traded baskets found in the Kalinga Household Basketry Inventory:

The ulbung, (found in a number of older Kalinga households), is a traditional Ifugao (coiled) Chinese jar shaped basket, traditionally used for storing hulled rice. Likewise highly valued and modeled after traded Chinese jars and considered valued heirlooms among the Cordillera people.
The use of these ceramic jars in the Cordillera is documented in early reports such as those by German pharmacist Alexander Schadenberg (1889), who relates seeing imported ceramic vessels used for storing rice wine and similarly shaped basketry versions used to store other objects (Scott 1974, 313). Among the Kalinga, these imported jars and plates (of mostly Chinese trade porcelain) are called *gusi*. Traditionally it is considered the most valued heirlooms of which Kalinga wealth and prestige is measured and reckoned by the number of imported ceramic vessels that is owned by the household. These along with these baskets were kept on a special shelf known as a *pagud* (Barton 1949, 102). Houseguests was supposed to note the position and the outright visibility of the *pagud*.

Lowland (non-Kalinga) assimilated basket types:

*in'chayon*

Baby cradle, has deep walls/elongated oval shaped rim (hexagonal open plaited), constructed of both rattan and bamboo, likewise an assimilated basket type, traded among the lowland Ilocanos, but not commonly made by the Kalinga. Nursing infants are rarely put down, and are normally carried by their mothers, siblings et al. in blanket slings. The blanket is passed over one shoulder and tied in front, while the baby rides on the back or on either hip. To nurse the infant the baby is slung over the front and is nursed, seemingly
unhampered as she transports heavy loads on her head, winnow rice, cook and performing a myriad of other household tasks.

tampipi

A rectangular two-part box like "suitcase" used to store clothes (simple plaited) 1 over 1 construction, similar to the technology found in sleeping mats. Not seen by the Kalinga as a traditional basket type and rarely found among them. Popularly known as, lowland traded item. Assumed an assimilated basket type form – the word tampipi is an Ilocano and Tagalog term for a woven suitcase. A rarity in the inventory, one case belonged to Mrs. Eugenia Batalao. provenienced from Kalinga, twill-plaited and was custom made for her. Note: Both basket types were not collected for the ASM.

ov folk

Sleeping mats made out of pandanus leaves.

Summary

I have described the relevance of basketry as an artifact class and explored the research potential of a material culture resource, more often misunderstood due to the inherent fragility of the organic artifact. In contrast or in parallel to the prolific pottery studies and specialists, basketry in its antiquity, can and is receptive to my interests of cross material culture research in archaeology. I have laid out my ethnoarchaeological research strategy and my integrated approach to understanding Kalinga basketry production and technology.

I have created a typology, based upon morphology and a Kalinga ethnolinguistic classification of baskets, as it provides insight in which the Kalinga themselves perceive and use their baskets. A typology of basket morphological types is used as a basis for taxonomic classification, in isolating and identifying technique, or manufacturing elements, what is termed as techno-manipulative attributes. In addition this taxonomic
classification is a culmination and completion of the description of the Kalinga Basketry Collection housed at the Arizona State Museum, collected by the Kalinga Ethnoarchaeological Project while in the field.

Though the focus is on the basketry typology it sets the approach in which basketry production is related to the environment and the ethnicity of the Kalinga through the local community of basket weavers. Central to Kalinga basketry are all the forms used in Kalinga subsistence from rice farming, the gathering of vegetables and tubers in swidden plots to hunting and trapping fish and in the building of traditional Kalinga houses. Kalinga basketry manufacture is built upon a specific weaving technology.

Basketry technology is discussed in detail in the following chapter. This analytical classification of techniques and a preference for a technique, or absence of certain weaving technologies will be analyzed. Certain attributes can be isolated and describe individual weavers choices, technical skill, or production modes. There are certain attributes that the analyst uses to decipher a village wide and individual standard for manufacture and use of the basket or for that matter, artifact.
CHAPTER FOUR
THE TECHNOLOGY AND MORPHOLOGY OF
KALINGA BASKETRY

Basketry technology in general can be plaited, coiled and twined which are all mutually exclusive and taxonomically distinct. Though the potential number of technological types within each class is relatively great, almost all can be identified.

The specific and overall technique or construction is accomplished by only these three basic manipulatory weaves. The procedures are so distinct that even when three of these weaves are employed in the same basket specimen, it is easy to detect where one ends and the other begins – the incidence of this is practically non-existent.

In analyzing the technology behind Kalinga basketry – the assemblage was divided into these three major classes or techniques (i.e. plaited, coiled and twined), further delimited by the presence of plaiting and the absence of certain classes of pure weaves that is coiling and twining in the entirety of the Kalinga basketry industry. The specific class of weave found (plaiting) was then divided into technological types (e.g., simple plaited: 1/1; or twill plaiting: 2/2, 2/3 interval engagements etc.) This procedure reduces the collection assemblage to progressively smaller units thereby increasing greater taxonomic analysis, precision and resolution.

Each Kalinga form in the collection was assigned to that main class of weave and its technological type (e.g., simple plait or twill plait), depending on the identification and quantification of shared attributes or clusters of attributes (e.g., selvage, rim type finishes etc.) Attributes is defined as features of manufacture.
the sum total is the specific basket. Any attribute is the direct product of specific manipulatory technique or techniques that are highly standardized or culturally prescribed within any basket producing population. Each attribute reflects a "culturally bound" and or "culturally determined" yet idiosyncratic preference (Adovasio 1977:4-5: Adovasio, Carlisle and Andrews 1978:1-2).

By "culturally bound" or "culturally determined" attributes it is meant simply and explicitly that the range of techno-manipulative alternatives visible in the existing attributes of a finished basket or related product is to a very great degree fixed or delimited by the customs or standards of the immediate social entity to which the Kalinga basketmaker belongs to, or within which the basketmaker functions. While these standards are subject to idiosyncratic modification and even occasional borrowing of designs or construction attributes, their collective existence is eminently verifiable, measurable and quantifiable.

THE ANALYSIS OF KALINGA PLAITED BASKETRY

Definition

Plaiting is technologically the least complex of basket weaving types. The number of attributes is significantly fewer than in twining or coiling, and their identification and analysis are not as complex. Plaiting in basketry is a class in which all elements are active. Single elements or sets of elements or strips of material (e.g., rattan or bamboo), pass over and under each other at a more or less fixed angle (about ninety degrees), without any other form of engagement as in the use of ties, knots, or sewing
materials. For this reason, plaited basketry is technically unsewn. Plaiting is equivalent to braiding in weaving with cordage (Adovasio 1977; Emery 1980; Hurley 1969). Plaiting techniques may be used to make containers, bags, mats, and a very wide range of other objects. In fact no other class or technology type of basketry has as much structural flexibility and the consequent potential for diversity in form; at a minimum, 20 functional basket forms (containers) have been found among the Kalinga.

The assignment of plaiting to technological types is based on a single attribute: the interval of element engagement. The interval of element engagement denotes the number of elements or strips in each set that are crossed over by the strips in the other set. Intervals are designated numerically; for example 2/2 (two over two). On the basis of interval engagement, two main varieties may be distinguished: simple and twill. Simple plaiting is or contains a single technological type: twill plaiting has three common variations. The following table (Table No. 4.1) illustrates the distribution of plaiting technology and between weavers, that of general basketmakers that employ a simple (rigid or flexible) plaiting technique and the maglalaga otherwise known as the “expert” or specialist weavers, employing a twill-plait technique. A number of striking patterns in (Table No. 4.1) warrant comment. Of the total number of baskets inventoried there are 3146 container type baskets, of which 1449 are simple-plaited made by the non-specialist and 1697 twill-plaited ascribable to specialists. This is not to say that specialists do not make simple-plaited baskets, they likewise do. The general basketmaker may experiment with the more complex twill-plaiting technique, but the gauge by which the Kalingas themselves call an individual a maglalaga is when one has mastered and refined the skill in the technique (i.e.
twill-plaiting). The production of specialist basket types is obvious from (Table No. 4.1),
built upon a twill-plait technique, in point in fact the popularity of certain forms has been
observed to be of pan-village incidence.

Table No. 4.1 Plaiting Distributions By Kalinga Basketry Types

Distribution of basketry by plaiting technology between
non-specialists and specialist weavers

<table>
<thead>
<tr>
<th>Basket types</th>
<th>Simple-plait Technology</th>
<th>Twill-plait Technology</th>
<th>Non-specialist Weaver</th>
<th>Specialist Weaver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Langaya</td>
<td>x</td>
<td></td>
<td></td>
<td>452</td>
</tr>
<tr>
<td>Lakfya or lakba</td>
<td>x</td>
<td></td>
<td></td>
<td>195</td>
</tr>
<tr>
<td>Labnak</td>
<td>x</td>
<td></td>
<td></td>
<td>321</td>
</tr>
<tr>
<td>Lukgud</td>
<td>x</td>
<td></td>
<td></td>
<td>161</td>
</tr>
<tr>
<td>Talupao</td>
<td>x</td>
<td></td>
<td></td>
<td>160</td>
</tr>
<tr>
<td>Kobkobong</td>
<td>x</td>
<td></td>
<td></td>
<td>728</td>
</tr>
<tr>
<td>Sakanung</td>
<td>x</td>
<td></td>
<td></td>
<td>133</td>
</tr>
<tr>
<td>Kagongkong</td>
<td>x</td>
<td></td>
<td></td>
<td>280</td>
</tr>
<tr>
<td>Fukyut chi manuk</td>
<td>x</td>
<td></td>
<td></td>
<td>197</td>
</tr>
<tr>
<td>Pasiking</td>
<td>x</td>
<td></td>
<td></td>
<td>230</td>
</tr>
<tr>
<td>Kalupita</td>
<td>x</td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Alat</td>
<td>x</td>
<td></td>
<td></td>
<td>85</td>
</tr>
<tr>
<td>Udjaey</td>
<td>x</td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Tampipi</td>
<td>x</td>
<td></td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Fyaloku</td>
<td>x</td>
<td></td>
<td></td>
<td>153</td>
</tr>
<tr>
<td>Inchayon</td>
<td>x</td>
<td></td>
<td></td>
<td>24</td>
</tr>
<tr>
<td><strong>Total number of baskets</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>1449</strong></td>
</tr>
</tbody>
</table>

| Total number of households   | 280                      |
| Total number of households   | 244                      |
| inventoried                  |                          |
| Total baskets inventoried    | 3146                     |
Simple Plaiting

It is defined as a variety of plaited basketry in which the weaving elements pass over each other in single intervals (1/1). Each set may consist of one element or several elements that act as a unit (Figure No. 4.1). Each contiguous element or set of contiguous elements alternates in passing over and under the same set of opposing elements. It is synonymous with: plain plaiting, rigid simple-plaiting, stake and strand, checker weave, or plain checker plaiting.

Generally all the elements in a given plaited Kalinga basket are of the same composition. (e.g., rattan or bamboo) and possess the same degree of flexibility. In some instances, however, two sets with widely divergent degrees of flexibility may be employed (e.g., as in the combination of flexible rattan and rigid bamboo, or a local vine used as a tie). Plaiting with notably rigid elements is sometimes called wickerware, but the term has also been applied to many different types of rigid twining, making it imprecise and taxonomically useless. Rigid simple plaiting is a common type of weave employed by the general Kalinga basketmaker (see following Figure No. 4.1).
Figure No. 4.1 Schematic Examples of Flexible Simple Plaiting:

a. 1/1 interval. one element per set.

b. 1/1 interval. two elements per set.

1/1 interval. 3 elements per set.
Twill Plaiting

As a weaving technique. The Kalinga weaving specialists or *maglalaga* is most prolific in twill plaiting, and a variety of twill plaited forms, shapes and functional types have been found as in the previous table (see Table No. 4.1). The predominance of this technique demonstrates a traditional and the preferred choice of weave ascribable to them. Twill plaited basketry involves weaving elements where in one set pass over two or more in the other set at staggered intervals (generally 2/2, 3/3, or 4/4). Each crossing must encompass two or more elements. The technique is synonymous with: twilling, chevron weave, herringbone weave, diagonal plaiting, twilled twos (Figure No. 4.2) and for schematic detail see (Fig 4.3).

Figure No. 4.2 Surface Patterning of Winnowing Baskets
The Kalinga weavers have local terms to identify simple-plait, an open and a closed twill plaiting technique. Simple plaiting is known locally as *laga*, the root word for *maglalaga* or basket weaver. The open plait technique found in forms such as snail sieves is called *inug ugachiw*. The closed type of twill-plaiting found in winnowing baskets and other similar technique related container baskets is termed *tina yango*.

The following table (Table No. 4.2) is a general list of the entire Kalinga weaving assemblage: specific basket types are here listed with both local Kalinga term descriptions and their English counterpart.
Table No.4.2 Native Kalinga Basketry Terms of Functional Types

Note: In many cases the following carrying and container baskets for rice, vegetables, coffee beans etc. is the same type of basket used for both storage and carrying unless otherwise specified.

General Container Baskets (multi-use rice container/produce baskets, twill plaited)

<table>
<thead>
<tr>
<th>Kalinga Term</th>
<th>English Description</th>
<th>Vessel Form</th>
<th>Mean Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>lang'aya</td>
<td>deep walls, round rim and bottom</td>
<td>D=50cm./H=23cm</td>
<td></td>
</tr>
<tr>
<td>lak'p'nya or lak'ba</td>
<td>shallow walls, round rim and bottom</td>
<td>D=40cm./H=20cm</td>
<td></td>
</tr>
<tr>
<td>luk'gud</td>
<td>shallow round rim/square bottom</td>
<td>D=38cm./H=22cm</td>
<td></td>
</tr>
<tr>
<td>tal'upao or ja'mus</td>
<td>shallow round rim, flat/conical bottom</td>
<td>D=35cm./12cm</td>
<td></td>
</tr>
<tr>
<td>lab'nak</td>
<td>(winnowing baskets) flat square tray</td>
<td>L/W=50cm./H=10cm</td>
<td></td>
</tr>
</tbody>
</table>

*Mean Size Measurements D= diameter, H= height, L/W= length and width

Kalinga Term                  | English Description

Specific Functional Categories (size varies):

a'lat                      | storage basket for old heirloom coconut shell food bowls. size and shape vary and is open plaited
fya'loku                   | carrying basket for soil and/or rice seedlings with attached wooden handles
pas'i'king                  | open or (lidded) backpack basket (twill plaited)
kalupita                   | shoulder or waist satchel bag (1, 2, or 3 part) (twill plaited)
tampi'pi                    | rectangular two part box-like "suitcase" used for storing clothes etc.
                          | (simple-plait if a lowland trade item; but twill-plaited if Kalinga made)
in'chayon                   | baby cradle deep walls/elongated oval rim (hexagonal open plaited), lowland trade item
ulbung                      | Ifugao (trade item) Chinese Jar shaped storage heirloom baskets (coiled)

Traps, snares, and coops (all simple-plaited)

kob kob'ong                | small fish traps (used in ricefields)
u'd'jaey                    | eel traps
kagong'kong                 | chicken nesting baskets
fu'k'yut chi manuk          | chicken coop

Sieves (all simple plaited)
sak'nung                   | snail sieve
pada pad. pacha pad         | sieve

Miscellaneous woven article types

chi'kon                     | braided hot pot rests
balu'kag                    | pot stands
patu'tay                    | hot pot holders
allut                       | house charms
Mechanics of Typing

The mechanics or procedures employed in typing the Kalinga basket collection or any plaited basket assemblage for that matter, is the least complex of the technological types discussed here and in most basket analyses (e.g., Adovasio 1977, Adovasio and Maslowski 1980; Hurley 1979 (for cordage); Mason 1901 (Amerindian) 1909 (Malaysian basketry). Jason and Pirngadie 1914 (Indonesian). In theory, each complete or fragmentary specimen need only be inspected for interval of element engagement to be assigned to the proper type. In practice, there are a number of modifications, inconsistencies and other variables that may hamper identification. Several interrelated attributes have been recorded during classification, including the number, orientation and composition of elements in each set and their method of preparation.

The standard form of analysis and mechanics in typing that I employ has been adapted from Adovasio (1977: 100-103) and modified specific to this project, represented in the following list and Kalinga Basketry Form 1.1 (see Appendix).

List Format: (employed for typing all Kalinga baskets)

- Type of Specimens
- Number of individual forms represented
- Measurements
- Type of forms represented
- Technique and comments
- Time period (if known)
- Material
- Provenience
Element Engagement

The analyst must determine the principal and the predominant interval of element engagement. I use the term "principal", since a given specimen may exhibit several different intervals as a consequence of shifts. By definition, the principal interval is the one present and predominant on at least fifty percent or more of the surface.

Adovasio (1999 personal communication) suggested that the interval of element engagement is established by following at least five contiguous strips from one margin to the other and counting the number of elements over and under which each strip passes. If the interval is 1/1, the specimen is Simple Plaiting, (see Schematic Figure No. 4.2); if the interval is 2/2, the specimen is Twill Plaiting, 2/2 Interval (see Schematic Figure No. 4.3).

In the vast majority of specimens, the interval will be uniform except for an occasional accidental shift. A small minority may exhibit many different intervals, particularly those items forming parts of designs, which is not a common occurrence in Kalinga baskets.

Unlike twining and coiling, there are usually no functionally distinct horizontal warps and vertical elements or wefts in plaiting. There is generally no right or wrong way to orient or view, in incomplete prehistoric specimens. It is suggested by Adovasio (personal communication) that it is expedient to orient a fragment so that one series of elements is parallel to the long axis of the viewer's body, that is, vertical. The opposing series will be at right angles to the first series, or horizontal elements. The analyst may
trace either a number of horizontals or vertical elements, as the result will be the same except where a shift(s) occur.

In the analysis of the Kalinga plaited baskets: basket types such as basket forms that are open-spaced are woven with large strips such as with the "saknun" or the snail sieve. Unaided scrutiny is sufficient to ascertain interval. In Kalinga basket forms, where the specimens are very tightly woven with smaller strips (e.g., langaya or lakha, both carrying and holding baskets) a metal point was used to follow the path of a given strip. The analysis in general of Kalinga plaited baskets is built upon the observation of the directions of the weaving elements. Identifying the principal interval was uncomplicated and simplified by the advantage of analyzing whole baskets.

Shifts

Shifts are normally intentional interval alterations, while accidental shifts are irregular and random (Figure No. 4.4).

Figure Number 4.4 Schematic detail of an accidental shift in twill plaiting 2/2 interval in a winnowing basket with a 2/1/2 accidental shift
Intentional shifts consist of a regular sequence of changes that impart the overall pattern(s) to the basket (Figure No. 4.5).

Figure No. 4.5 Detail of a twill-plaited basket
Repeated intentional shifts produce a decorative pattern.

Shifts can be employed and found in the body as well as in the selvages as the weaver sees fit. Several different shifts often occur in the same specimen. For example, a principal interval of 2/2 may be altered to 2/3, then to 3/3, and finally back to 2/2.

Any shifts encountered were traced out and recorded. Shifts may occur along both axes of a basket specimen or on only one axis. Accidental shifts tend to be in one direction: that is, they are restricted to one series of elements. Intentional shifts are frequently in both directions. Shifts should be recorded from the point where the principal interval is altered to the point where it is reestablished. For example, a specimen with a 2/2 principal interval may exhibit a series of shifts to 2/3 in the Kalinga assemblage. Shifts were recorded and photographed when necessary.
Procedures for Analyzing Simple Plaiting

This variety is easily recognizable by the characteristic checkerboard appearance of the surface. This effect is most pronounced on simple plaited baskets and or mats as seen in the following illustration (Figure No. 4.6) with uniform weaving elements.

Figure No. 4.6 Characteristic Checkerboard Appearance of the Surface

Detail 1/1 (one over one) interval of a typical Kalinga sleeping mat or obv fok. Characterized by a simple-plaited flexible weave. Here the strips or elements are doubled over for padding.
This likewise, is readily observable, even on simple plaited objects made with rigid elements of different composition in the following schematics (Figure No. 4.7).

Figure No. 4.7 Schematic of Simple Plaited with Rigid Rattan Elements

Note: Among the Kalinga the rattan or bamboo is spliced and the same or similar flexible element is used as the active weaving element. It sometimes can be confused with twining as the technique is similar, but it is differentiated by the flexibility and the sequence of engagement.

Figure No. 4.8 Schematic example of Simple Plaited Rigid Plaiting with a Circuit of Twined Tie
(Found in some Kalinga eel traps and chicken nesting baskets)
More than one element may cross over and under in the basic 1/1 construction interval. Specifically, several elements may function as a single unit. Further, the number of elements in opposing sets may not be identical. The three forms of simple plaiting previously illustrated in (Figure No. 4.1) employ the basic 1/1 interval by which this variety is defined, but differs in the number of elements plaited in this interval. The diagnostic checkerboard effect is evident.

Shifts that are accidental are rarely complex. Intentional shifts are generally employed only to alter the basic structural configuration or to compensate for asymmetry generated by stress points. Intentional shifts for decorative purposes are very rare at least in simple plaited articles (e.g., sleeping mats).

As simple plaiting is frequently employed for manufacturing rigid items or "wickerware" or "wickerwork" (Adovasio 1977:106), the term wickerware is applied to plaited items in which one or both elements are extremely rigid. I use the term "rigid simple plaiting" for example in Kalinga eel traps and fish traps that involve the same rigid elements.

Frequently, such items can superficially resemble a form of twining (Figure No. 4.8). Whatever the composition of the elements, rigid simple plaiting was analyzed in exactly the same fashion as its flexible counterpart, and in the event that twined elements are used (as in eel traps) was correspondingly recorded.
Procedures for Analyzing Kalinga Twill Plaiting

In the Kalinga basketry industry and specific to Kalinga twill-plaited baskets - whatever the principal interval employed, and despite the presence of shifts, all forms of twill plaiting are immediately recognizable by the diagonal pattern of the surface. This appearance is produced by the plaiting interval of the elements. In having to handle (prehistoric) archaeological basketry for example, no matter how small the fragment, it is impossible to mistake any type of twill plaiting from simple plaiting.

Both accidental and intentional shifts are much more common in twill plaiting than in simple plaiting. They are employed intentionally for structural reasons in the production of particular forms. Intentional shifts are frequently so complex that the principal interval is difficult to determine especially in fragments (e.g., of designs). In analyzing prehistoric fragmented specimens. Adovasio (1977:107-109) suggests that the analysis should establish the principal interval on small fragments replete with shifts that may require tracing the course of all elements in both sets and recording each interval. The principal interval is the one encountered most frequently, even if it represents fewer than half the intervals observed.

In twill plaiting, both sets of elements are almost always the same size and composition. They are seldom rigid enough to be considered wickerware. These basket types have been analyzed in the same way as any other kind of plaiting, or in the event that the weaver introduces a different material or weave, that too, is determinable.
Number., Orientation., and Composition of Plaiting Elements

Kalinga plaiting strips or elements implies a flattened length of plant material (e.g., rattan, bamboo) making it a "flexible" plait. However, rigid plaiting can also frequently employs elements analogous to rods, half-rods or splints in coiled basketry or warps in certain forms of twining as well as a combination of rod-like or warp like elements and flattened segments. Occasionally, strips consist of twisted or braided rattan into cordage (e.g., as carrying straps used in Kalinga backpacks). I have used the terminology "strips" to define all plaiting elements despite their possible variability (Adovasio 1977:107). These conditions make it essential to specify the character and composition of the strips for analysis. Opposing sets may be different and if so, the differences were recorded.

The number and orientation of strips was also recorded. In Kalinga simple plaiting, strips are usually single elements although they may occasionally be doubled or tripled for strength. The orientation of the number of single strips is the norm in Kalinga rigid simple plaiting commonly found in Kalinga chicken coops and soil carrying baskets. At times, they may be superimposed to produce a basket that is of a double or triple thickness that may overlap so that all strips are partially exposed or side-by-side. Further, there may be a difference in the number and orientation of strips in opposing sets of elements. If this is the case (and it frequently is in rigid plaiting), the number and orientation of the elements in each set must be specified.

In twill plaiting, strips may be single, doubled or tripled. If multiple elements are used, they are directly superimposed over one another. The number of elements in
opposing sets may differ, as in simple plaiting. Kalinga twill-plaited baskets
characteristically use single strips of rattan and are common to all twill plaited forms
though the interval engagements may differ.

In my previous research on Philippine baskets, twill plaiting is a common
occurrence observed among the of Batak basket weavers were the interlacing of a
darker vine is superimposed and is used as a decorative element (see Calderon 1984).

Method of Preparation

Closely allied to the composition of the elements is their method of preparation.
Strips or elements may be unmodified lengths or segments of material, but specific to
the Kalinga, strips of rattan, bamboo, plant midrib, palm leaf, or vines are the
predominant raw materials. All the Kalinga elements are modified, being trimmed,
decorticated and finished. In some instances, however, there are segments of leaf, stem,
root or reed that have been split longitudinally or bilaterally. Twigs may be halved or
decorticated, or both halved and decorticated. In some forms of rigid plaiting, other
basketmaking cultures employ splints of wood shaved or peeled from a branch, while
others are made of strips of bark (Mason 1904:375, Fig. 110). In all cases, the analyst
should specify the mode of preparation of plaiting elements as exactly as possible.

Measurements

Measurements that were taken and computed on all specimens of plaiting
include range and mean (width or diameter) of the elements and range and mean angle
of crossing.

The width of plaiting elements was measured with the use of calipers from one lateral margin of an element to the opposite margin. Measurements were taken on each Kalinga twill-plaited basket in the collection, to ascertain range as well as to calculate the mean. In many cases, all the elements in the opposing sets are nearly identical in size.

The angle of crossing is measured by placing a protractor along one element in a given set and recording the angle at which it is crossed by an element of the opposing set. The angle of crossing is ninety degrees in virtually all simple plaiting, but it is more variable in twill plaiting. While the angle of crossing is to a large extent determined by the plaiting technique, it is also subject to marked idiosyncratic fluctuations.

Classification

Upon completion of examination of all specimens of plaiting for interval of element engagement and associated attributes, they were assigned to types. Kalinga Basketry forms, with a 1/1 principal interval are Simple Plaiting, 1/1 interval; and those with intervals greater than 1/1 is twill plaiting and were distinguished by the appropriate interval designators.

It is theoretically and mechanically possible to produce twill plaiting with an uneven principal interval (such as 2/3 or 3/4). While I have observed few specimens with these patterns (an odd interval type), they do occur but is not common. It is more noticeable in some baskets that are characterized by numerous shifts in the production
of a pattern, but since the Kalinga is not known to decorate their utilitarian baskets, it is a rare occurrence. In the event that I had found aberrant types, I was told it was an effort by the weaver in experimentation and is not the norm.

Post-Typing Analysis

After the typing phase of analysis has been completed, all specimens of plaiting were examined for the following attributes: centers, selvages, splices, mechanics of decoration (if found), mechanics of mending, form, and where observable, wear patterns and raw materials.

Centers

Many forms of Kalinga plaiting specifically flexible ones, lack centers in the sense that the term is used in twining and coiling. Specifically, plaited basket types do not possess or exhibit a central reference point at which the plaiting process was started. In a great number of forms, such as mats, bags, and certain kinds of baskets, plaiting is initiated at a corner rather than in the center. The nature of the plaiting process allows initiation to be accomplished in numerous ways, very few of which leave readily observable clues. This means that while all specimens of plaiting must have a method of starting, the method need not manifest itself in the form of a distinct center. In most cases, however, the method of starting is apparent from the configuration of the object. The following photographs present the varied steps in the production of Kalinga chicken coops, and is typical of the technique in most rigid simple plaiting (Figure No. 4.9).
Figure No. 4.9: Simple Rigid Plaiting in the Making of a Kalinga Chicken Coop  
Weaver: William Agsiao in Dangtalan, Kalinga Philippines

The following photographs depict the process of simple rigid plaiting from starting through final finishing:

Bamboo is harvested, spliced, and thinned to the appropriated size.

decorticated and finished the strips are then ready.
The method of starting and the beginning elements are laid, which is set to be the bottom of the chicken coop. These elements form the pseudo-warps or the inactive elements.
Once the bottom is set the plaiting active elements (wefts) are then woven in, a one over one engagement, a level at a time. New wefts are introduced at every level, notice the use of varying sides of the bamboo elements, sectioning at fifth intervals. structurally, this is done, so as the bamboo dries the basket retains its shape, not as a design pattern.

When the desired height is reached, the ends are then reworked into the basket to form the rim aperture, as in the following photograph.
The pseudo-warp elements make the self selvage.

forming the aperture or rim, were the elements are inserted back in the main body.
The remaining excess elements are trimmed off.

The bottom of the chicken coop is reinforced with additional plaiting elements.
Certain kinds of rigid plaiting possess centers more or less like those employed in twining. Included here are rigid plaited baskets of a variety of configurations in which one set of plaiting elements serves a function analogous to warps in twined basketry and the opposing set acts as wefts. The pseudo-warp elements may be arranged in an incredible number of ways, much like their counterparts in twining. In point of fact, virtually all the twining centers found in twined baskets can be observed in rigid simple plaiting. In most cases, rigid simple plaiting is initiated in a spiral fashion, over and under the warp-like elements. Such specimens can be distinguished immediately...
from twining by two features: first, the weft-like elements are not paired and secondly, they do not engage the warp-like elements with a half twist. Rather, they simply pass over and under the opposing elements as in any other form of plaiting, as in (Figure No. 4.10).

Figure No. 4.10 The kob kobong or small fish trap, simple rigid plaiting depicting the 1/1 (one over one) engagement interval technique.

Weaver: Edgar Lugnas
Dangtalan, Kalinga Philippines
Photograph courtesy of The Arizona State Museum
ASM Catalogue No. 88-77-696
Photographer: Kathy Hubenschmidt

There is no terminology for designating plaited centers: each must be analyzed, described individually and drawn schematically.

In an archaeological assemblage, fragments of rigid plaited centers can and should be typed like any other piece of plaiting; they may exhibit frequent shifts and/or have a different principal interval than the rest of the item of which they are part. If the
principal interval can be detected, it should be specified and the center classified accordingly.

The complete range of data on number, composition, orientation, and method of preparation of the strips of elements was recorded. The centers of whole Kalinga baskets where not measured as the analysis had no particular reason for doing so. The analysis of Kalinga rigid simple plaited centers was not measured and was not necessary. The range and mean (width or diameter) of the elements and the range and mean angle of crossing do not differ from those of the walls of the same basket.

Selvages

No other technology type or class of basketry exhibits such a wide range of variation in selvages as plaiting. As a result, there is not and may never be a typology sufficiently broad enough to include all varieties. Nonetheless, certain distinctive types of plaited selvages can be readily distinguished.

The term selvage has exactly the same meaning as in the weaving technology in twining. Specifically, it denotes the edge finish of any item of plaited basketry. As in twining, baskets proper and bags usually possess a selvage only at the rim, whereas many other items (notably mats) have a selvage around the entire perimeter. In twining, it is possible to distinguish side from end selvages. In the case of plaiting, however, these terms are used in designating the short-end and long-side margins of flat rectangular forms. Only in certain configurations do they approximate the meaning they have in twining (Adovasio 1977:15-52).
Adovasio (personal communication) suggests that the analysis of complete or fragmentary plaited specimens with edge finishes follow the same basic procedure prescribed for twining forms. Archaeologically, the specimen is first examined for principal interval and classified accordingly. If it lacks any substantial portion of the wall or consists only of selvage, it may be impossible to type, especially in archaeological fragmentary specimens. Selvages often exhibit shifts wholly unlike those in the rest of the specimen and the principal interval may not be ascertainable under such circumstances.

After the item has been assigned to a type, the edge finish was examined. The principal kinds of selvages are (1) clipped, (2) self, (3) multiple self or intricate, and (4) coiled. All these types may be reinforced with cordage, tie or knot, one or more circuits of twining, or a combination of rattan, cordage and twining (found in Kalinga fish, specifically eel traps and some chicken nesting baskets).

Clipped, self, and multiple self-selvages can be labeled collectively simple selvages using Ballet's terminology (1952:12), as they contain no elements not found in the wall of the basket specimen. Coiled selvages are composite, since they incorporate elements not found in the wall. The presence or absence of cordage and twining reinforcements does not affect the distinction between simple and composite selvages.

Clipped Selvages

Clipped selvages are the least complex forms of simple selvage. In reality, they are not selvages because the terminal plaiting elements are simply truncated after the
final interval of crossing. This type of finish is not suited to most kinds of plaiting as it predisposes the object to rapid disintegration via unraveling. Generally, clipped selvages are encountered only in rigid simple plaited containers, where the pseudo-warp elements are cut off after passing beneath the final set of pseudo-wefts (see previous photo on the making of chicken coops). These clipped end selvages are also occasionally encountered in very tightly woven twill-plaited bags or baskets, where tightness of the weave inhibits decomposition (observed by Adovasio in the Antelope House site, Adovasio et al 1978).

Clipped end or edge selvages occasionally occur in conjunction with several circuits of simple twining or with stitch reinforcements to prevent fraying, typical of Kalinga winnowing baskets, where the attached coiled rim is bound by a reinforcing whip stitch, in contrast to a simple twined tie or knot in some other Kalinga rigid simple plaited baskets. The whipping stitch in Kalinga winnowing baskets (or twining elements in other baskets) employs the plaiting elements as warps. A long thin strip of rattan serves as a reinforcing element, in winnowing baskets, added along the margin in the form of a running or whipping stitch. Interestingly it is this particular whipping stitch that is standardized and identifiably specific to a weaver, along with other attributes such as how the rim foundation is bundled and finished (see Figure No. 4.11).

If twining and cordage are used in this or any other type of plaited selvage, the character and composition of the reinforcement was described (as in Kalinga eel traps). It is synonymous to weaving terms such as truncated selvages.
These variations in final stitching that binds the "psuedo-coiled" rims have been found to be diagnostic and ascribable to individual Kalinga weavers: these examples show three different final stitching by three different weaving specialists. The other measure (though not visible) is the internal structure of how these so called coiled rims are constructed, further discussed in detail in the following section on coiled selvages. These clusters of attributes are also unique to individual Kalinga weavers.

Self-Selvage

The term self-selvage denotes an edge finish produced by folding the terminal plaiting elements back at an angle and replaiting them into the body of the following specimen (Figure No. 4.12). In most parts of the world, self-selvages are the commonest variety represented in the archeological record and this basic pattern has been described elsewhere (for the American Southwest see Adovasio 1976, Adovasio et al 1978).
Adovasio and Gunn 1975a, 1975b; Morris and Burgh 1941:19-20).

Figure No. 4.12 Photograph of Twill-Plaited Kalinga Betel Nut Pouch
Twill-plaited construction 2/2 interval engagement with a self selvage

![Twill-Plaited Kalinga Betel Nut Pouch](image)

Typical betel nut containers are two-part, similar to larger type carrying bags or the kalupita can be three-part, having a secret compartment and carrying straps (Personal collection 9 cm. x 18 cm.)

The two main types of self selvages are the 90° degree self type and the 180° self type. In the 90° degree self type, the terminal elements are folded uniformly at a 90° degree angle and replaited into the basket (e.g., Kalinga winnowing baskets and backpacks). The 90° degree self selvage can be employed as either an end or side selvage. In the 180° degree self type, the terminal elements are folded back on themselves and replaited into the body of the basket. The 180° degree self selvage type is most frequently encountered in simple plaiting, as in Kalinga sleeping mats, as a side or end selvage. In both the 90° degree and 180° degree self selvages, the terminal elements are usually trimmed after replaiting is completed. In Kalinga winnowing baskets or labnak and woven backpacks or pasiking, the final rim finish is then attached to the edge or selvage, further reinforcing the basket structure.
Innumerable variations can be produced on the basic 90° degree self-selvage, mainly by introducing shifts of varying complexity. Further elaboration can be achieved by folding and replaiting selected elements and truncating others. Such folded and clipped selvages may also exhibit frequent shifts.

In any kind of 90° degree self-selvage, shifts can be executed before or after the apex fold. Self-selvages with integral shifts must be examined carefully to identify the shift sequence, which should be detailed on the analysis form. Shifts should be described from the point where the principal interval is altered to the point where the terminal elements are clipped. If the 90° degree-apex fold punctuates the sequence, this fact was noted.

Self-selvages of the 90° degree type in which elements have been selectively truncated must be scrutinized for interval of truncation. Generally, the truncations will not be random, rather every third or fourth element may be clipped and the intervening ones folded in the normal fashion. Whatever the pattern of clipping and folding, it should be specified on the analysis form (for example, "2 clipped, 2 folded").

Three of the many other variations of self-selvages should be mentioned (Adovasio 1977: 112, 117): these are the double 90° degree self-selvage, the braided 90° degree self-selvage, and the distinctive 180° degree self-selvage.

Double 90° degree self-selvages are confined almost exclusively to twilled bags and mats. They are produced by folding the elements alternately to the right and to the left rather than folding them only to one side, as is the usual practice. This alternate folding produces a double thickness of selvage that is both functional and attractive.
Braided 90° degree self-selvages are produced by braiding long segments of contiguous terminal elements after they have been folded, but before they reenter the body of the basket. Again, the effect is often both functional and aesthetic. Like the double 90° degree self-selvage, this type is normally found only in twill-plaited items. Both 90° degree double self and 90° degree braided self-selvages may be reinforced with twining or cordage.

These intricate selvages are generally encountered in woven backpacks among the Kalinga. This specific variant has been found similar and characteristically diagnostic to Kalinga weavers of this region. The *Pasiking*, popularized as “head baskets”, are generally deep walled burden baskets and are flat bottomed and may or may not have an attached lid or cover, attached loops and straps for carrying like a backpack. Similar forms are manufactured extensively in the Cordillera Region of the Northern Philippines and interesting stylistic variants are known and attributed to particular Cordillera groups. Considerable variation is possible with this type of selvage. The analysis must note the elements brought over the rim and edge, as well as whether the selvage was folded to the interior or exterior as in (Figure No. 4.13). The type and mechanics of the binding circuit was also described in detail, along with the composition, method of preparation, and method of construction of the rim in the event that the particular basket form warrants description.
Figure No. 4.13 Detail of an unlidded backpack or *pasiking* rim with a false braid rim finish over a reinforcing rattan element. This finishing attribute is woven over the self selvage after the desired height or size of the basket is completed (see clipped ends of plaited elements, folded in the exterior).

The analysis notes that some wall fragments adjacent to the selvage of some of the winnowing baskets or *lahnak* that are clipped exhibit a tapered twill-plait. Tapered twill is a variant of ordinary twill plaiting in which a curve is imparted to the wall of a container by decreasing the width of the strips as they approach the rim. The presence of tapered twill plaiting was noted if it did occur.

Apparently complex but technologically simple composite 180° degree self selvages were also produced in the prehistoric American Southwest common in Anasazi plaited ring baskets (see Adovasio Gunn et al 1976; Adovasio, Carlisle et al 1978) and elsewhere in the Basketmaker Period. In these edge finishes, the standard 180° degree self selvage is elaborated by adding a plaited band of multiple elements that is manufactured separately and affixed to the binding elements of the normal 180° degree selvage, generally on the interior of the vessel. If the analyst encounters composite 180°
degree self selvages, he need only add details of the construction of the band and its method of attachment to the data recorded on simple 180° degree self selvages.

While the foregoing discussion scarcely exhausts the range of possibilities in self edge finishes: it should provide a partial guide to their identification and analysis applicable to the Kalinga collection, and further to other examples of Cordillera baskets.

Coiled Selvages

Coiled-edge rim finishes is one of the more unique composite selvages found in Kalinga plaited basketry industry and is predominantly used in winnowing baskets. In this specific variety, the terminal elements are either intentionally clipped or left longer and are folded over the edges of the basket. These edges are then bound with rods or halved rattan to form the bundled rim foundation. These bundles are then sewn with a simple coiling stitch around the entire square (or circumference) of the basket. Frequently, the foundation elements are supplemented with additional material: also, the coiling is predominantly a single circuit but not exclusive and may continue for more than one circuit, but very rarely.

In the variety of intentionally clipped ends, the Kalinga weaver attaches a number of strips of rattan as previously described that likewise binds the clipped ends of the plaited body before a coiling rim finish is constructed and reinforced by a whipping stitch (Figure No. 4.14), see following.
Figure No. 4.14 These samples show the "pseudo" coil rims and variation in final whipping stitches found in winnowing baskets (frontal view).

Coiled selvages were analyzed like any other kind of close coiling. In addition, the exact method of insertion of the plaiting elements into the coiling circuit was described. Coiled selvages may be reinforced below the first coil with twining or an element of running stitches. In some instances when a twining circuit is present, the specimen will possess all three of the major classes or technology of basket weaves. This combination does not occur in Kalinga winnowing baskets. But the combination of a clipped selvage on a rigid simple-plait with a twining circuit, used only as a reinforcing element, is found as a minor occurrence in Kalinga eel traps and chicken nesting baskets.

While a great many other composite and simple selvages could be discussed, I do not believe a more extended commentary is necessary specific to the Kalinga plaited selvages. Any selavage types not described should be analyzed in precisely the same as
those detailed above. If the methodology is used in some other basketry research. Further particulars on plaited selvages are available in Mason (1901).

Multiple Self-Selvages

In the microcosm of the Kalinga basketry industry investigated, multiple self-selvages are not found among these specific Kalinga weavers. My previous research on Philippine Cordillera baskets (1986), specific to the Ifugao those baskets show some minor occurrence of multiple self-selvages but mostly in more flexible non container type forms, as in sleeping mats.

For comparison, multiple self-selvages differ from all other self-edge finishes in one basic set of interrelated attributes. In 90° degree and 180° degree self-selvages, the terminal elements are folded only once and the manner of folding defines the type. In all variations of multiple self-selvages, by contrast, at least two and occasionally four folds are necessary to complete the edge finish. Whatever the variation, construction involves the same basic steps:

1. The terminal element is folded at an obtuse angle (about 130-150 degrees) to the orientation of the body or wall elements:
2. It is plaited for a variable number of intervals with other similarly folded elements:
3. It is refolded at the apex of the selvage, this time at a 90° degree angle to the opposite surface:
4. It is again plaited for a variable number of intervals with
similarly folded elements, and finally.

5. It is clipped off or folded for a third time at a 90° degree angle.

If a third fold is employed, the element may be clipped off at variable intervals after the fold or it may be folded a fourth time at a 90° degree angle before being clipped.

Analysis of multiple self-edge finishes is a tedious process (e.g., see Adovasio and Gunn 1976 in the Antelope House Basketry Industry), as the range of variations is very great. Adovasio and Gunn (1976: 329-369) and Adovasio (1999 personal communication) suggests, to decode the pattern, the analyst must follow one element carefully from the wall or body of the basket or the specimen through all its directions in the selvage until it is clipped. Since all types begin with an obtuse fold, the pattern of plaiting and folding need be recorded only from the apex fold through the terminal clipping. Frequently, multiple self-selvages can be divided into sub types based on the course or route of the terminal elements after the 90° degree apex fold. Like other kinds of self-selvages, they may be reinforced with circuits of twining or cordage. Their complexity makes scale drawings and schematics useful in the analyses. A very detailed discussion of these complex edge finishes is discussed in Adovasio et al (1976).

Measurements

A variety of measurements were taken on various components of plaited selvages although no single set is applicable to all types. In self-selvages, when the final element is clipped after replaiting, the range and mean length of the protruding stubs can be recorded as suggested by Adovasio (personal communication).
Splices

In plaited basketry, the term splice denotes the method of inserting new plaiting elements. In virtually all Kalinga forms of flexible plaiting employ flat strips. Additional elements are inserted wherever necessary by simply laying a fresh strip on top of an exhausted one. The nature of the plaiting process requires a slight degree of overlap between the end of the old element and the beginning of the new one.

In rigid plaiting forms with distinct centers, pseudo-warp elements are added in much the same fashion as the warps in twined baskets. Pseudo-wefts, by contrast, are generally inserted in the same way as strips in flexible plaiting. The mechanics of these and any exotic splices was included in the analysis. No measurements are required of this attribute.

Mechanics of Decoration

Plaiting may be decorated structurally or non-structurally. Non-structural mechanics include the same range of techniques specified for twining and coiling, while structural mechanics are different. Color is not traditionally used by the Kalinga basketweavers. In other baskets for example, the structural decoration of plaiting can be effected by the use of different (colored) elements, intentional alterations of interval to form designs or patterns, the use of elaborate rim finishes, or any combination of these techniques. Monochrome decoration is frequently produced by complex sequences of shifts of the plaiting elements. The same technique creates striking designs when different (colored) elements are employed (see Kalinga bachelor's hat Figure No. 58).
In some non-Cordillera cases (e.g., the Batak of Palawan), color elements are used in the same and or opposing series of plaiting elements to produce geometric and linear patterns without shifts (Calderon 1986: 134, 135). Elaborate selvages may be employed on basket specimens with any type of monochrome or polychrome design.

When required the foregoing analyses of a decorative technique is readily distinguishable in execution and appearance and is readily recognizable in most complete or some fragmentary basketry specimens. When specific structural decorative techniques or combinations of techniques are detected, their presence was noted. Any designs, whether produced by alterations in color or shifts should be indicated. The production of pattern or basketry “design” is produced by complex shift sequences. No measurements other than those normally associated with selvages need to be taken. All Kalinga baskets in the collection or in the household basketry inventory show no evidence of the use of color.

Plaited Forms

As a weaving method, there is no other class or basketry technique that exhibits the extraordinary array in the range of container shapes and configurations that can be produced from plaiting. The diversity of forms is brought about by the versatility of the mechanical manipulations and the composition in the array of choices of flexible and rigid element composition to produce virtually any geometric and non-geometric shapes possible. As evidenced in the Kalinga basketry industry, which is characterized by a plaiting technology assemblage that is well represented in size and in the large variety of utilitarian forms found that explains a multi-subsistence ecological and
environmental resource. Twenty two (22) forms, not including a handful of related woven articles (e.g., house and personal charms, and other non-container type articles) has been found. Their internal diversity is so great that unfortunately there are limitations to identifying forms in prehistoric assemblages. The reconstruction of forms is not surprisingly a difficult task.

ANALYSIS OF COILED BASKETS

Definition

In the strictest sense, a coiled basket contains a single continuous coil from the center to the rim. Intrinsic to a more rigid structure, the coiled technique is almost exclusively found in, and used for, container items such as, bowls and trays, as hats, but rarely for bags (unless the materials used has enough plasticity and allows for flexibility), and seldom seen as mats.

Coiling as an overall basket technique is not used by the Kalinga but is found in the Kalinga household basketry inventory as a trade item from the neighboring Ifugao, specific to a particular type shape (Chinese jar-shaped) used for rice storage or for personal items and today valued as older heirloom pieces by the Kalinga.

Though minor in occurrence, the presence of non-Kalinga coiled baskets is diagnostic and reflect the operation of inter-tribal trade at one time or another based on inter-tribal political power: or may reflect multiple exchange systems of what may have been purely utilitarian or even of luxury or prestige goods. Distribution of certain basket types may further aid in reconstructing prehistoric exchange networks within the
Cordillera Region or the assimilation or unacceptance of certain weaving techniques from other groups.

Influenced by traded Chinese porcelain jar shapes, the following photographs show these older coiled baskets used for hulled rice storage or for personal items, are valued today as heirloom pieces by the Kalinga (and the Ifugao) Figure No. 4.15. Some of these baskets have handles and are hung on special shelves to keep away mice and other pests (Figure No. 4.16).

Figure No. 4.15 *ulbung* or *kul bung* or Chinese jar shaped rice storage basket

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Provenience: Ifugao
Height 19 cm.
Fowler Museum of Cultural History X86.3390a
Photograph courtesy of the FMCH, reprinted with permission
Figure No. 4.16 Another shape variation of the *ulbung* with handles

Provenience: Ifugao
Height 27 cm.
Fowler Museum of Cultural History X78.2329a
Photograph courtesy of FMCH, reprinted with permission
The Ifugao and the Bontoc are known for coiled hats and baskets. The reader is referred to Bacdayan in Hamilton (1998: 33-51) on the functional categories found among the Ifugao. The presence of coiled baskets seen in the household inventory is described to make a complete description of the Kalinga basketry assemblage.

Coiled baskets as a weaving technique employed by the Ifugao is generally stitching over a bundled foundation and attaching rows of work together as the stitching progresses to form the basketry structure. The two major elements used are the foundation, or core, and the sewing material. The foundation forms the base over which the stitching is done, and the rigidity of this element holds the shape of the basket. Successive wraps over the foundation are made with the sewing material, which fastens back into or around one or more of the foundations and catches the stitches of the former row to hold the work together. The materials used for these specific coiled baskets are rattan, cut decorticated and or bundled, a specific vine-like bamboo called *anes* is sometimes used as a sewing element.

The analysis of coiled baskets alongside plaited types, is a simpler operation than the analysis of twining. Although coiled baskets have a number of attributes (e.g., variety, number, and arrangements of foundation elements; splice movements, stitch etc.) it is easily identifiable and the range of variation is relatively more restricted than most of the attributes found in twining.

Basketweavers in general have used coiling primarily to make a circular shaped form (as seen in most of the basketmaker cultures in the American Southwest). Among Ifugao weavers, non-traditional forms such as square coiled storage rattan baskets are
currently being made for the tourist market.

Though these forms may not be traditional among the Ifugao, the weaving technology is. The technique is made over a foundation that generally coils or spirals. The initial direction and spacing of the coil can be manipulated to make other shapes other than circular, but is again dependent upon flexibility. The curves at the beginning are small, so the foundation material or elements should be flexible. Before the spiral is started, the stitching material is wrapped over the foundation with some ascertained spacing to allow for the stitches of the next row. The end of the stitching material is secured and hidden as shown in (see Figure No. 4.19) on the schematics of a beginning coil.

Foundation Materials

Foundation materials used in coiled baskets are moderately flexible material available either in a long length or in shorter lengths that will combine to form a long, continuous strand. The strand needs to be stiff enough to hold the shape of the basket, but it must also be flexible enough to bend around a curve or an angle without splitting or breaking. The variations and combinations of materials used in any assemblage or collection of ethnographic basketry can be identified. see (Figure No. 4.18) for schematic examples of variations in foundation and sewing technique.

The round strands or rods that form foundations in Ifugao baskets come from rattan. Rattan as a material is found to be a preferred foundation material for Ifugao baskets and the used of thinner strips of rattan is used as the sewing material and kept damp during the weaving process to retain flexibility.
When two Ifugao coiled basket where compared, specific differences were apparent from the type of foundation employed (Figure No. 4.20). One basket had one relatively rounded rod foundation and the other employed two thinner rod-like elements, both rattan, and the sewing technique similar. To make splints, the material (e.g., bamboo or rattan among the Ifugao) is split several times with a knife and pulled away by hand and carefully kept to a uniform thickness and width. After the strips are all separated, they are trimmed and scraped to make them as smooth and uniform as possible. The shiny outer surface of rattan is cut from the harvested stalks and trimmed with a knife. It is unfortunate but the small basket sample inventoried in Kalinga is not representational of a full range of coiling techniques or variations found among Ifugao basketweavers.

The plethora of basketry technology books is overwhelming and general observations on the variation of material used for coiling is immense. Miscellaneous kinds and combinations of materials have been used such as bunches of rattan, bamboo or grass are not unusual foundations for coiling, and contribute to the corresponding plethora of materials used for coiling, specific to the stitching and penetrable as a foundation element. Many different grasses have been used, and basket technology experts have conflicting opinions in their preparation. It is not the object of this section to discuss basket technology from a modern craftmakers perspective but it is apparent that weavers among the Ifugao make coiled baskets with imbricated rattan for the foundation and sewing. There are a handful of the baskets that use a local nito vine (e.g., color varieties: lysodium circinnatum, l. flexuosum or l. aponicum) as a sewing material.
found in smaller type baskets due to its more pliable characteristic. Among Ifugao weavers, the *nito* vine is considered a cheap replacement for rattan, as it is known to be a less durable but more commonly found material. Today, rattan as a raw material, formerly harvested in the nearby forests by Ifugao weavers now have to be purchased from traders as the forest resource have considerably dwindled.

**Stitching Materials**

There are practical assumptions that can be made in the choices of material for stitching. The materials used for this process must be more pliable than those for foundations, but they must also be strong or tough enough to stand the abrasion of the sewing and the tension created when the stitches are tightened on the foundation.

In Ifugao coiled baskets, normally both rattan and the "nito" vine is harvested in the earliest of (summer) or dry season, right after the rainier months, when it is green, then left to dry before use. Some Ifugaos suggest dry season harvesting, after the vine has dried on the plant. Regardless of when the vine is harvested, it must be thoroughly dried before it is used, but pliable enough as a sewing material (at which point it is dampened so it does not break or fracture). It is understandable, that the Ifugao prefer rattan, and is the predominant material used in traditional Ifugao rice storage baskets called the *ulbung* or *kulbung*. Shrinkage occurs in the drying process, and unlike rattan or reed foundations, if partly dried vines or grasses are used, the firm structure will become loose and the stability of the basket lost as the foundation materials dry out.
Interesting effects can be achieved by varying the size of the foundation over which a row of coiling is done, or in the stitching material used producing variations in the surface pattern.

**Methods Of Coiling**

Basketweavers have developed many coiling techniques. The assignment of examples of coiling as a technological type is based on the type of foundation, the spacing of the foundation elements and the type of stitch that gives rise to the overall coiled basket (Adovasio 1977:53-98).

**Spacing of the Coiled Basket**

Close coil – a type of coiled basketwork where the foundations are bound closely and very tightly together by the stitches, as seen in typical coiled baskets of the American Southwest (Tanner 1976, 1983; Turnbaugh and Turnbaugh 1986)

Open coil – a type of coiled basketwork where the foundations are not bound closely or tightly together, separated by a or several stitches or ties or knots of some complexity.

Open and Close coil – where the foundations are alternately bound together or separated from – normally found in basket types that provide an overall mesh-like effect. It has been found in functional basket types for example: such as sieves, strainers or even net or trap like baskets.

In the case of the presence of Ifugao closed-coiled baskets in the Kalinga Basketry Inventory, the stitching material and the foundation coils are spaced to show the interlacement of the elements. the detail photograph in (Figure No. 4.17) represent
the appearance of the finished basket structure and surface pattern.

Figure No. 4.17 Detail of surface pattern of coiled Ifugao basket

Most of the techniques in the following schematics are illustrated to show only the appearance of the variation in foundation structure. The following schematic samples are coiled with possible varying construction materials and allow the finishing interlacements to show clearly (Figure No. 4.18). In Ifugao baskets, rattan is the choice material, used for both the stitching element, and for the foundation, and specific to Ifugao baskets found in the household inventory.
Figure No. 4.18 Schematics on the Variations of Interlocking Coils:

a. single-rod foundation

b. multiple-rod foundation

c. mixed rod foundation

d. bunched grass foundation

There are again several techniques and variations thereof in the structure of coiling. The spacing of the wraps for a beginning should be included in the description with the explanation of each diagnostic attribute or technique.

Since there are many kinds of spiral beginnings and most of these techniques could be started in several ways, methods for beginning with a spiral can be described in any basketry assemblage.
In the above schematics, Ifugao basketmakers have used coiling primarily to make traditional circular forms, and these forms are made over a foundation that spirals or coils. The beginning starts small and the stitching material is wrapped over the foundation, spacing it to allow for the stitches for the next row. After several wraps, the foundation is attached on itself tightly by the sewing material and gradually interlocks with the previous row by the stitching material, until the desired basket type or height is achieved.
The morphological construction and variation on the foundation of Ifugao baskets is here presented based only on observations of what has been found in the Kalinga household basketry inventory. Though we do know that coiled baskets are products of skilled specialist Ifugao weavers, these examples in (Figure No. 4.20) show that the choice of foundation attributes are idiosyncratic, but also perhaps standardized in the construction of coiled baskets ascribable to individual Ifugao specialist weavers. Unfortunately being rare pieces in the inventory, these schematics represent only a few variations and is not representational of the possible range of the Ifugao coiling industry.

Figure No. 4.20 Schematics on variations of bundled foundation of Ifugao coiled baskets

Splint foundation – coiling over three foundations

Single rod foundation coiling over two foundations
Two-rod foundation coiling over three foundations

Three-rod foundation coiling over three foundations

Rod and splint (or welt) foundation coiling over three foundations

Two rod and splint foundation coiling over three foundations

Illustrations by Jeff Raby

In the event the mechanics of typing and analysis presented here is applied to other ethnographic or archaeological assemblages, one needs to understand that there
are several variations in techniques that are dependent upon the attributes of a specific weaving technology.

The following list of terms (after Adovasio 1977: 60-98) are defined and offered as a guideline in the methods of typing coiled baskets. For further discussion and excellent examples on the specific analysis of ethnographic and archaeological coiled basketry specimens in the American Southwest, see Adovasio and Gunn 1975a, 1975b; Adovasio Carlisle and Andrews 1976 a, 1976 b; Mason 1901: 1904. Morris and Burgh 1941. Tanner 1983. Turnbaugh and Turnbaugh 1986).

The following list of investigating techno-manipulative attributes in the mechanics of typing is provided in the event a specific ethnographic or prehistoric collection warrants an analysis of coiled baskets (after Adovasio 1977: 70-98), that can be isolated, identifiable therefore quantifiable for interpretation.

Mechanics In Typing Coiled Attributes

Basketry descriptions are normally the longest if not the most tedious section of a report, but form the corpus of the analysis in the archaeology of baskets as an artifact and the ethnoarchaeology of basketmakers as a people – ascertaining the relationships of the artifacts to the rest of the culture.

This list is only offered as a guide in the event a collection of coiled baskets warrant analysis for a particular research purpose. It is assumed that the compilation and allocation of data, measurements, provenience etc. for a given collection or assemblage
based on these mechanics in typing is quantifiable for presentation, description and interpretation.

In typing coiled baskets, investigate the following:

Foundation Elements:

Types or Kinds of Foundation Elements
Rod – is defined as a coiled weaving foundation element that provides the structure of the basket and is a solid one-rod piece of material.
Bundle – a grouping of foundation elements (e.g., a bundle of rods, multiple elements or a bundle of decorticated rattan elements among the Ifugao). Welt – a foundation element in conjunction with one or more rods. Adovasio (1977:60, 127) defines it as an element that is a small flattened stick, twig or strip of fiber that is stacked vertically also called a splint.

Four Basic Arrangements of the Foundation Elements:

Based on the number of elements used adapted from (Adovasio 1977:60-98):

1. Single Element Foundation
   - single rod (either whole or cut in half)
   - half rod
   - bundle
   - bundle and rod (otherwise known as a “rod in bundle”)

2. Horizontal Foundation
   - two rod horizontal
   - three rod horizontal
   - rod with a lateral bundle
   - rod with lateral welt

3. Stacked Foundation
   - whole or half rod and bundle
   - whole or half rod and welt
   - two-rod stacked
   - two rod and bundle stacked
   - three rod stacked

4. Bunched Foundation (Multiple foundation) commonly employed in closed coiling.
   - three rod bunched
   - two rod and welt bunched
   - two rod and bundle bunched
   - five rod bunched
Stitch:
The stitch being the active sewing element, the material used will vary. Likewise, the stitch may either be a simple, intricate or wrapping technique (for further discussion see Adovasio 1977:60-61). Furthermore, a combination of techniques may occur and can be identified.

Simple
Intricate
Wrapping Stitch

Mechanics of Typing Coiled Baskets

The mechanics of typing coiled baskets, the technique or class of weave - requires certain procedures involved in classifying an ethnographic basket collection or prehistoric assemblage.

The analyst must first ascertain several elements involved:

The spacing of foundation elements
Then the kind
Number
Arrangement of the foundation elements
Stitch employed

Mechanics of Decoration
How is the basket decorated, decorative elements and or color

Mechanics of Mending
Description of mending if warranted

Functional Categories
Typology of basket types

Wear Patterns
Any wear patterns

Raw Materials
Material composition
Miscellaneous Attributes
In coiled baskets investigate e.g., handles, permeability, the presence or absence of pitch, soot etc.)

The above outline list in the mechanics of typing and the methodology is offered as a guideline in the event it used for the analysis of a coiled basket collection.
THE ANALYSIS OF TWINING

Pure twined baskets are not found in the Kalinga basketry industry and the minor occurrence of twining among the Kalinga is in the form of ties that bind or reinforce the overall plaiting elements. The following discussion is provided as a basic description of the technique. Furthermore, in the event that this methodology is used, the reader is referred to Adovasio (1977); Adovasio and Maslowski (1980); Emery (1980); Hurley (1979), and Tortora (1982) for a detailed discussion on the primary structure of twined weaving and cordage technology.

Definition

Twining in its simplest form is weaving one or two active wefts (or at times even three) strands horizontally across a series of stationary vertical warps. The wefts are active while the warps are passive. Each of the warp strands is enclosed by the wefts, which cross over each other or twist together between the warps.

To describe the action specifically: one weft strand passes over a warp strand while the other moves under it. then the two wefts exchange positions so the warp strand is enclosed by the two wefts. The weft that went under the last warp strand passes over the next one, and the other weft is placed in the alternate position under the warp strand. The two wefts cross again, and the twining proceeds across the row with the wefts enclosing each warp strand in turn. In most twining the two elements (warp and weft) work at right angles to each other. Many variations of this interlacement are possible (Adovasio 1977: 15-16).
It is difficult to draw the line between twining that is cloth and twining that is basketry. The difference would be in the rigidity of the basketry material one that holds it shape versus the flexibility of the fabric or cloth.

The Kalinga do not manufacture baskets that are purely twined. The technique of simple twining is only used as a tie-down or knotting technique in combination with plaiting. The rigid "stake and strand" found in eel traps and chicken nesting baskets, to keep larger plaited elements in place, provide structural support as illustrated in the following schematics:

Figure No. 4.21 Schematic of Simple Twined Ties

Figure No. 4.22 Schematic of an Overhand Knot
Twining strictly differs from coiling in the orientation, interaction and number of active and passive elements. In twining, the passive elements or warps are vertical (that is the orientation is parallel to the long axis of the basket), whereas the active elements or wefts are horizontal. In coiling, the active element or stitch is vertical and the passive element or foundation is horizontal (Adovasio 1977:15). In the mechanics of typing, similar pieces of twining and coiling can easily be distinguished by orientation.

Orientation is meant as the interaction, and number of active and passive elements. In twining, the passive elements or warps are vertical parallel to the long axis of the basket, whereas the active elements or wefts are horizontal. In comparison, orientation in coiling is where the active element is vertical and the passive element, which is the foundation is horizontal. In most types of twining, the number of wefts (active) elements may vary and in coiling the active element is a single stitching material. In twining the wefts engage a series of warps or sets of warps within each circuit, while in coiling the stitch engages a single foundation element.

Types of Twining

In as much as the Kalinga do not use a pure twining technique in their baskets, the following definitions are offered as a guide for those who may want to use the analysis in typing. There are different technological types of twining, and are based on the attributes of wall construction (i.e. the spacing of the weft rows; the number, arrangement, and sequence of warps engaged at each weft crossing, and stitch slant of the weft rows (Adovasio 1977:15-20).
Simple twined ties have been found among Kalinga baskets but specific only to eels traps and chicken nesting baskets, made by the general non-specialist weaver. These observed ties are individual single variations and, given the limited occurrence in the number of baskets made by the same individudal basketmaker. do not reflect an overall standard technique. Based on observations from these household inventories, eel traps have been abandoned (in the 244 households inventoried only (6) six baskets were found). Though chicken nesting baskets are common, twined ties used for this particular basket is not commonly found.

Interestingly, though minor in occurrence the technique exists. historically there is no documentation of the common use or occurrence of pure twined baskets in the Cordillera as a region or among the Kalinga and is the least represented of all basketry techniques.

The following schematics (Figure No. No. 4.23) show the variations of simple twined ties found among Kalinga basketmakers.

There are three basic ways to arrange the spacing of weft rows, each of which produces a distinctive, recognizable result as follows:

1. Close twining - weft rows are tightly spaced to conceal the entire warp
2. Open twining - the weft rows are spaced at intervals, leaving portions of the warp exposed
3. Open and close twining – the weft rows are alternately spaced and spaced intervals so as to conceal and also expose the warps sequentially (e.g., mesh-like containers) and is discussed in detail elsewhere by Adovasio (1977: 15-52) and
Simple Twining

Simple twining in a left-to-right direction, as illustrated in the following (Figure No. 4.24) and is interlaced as follows:

First. A is placed under warp 1 pulled forward and down, then left in that position. Second. B is placed over the warp 1 and A and under warp 2. then warp 2 is pulled forward and down to allow space for the next passage of A under warp 3. Third.
B is placed under warp 4 and the interlacement proceeds in the same manner.

Variations of simple twining are shown in the previous figure (Figure No. 4.23), and the repetition of these single manipulations produce a twined basket. A simple-twined structure is made when half turns are repeated row after row. The rows can be spaced so the warps show, or they can be woven to cover the warp, forming a compact structure, as shown in the following schematics (Figure No. 4-25).

![Figure No. 4.25 Simple Twined Diagonal Pattern](image)

Spanning pairs of warps between twists can create a surface with the diagonal pattern of a twill weave. Here alternate pairs of warps are enclosed in the successive rows. A compact simple-twined interlacement resembles a weft-faced plain weave, and frequently the basketry technique can only be identified by the slants or twists on the wefts as they go over or between the warps.

When simple twining is repeated in successive rows in a circular piece, the twist of each row remains the same. In a flat, rectangular piece, the wefts move back and forth across the warp, reversing at the edges.

If the twist of the wefts is not reversed in the alternate rows, the diagonal of each strand, as it comes over a warp, is opposite to the diagonals created in the previous row. The surface of this interlacement resembles knitting or rows of chain stitch, and is
called countered twining (see Figure No. 4.26), for the following schematic.

![Figure No. 4.26 Countered Twining](image)

Countered twining is not commonly found in basketry because most baskets are circular, and it is natural to continue round about with the same twist. In the event a flat twined basket is found and twined from side to side with countered twining a combination of simple and countered twining can likewise be used. These variations in twining are immense and the possibilities in form quite endless. In the event the mechanics of typing of twined baskets is necessary for a particular assemblage, a limited checklist of more general attributes is listed. It is by no means an exhaustive one. Each assemblage of twined baskets will always have its own unique variation, an attribute or a cluster of attributes that is uniquely their own.

Typing Twined Baskets

In contrast to plaiting, where all elements are active and usually of the same size – twining elements can either be the active (weft) or the passive (warp). Both differ in size and material composition. This is meant simply that the weft or active element should be pliable enough to be able to work through the warp or passive element. On the other hand, in the weaving of fabric, twining is the most common technique employed and the degree of variation is immense.
The Mechanics in Typing Twined Technological Types

The method in technological typing is (adapted from Adovasio 1977: 20; Emery 1980).

The mechanics of typing for twined baskets are based upon the following attributes.

Adovasio (1977) also Emery (1980), Hurley (1969), Tortora (1982) divides twining as a technique into technological types and is based on specific element attributes as follows:

1. Wall construction

2. Spacing of weft rows
   - close twining
   - open twining
   - open and close twining

3. Number of weft rows and the arrangements of these element rows.

4. Arrangement:
   - simple twining
   - diagonal twining (a more common technique found in basketry)
   - simple and diagonal twining
   - the more uncommon basketry techniques common in fabric weaving:
     - simple and diagonal twining
     - cross warp twining
     - and wrapped twining.

5. Sequence of warps engaged at each weft crossing
   - stitch slant of the weft rows (S, Z, Z and S)

The definition of the term "stitch slant" denotes the pitch or how the wefts "lean". There are only three (3) stitch slants possible in any twined specimen, each of which has the characteristic appearance (that is of an S; Z; or a Z and S). For a detailed discussion of (27!) technological types in Anasazi basketry see Adovasio (1977: 20) and Hurley (1979); among the Zuni (Stevenson 1915). Pueblo groups (Underhill 1944:30) and Paiutes (Wheat 1967: 52).

Twining generally is characterized by a proportionately great variety of types
and characterized by a very high degree of technical sophistication. Nonetheless it is a minor component of the entire Kalinga basketry industry. Because the twining sample is far too small, a detailed analysis of idiosyncratic manufacturing variables is not possible. neither is it necessary.

Summary

Plaiting clearly is the preferred technique for the production of Kalinga basketry and other related woven objects among these basketweavers. Dependent upon the simplicity or complexity of the technique, the plaiting variation is determinable. Likewise, in the microcosm of Kalinga basketweavers, we can predict, based upon a particular plaiting variation and the mastery of the skill, that which is more likely the product of a specialist and that of a non-specialist.

The data presented here in Chapter Four, indicate the existence of a basketry industry based on a specific weaving technology that is, plaiting. Consequently we have reviewed and elaborated Kalinga basketry systematics, which emphasize manufacturing technology and morphology of Kalinga baskets, which underscores manufacturing decisions, production steps and the clustering of these attributes.

The following Chapter articulates this examination on basketry technology in the discussion of the analysis of the Kalinga basketry industry.

The relevance of Kalinga basketry technology sets the groundwork for the choices made by Kalinga basketweavers based upon a combination of several factors. Defining the difference between the products of the general basket maker and the
weaving specialist is therefore important. The specific weaving technology attributed to Kalinga weaving specialists; the implications of such a production mode to understand social and political complexity and the initial examination of a probable relationship of basketry standardization in contrast to pottery as an expected correlate in specialized production is also explored.

Idiosyncratic manufacturing variables in plaiting, the examination and delineation between individual general basketmakers and the *maglalaga* or specialist, these microtraditions of basket weaving among the Kalinga that shed light on the behavioral processes of these craftmakers is investigated. These possibilities exist because differing processes tend to operate at different socio-cultural and spatial scales that affect these craftmakers.

The accurate interpretation of basketry variability requires information on the context, the history, production and the use of baskets. The geographic or temporal distribution of this weaving technology with the overall socio-cultural and ecological adaptive milieu that encourages or constraints the various roles that baskets play among the Kalinga is examined.
CHAPTER FIVE
THE ANALYSIS OF THE KALINGA BASKETRY INDUSTRY
ASSEMBLAGE

The Evolving Research Design and Methodology

The impetus for this research was brought about by my interest in Philippine basketry as material culture, and stems from a previous research fellowship with the Asian Ethnology Department's collection of Philippine baskets at the National Museum of Natural History at the Smithsonian Institution. The initial project developed a formal typology of Philippine baskets to facilitate the study of their regional, material, and weaving structure as well as variations in functional categories. The first such classification of Philippine baskets to date (Silvestre 1986). The earlier studies described isolated specimens (e.g., de los Reyes 1967; Jenks 1905:123; Lambrecht 1932, 1958, Moore 1980) or techniques of construction, but provide no systematic account of their ethnographic distribution. Preliminary research at the Smithsonian Institution's Philippine Collection has revealed relevant dimensions on classification and analysis that can be extended to other ethnographic collections.

My interest in the relation of material culture production and behavior patterning studies in basketry was further indulged and saw its beginnings with the Kalinga Ethnoarchaeology Project. Along with a team of American graduate students from the University of Arizona's Department of Anthropology, I joined Dr. William Longacre for a year of field research among the Kalinga. Basketry weaving is produced by
virtually every household in Southern Kalinga a technology specific to Kalinga males and this presented a research opportunity not to be missed.

The contributory collaborative data came from the Kalinga Ethnoarchaeology Project while I conducted the research for this study of basketry, as a parallel research interest of the (KEP) under the direction of Dr. Longacre in his longitudinal ethnoarchaeological research on Kalinga pottery. His research was primarily carried out in the village of Dangtalan and focused on pottery manufacture (1981), pottery use-life (Longacre 1985), and ceramic standardization and specialization studies (Longacre et al 1988, 1993)

In contrast to pottery, basketry is a parallel line in material culture research for the Kalinga Ethnoarchaeology Project (see Longacre et al 1991: Longacre and Skibo 1994 for an overview). Basketry, like ceramics and lithics have the potential to be used archaeologically and ethnographically in the basic tasks of defining social groups, reconstructing patterns of interaction, communication and the movements of people within and between societies (e.g., Carr and Maslowski 1995. Croes 1980. 1989;Taylor 1948. Fry and Adovasio 1970. Maslowski 1978. 1984).

It is understandable that the origins and mechanisms of basketry production, consumption and exchange is clearly among the least discussed and understood in the archaeological record. Likewise, there is scant information on basketry production, intensification and specialization, specific to the articulation with socio-political groups and economic spheres, which have rarely been investigated.
The major caveat in the lack of archaeological prehistoric basketry reports lies in the intrinsic organic fragility of the artifact and is not, in most instances, considered representational. However, in the areas that the assemblage is representational, certain robust inferences have been achieved.

Although, ethnographic basketry studies have greatly articulated the specific relationships between technology, form and function, stylistic and decorative styles or meaning, the understanding specific to basketry production in small-scale “tribal” societies, and the linkages into behavioral processes that may give rise to craft production, specialization and intensification towards a basket economy, have not been explored.

The goal of this project initiated for the 1987-1988 field season was to fill the lacuna in both Philippine ethnography and pioneering basketry ethnoarchaeological research. The preliminary investigative results of this research proposal appear in The Ethnoarchaeology of Kalinga Basketry: A Preliminary Study (Silvestre in Longacre and Skibo eds. 1994: 199-200). A typology of Kalinga baskets was created; this comprehensive taxonomic classification of Kalinga baskets describes their material, regional and structural variations, techniques of construction and functional categories.

In the process of analyzing Kalinga weaving technology and morphology, the methods used here in the mechanics of typing have been an effective tool in the accurate measure of techno-manipulative attributes unique to this craft. No matter what a weaver does, the exact manipulation and the particular order of movement or maneuver of the weaving element are almost always visible and identifiable – the sum
total of these weaving attributes is the whole basket. Structure is never absent nor lost in
the weaving process and that provides a factual basis for more comprehensive
description and provides data for comparison and classification.

Cross-cultural data provide the foundation in the typological model, successfully
utilized by ceramic researchers (e.g., van der Leeuw 1977, Peacock 1982), using an
evolutionary framework to characterize production along a continuum from simple to
complex.

Though there are merits and weaknesses to existing models, the study of basketry as
a comparative parallel to pottery studies in the organization and production of material
culture in small-scale societies still remains little understood. This poses new
methodological and explanatory challenges and has great promise for potential
contributions to ethnoarchaeology.

The results here support the initial notion that subtle diagnostic attributes that
exist in Kalinga basketry technology relate to specific basketweavers, the production of
specific forms, the organization of production and as well as consumption. The
discovery of a link between Kalinga basketry attributes and Kalinga behavior and
organization may have important ramifications for the testing of ethnoarchaeological
models in contrast to Kalinga pottery studies.

This study has further provided the groundwork for the analysis of the basketry
industry that is uniquely Kalinga, determining who made basketry largely depends on
the understanding of the linkages with the demographics and socio-economic positions
of basketweavers in the society, including whether basketry is made by virtually
everyone, or is effectively limited by a number of social sanctions, to a small number of specialist producers.

Longacre points out that ..."the implications for archaeology resulting from these types of comparative research are many...the findings bolster our suspicion that aspects of the behavior and organization of people are subtly encoded in stylistic correlates in materials they make and use. Discovering these correlates gives us a powerful tool for studying patterns of behavior and organization in the prehistoric past..." (Longacre 1981:64). Understood in the broadest sense, ethnoarchaeology provides data from contemporary most often, non industrialized systems that aid in generating models that are able to connect variability in human behavior to variability in the archaeological record (sensu Longacre 1981).

The collected body of information on Kalinga basketry manufacture and production are from the villages of Dangtalan, Dalupa and Guinaang. A small but well represented collection of Kalinga baskets was purchased by the Kalinga Project’s 1987-1988 fieldwork made possible by a National Science Foundation Grant (no. 370060), by Dr. Longacre and is currently housed at the (ASM) Arizona State Museum. This dissertation completes the description of the Kalinga basketry collection housed at the Arizona State Museum.

The collection of baskets included in this analysis, represents both those purchased and data from the household inventory of the Pasil Kalinga villages. At minimum each basket was identified by owner, weaver, use category, size, date of production if available, whether purchased, for how much or traded, or bartered. Further
technological analysis of weaving technique was carried out at the ASM and diagnostic
analysis of elements attributes of construction or weave, or clusters of attributes were
identified. Isolating certain specific differences in weave(s) such as rim finishes
between functional type categories and the variability of these finishes were recorded
and investigated, found to be unique to individual weaving specialists.

The actual physical properties of basketry, which makes this analysis significant, lie
in the fact that its inherent types that may be regarded as discrete elements, are distinct.
rather than arbitrary points in a continuum. Consequently, for most situations in basket
making there is only a finite number of logical alternatives: the basket weaver may twine
with a right hand twist or a left-hand twist but he cannot be halfway in between.
Furthermore, his method of basket work is perfectly apparent in the finished product so the
technology specific to Kalinga basketweavers need not be observed. I say need not be
observed, from the perspective of the prehistoric basketry artifact*.

Although a number of specific types of weaves are used for specific baskets, the
most revealing and diagnostic attributes in Kalinga baskets are in the final finishing
elements: that of rim finish, splices and selvages and the overall body weaving
technique employed. These manufacturing variants or clusters of attributes are an index

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Note* On the contrary, I believe field observation data collection (along with informant interviewing) is
an excellent research technique, as it did support the monitoring and the recording of actual Kalinga
basketry manufacture, from documenting the gathering resources of raw material, preparation, the starting
points and ending technique involved, the weavers preference for a particular form, as well as the work
environment of weavers. Field observation has an inherent advantage, free from informant bias, if ever
possible. See various discussions (e.g., Bernard 1988, Hayden and Canon 1983, Hodder 1986), of the
merits of non-obtrusive observation measures produce less biased data than informant driven
questionnaires.
for idiosyncratic variability, well represented in the basket sample and supporting analysis that allows the identification of a specific Kalinga basketweaver.

The analysis focused on these variants, distinguishing which of these weaving attributes belong to the specific weaver, either a non-specialist or general basketmaker, or a maglalaga or weaving specialist or expert. Several types of analyses were undertaken to determine the relationship between these techno-manipulative elements, the variability of finishing elements, standardized by the skill attributable to basket specialists and differing between specialists from these villages. The difference I refer to is the extent to which the proportion of weaving attributes within a given specialist type basket are separable or unlike one another, a qualitative and also measurable diversity. This measurable diversity can be further delineated between a basket weaving specialist and one who is not seen as a maglalaga or expert.

Furthermore, basketry variation can then be compared within this particular sample of weavers or in contrast to other samples from other areas in the Cordillera such as the Ifugao, for example.

Basketry products known to be uniquely Kalinga and made only by Kalinga weaving specialists, such as the labnak or winnowing baskets, the langaya a rice holding and carrying basket, and the pasiking or backpacks from these villages were compared. Overall weaving techniques employed on these specific baskets were identified as a twill-plaited technique, a two over two-element interval of construction. In the rare occasion that a different element interval was employed it was verified. The most identifiable characteristic of these baskets was in the finishing of the selvage as
either a cut or a self-selvage technique. the final attachment of the rim elements and the choice in the rim binding was also identifiable.

The analysis demonstrates that there are strong isomorphisms that can be perceived between similar basket types. The technical attributes by which apparently similar baskets specimens can be distinguished that may seem minor and inconsequential are important, because it is precisely these details that tend to be most localized in occurrence. most conservative, identified and easily isolated.

With this understanding of the probable behavioral meaning of these clusters of attributes and of the techno-manipulative morphological variations in Kalinga basketry as the delimiters between weavers. it becomes possible to ask more interesting questions.

Finding non-plaited objects in the Kalinga basketry inventory in the form of coiled baskets called the *ulbunig* as a trade item coming from the Ifugao represents the most heterogeneous category in the analysis. A component that posses no commonality except that they are coiled and do not belong in the overall Kalinga weaving industry. Coiling as a weaving technology was discussed only from general field observations of visible construction attributes and differences in these attributes specific to these particular Ifugao coiled baskets as trade items found in the household inventory. Interestingly, in spite of the limitations of a small assemblage, certain weaving attributes were diagnostic for individual weaving idiosyncrasies, based upon observable attributes in the choice of foundation and sewing elements as previously discussed (Chapter Four). Being individually owned and considered of heirloom value, no other
diagnostic analysis was applied. No specimens were collected for the Arizona State Museum.

Future research interests may involve comparative analysis between the basket industries among the Kalinga and Ifugao weavers, in identifying specific technomannipulative stylistic differences, production, trade and other potential ethnoarchaeological interests in the context of diversity or variability in Cordillera material culture and behavior patterning of craftmakers. However, to interpret the variability of basketry technology and morphology requires the researcher to understand both the dynamics of their production and the kind of behaviors or messages that can be actively coded or passively reflected in different aspects of their final form and weaving technology.

In the microcosm of the Kalinga, baskets can evidence many behavioral processes, ecological, economic and historical events. Essential to developing this understanding are behaviorally relevant basketry systematics, emphasizing production steps, manufacturing decisions, manufacturing attributes, clusters of attributes, towards the building of middle range theory that uses these criteria to map formal basketry variation to behavioral processes.

The Analysis of the Kalinga Basketry Plaiting Industry Assemblage

In analyzing the technology behind the Kalinga basketry industry, the assemblage was divided into these three major classes or techniques: plaited, coiled and twined. The analysis of Kalinga basketry technology have examined and further delimited the presence
of plaiting, and the absence and exclusion of certain weaving technologies, that of pure coiled and twined baskets - specific to the microcosm of the Kalinga basketmakers repertoire.

The technology of plaiting was again further divided into technological types within the category of the specific technique, ascribable to either the general basketmaker or the maglalaga or weaving specialist, by mastering the complexity of the twill-plaited weave and the production of specific forms.

The process of analysis reduces the assemblage into progressively smaller units thereby increasing greater taxonomic analysis, precision and resolution primary to the analysis of the Kalinga basketry industry discussed in this chapter.

The Mechanics of Typing

To facilitate this process, a standardized form was adapted from (Adovasio 1977: 100-103), and revised specific to the requirements in analyzing the Kalinga Basketry Collection. All pertinent data were recorded on these forms that permit coding from which statistical data were further produced, compared and analyzed. Each basket type in the Kalinga Basketry Collection was analyzed and given specific categories based on overall weaving technique and construction attributes, thereby delimiting the different basket types attributed to either a general basketmaker and a skilled maglalaga or specialist weaver.

The typology generated was based on a native Kalinga classification, specific to functional categories as well as to the specific weaving technology employed.
systematizing the analytical operation to insure uniform compilation of these attributes and facilitate the process of tabulating, and quantifying data (see previous Figure No.3.10 on Kalinga Basketry Typology).

The cluster of attributes that was used to classify the Kalinga Basket Collection is presented here. The criterion for analysis of these attributes such as shape or form of the basket, flexibility or rigidity of the weave, the presence or absence of decorative elements, the application of dyes, paint or pitch etc. have been employed with widely varying degrees of success (see Adovasio. Gunn et al 1976: Adovasio Carlisle and Andrews: 1978). The methodology and criteria for analysis submitted here can be applied and modified for any ethnographic collection or, with limitations, to an archaeological assemblage as well.

Specific to this research, any and every Kalinga basket type is assumed to have several distinct parts - the most significant is the main body of the basket, defined exclusively by the major attribute of construction. The main body of a basket is easily distinguishable from other parts such as finished rim, selvage, foot, base or center or starting point. These distinctions may become arbitrary depending on the form: shape or function, for example: as in Kalinga sleeping mats were there really is no starting point. Sleeping mats for example are atypical of the entire major portion of a plaited weave and subsumes everything that is not clearly a finished edge, corner or center.
General Kalinga Basketry Characteristics

A summary of general Kalinga basketry morphology is provided so as to identify common attributes elemental to the analysis of a Kalinga basket.

Body Weaves: Two major technological plaiting categories have been found to occur among Kalinga baskets: simple-plaited and twill-plaited, and further delimited by the variations found within these categories. These techniques are discussed in detail in the following section on the analysis of plaiting as used by the Kalinga basketmaker.

First, a general basketmaker's work is characterized by a simple plaited vertical weave where the warp elements run along the center of the basket and usually differ in width providing the structural and rigid elements from the width of the weft or the active element. This is synonymous with the terms simple plaited, stake and strand and or sometimes wickerwork.*

To begin a piece with a finished edge, each of the elements or strands to be used is folded into a right angle (as in Figure No. 5.1). Figure 1.a, the second element is placed over one side of the first strand Fig 1.b; then third element is placed over the same side of the second strand and under the left side of the first element Fig.1.c, and so forth. In Figure 1.d additional elements are then added and interwoven into the checkerboard structure until the desired size is achieved. In the following schematics, the elements are shaded on one side and spaced for clarity, but they will fit firmly against each other in the finished item.

Note:
The definitions relevant to Kalinga basketry techniques have been adapted from Adovasio (1970, 1975, 1978); Mason (1900, 1901, 1904, 1908, 1909); Morris and Burgh (1941); Jason and Pirngadie (1912).
Elemental to the Kalinga weaver is a variation in simple plaiting, a technique commonly known as "checkerwork" or plain (flexible) weave. It is a 1/1 element interval and a one over one engagement, synonymous to "checkerplait" or "checkerboard" and characteristic of Kalinga sleeping mats or *obv fok*. purposely doubled over for extra padding. This technique is exclusive to checkerwork made with a balanced plain weave.

Figure No. 5.1 Method of Starting, Shaping and Finishing
Simple Plaited Basketry

Figure 1.a

Figure 1.b

Figure 1.c

Figure 1.d
Another variation in plaiting with notably rigid elements is sometimes called wickerware or stake and strand, but the term has also been applied to many different types of rigid twining, making it imprecise and taxonomically useless. Rigid simple plaiting is a common type of weave employed by the general Kalinga basketmaker.

Figure No 5.2 Above variations on a rigid simple open-plait technique locally termed as imug ug achiw

Second, ascribable to the Kalinga magalaga or the specialist weaver, is a diagonal or oblique twill-plait where the warp and weft, located at opposite and equal angles to the basket axis are indistinguishable from each other and are both active elements. It is synonymous to the twill-plait (e.g., 2/2, 2/3, 3/3 etc.) Element engagement can differ, but is predominantly a twill-plaited 2/2 (meaning two over two engagement), locally termed as tinayango and illustrated below (Figure No. 5.3):

Figure No. 5.3: The tinayango or twill-plait technique
Furthermore, the intrinsic characteristic between rattan and bamboo as a choice of material is dependent upon the basket type. Rattan is more pliable, sturdier and stronger than bamboo. Bamboo tends to fracture when the elements are folder over for example, in a finishing selvage while rattan does not. Bamboo is more rigid and therefore more commonly used for rigid plaiting.

Weaving Attributes or Elements: Such as: Rims, Strap Loops, Foot and Bases

The morphology of Kalinga baskets and the structural differences between these two common weaves: simple-plait and the twill-plait technique, is logically determined by the prime importance of the attachment of a rim. Rims found among weaving specialist type baskets are far more developed structurally and technologically more complex providing a reinforcing structure common (necessary) to all heavy burden/container baskets, rice winnowing baskets and backpacks.

A limited number of twill plaits is used by the Kalinga with the most common being a 2/2 interlacing, also called a 2/2 (twill plait) element engagement, that produces the “herringbone” pattern, used until the top of the basket where the rim is secured.

In twill-plaited baskets found without an actual rim, finishing is accomplished by what is called a selvage or a “finished edge” specific to Kalinga woven backpacks, the pasiking. A technique called a self-selvage is commonly employed, depending on the preference of the weaver.

Rim elements consist of a specific number of hoops or rods, held together by one or more woven filaments of braided rattan. It is these rims that have been found to
be aspecific to the Kalinga weaving specialist and is an identifying idiosyncratic finishing element. Though none of the Kalinga utilitarian baskets are decorated, using techno-manipulative attributes in Kalinga baskets show potential for investigating technology in interpreting theories of style. These "stylistic" finishing elements are technological attributes found specific to Kalinga winnowing baskets found right underneath the "psuedo" coiled rims (photographed in Figure No. 5.4 Variations in Finishing Stitches). These weaving elements have been found to figure greatly in the analysis in investigating variability among individual specialist weavers.

Figure No. 5.4 Variations in Finishing Stitches in Winnowing Baskets

These examples show three different final stitching by three different weaving specialists. The other measure (though not visible) is the internal structure of how these

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¹ I use the word *stylistic* here, only to denote a specialist weaver's individual preference for a technological maneuver in the basket construction as a reinforcing element in finishing his basket rim.
so-called coiled rims are constructed, previously discussed in (Chapter Four) on coiled selvages, also as a cluster of attributes unique to individual Kalinga weavers.

In contrast to backpacks or the *pasiking*, the "rims" (actually the finished edge) on these twill-plaited baskets are self-selvage finishes where the ends are folded back into the main body, providing a doubled-over rim finish and reinforced with a finishing stitch (or at times clipped before the finishing stitch is attached) see Figure No. 5.5. This complex rim type requires a certain degree of skill and sophistication, providing an edge for an attached lid. This reinforcing element is held in place by a number of braided rattan elements. These cluster of elements have also been correspondingly found to be a diagnostic idiosyncratic element.

Figure No. 5.5 Unlidded Type Backpack Or *Pasiking* With Top Detail Of Finished Self-Selvage With A Final Reinforcing False Braid Stitch
Predominant Rim Categories

The main rim hoops or rattan rods are set over and on either side of the plaiting which is pressed in and held tightly together by the binding. It is positioned above the basket top of all rice containers and burden baskets.

The smaller, secondary hoop and halved rattan rods hold all the plaiting elements. These secondary rim elements are fastened to both the plaiting and the main rim by the binding element. This binding is a made of rattan termed by (Mason 1909:26-27) as a Malay knot type, a similar attribute commonly found in his study of Malaysian basketwork. The most common of these are seen in most rice carrying baskets with a twill-plaited technique, a finishing stitch termed as “mousing” by (Mason 1909: 27. Fig.4b), see following Figure No. 5.6 (with Profile and Top-Side Views).

Figure No. 5.6 Detail of Finishing Specific to a Kalinga Rice Container/Carrying Basket Profile
Another predominant variant that is found only in Kalinga winnowing baskets is a coiled rim finish (Figure No. 5.7). The rims found on Kalinga winnowing baskets, what I call a "pseudo-coiled" rim, is technically a wrapping type of stitch that binds a bundled foundation together (similar to a coiled rim finish in coiled baskets) except this is in combination with an over all twill-plaited body. Internal coiled rim elements as in the choice of foundation elements are also diagnostic and several variants can be identified.

Figure No. 5.7 Pseudo Coiled Rims on Winnowing Baskets
On a Twill-Plaited Body
These particular rim finishes have been found to be consistent and standardized idiosyncratic attributes that can be identified specific to the each and every Kalinga specialist weaver. Because no two individuals ever execute these clusters of attributes that make the rim in precisely the same fashion, such as whipping stitches, splices, or foundation elements, are individual and idiosyncratic. Indeed, even if all winnowing baskets all seem to look alike, by virtue of the twill-plait technique, they potentially have great utility in delineating macro and micro ethnic social boundaries.

Carrying strap and strap loops

Strap loops are made for baskets like satchels and backpacks. Where present, braided loops are fastened on the side of the carrying satchel baskets or at the back of the backpack as carrying loops. Braided carrying straps in backpacks are illustrative of most of the intentional shifts found in Kalinga plaiting forms, from a 2/2 interval to a widening 2/3 interval then back again to a 2/2 interval.

Large baskets are made of a rigid skeleton of either bamboo and or of rattan: and this provides a sturdy framework. In rice carrying and holding baskets where the technique is a tight twill-plait: a foot or base is attached to provide structural reinforcement.

Most baskets for rice and agricultural produce are balanced on top a Kalinga woman’s head and are not found with handles.
Shape

In spite of their great variety of shapes, Kalinga baskets form a coherent morphological group. The shape of diagonal twill plaited baskets is very much determined by that of the basket bottom and can either be square, narrow or wide, rarely rectangular. Thus, for the same rim and bottom size, a short basket may appear almost cubic, while a high one appears cylindrical. Convex and concave basket sides are due to manipulations of elements and the transitioning of shifts that may alter, or include the move from an open to a close weave, or one weave type to another. Therefore, all this manipulations can be identified.

Shapes that are rare or absent among the Kalinga, include those with exaggerated flaring rims, four footed bases with square bottoms (e.g., Benguet or Ibaloi, Ifugao), and in the rare occasion one is found in-use in the Kalinga household, the non-Kalinga type is quite obvious. Kalinga informants almost always will offer information about a non-Kalinga type basket whether purchased, given as a gift or traded.

Decoration and the Limited Use of Color in Kalinga Basketweaving

Specialist weavers have an aesthetic perception and appreciation of other weaver’s work as being refined. Among Kalinga weavers the choice in technique or the execution of the choice of weave provides the geometric visual impact seen in most Kalinga baskets. Interlacing the weaving element at oblique angles makes a “herringbone” pattern. The variations or shifts, on the use of this weave can produce other geometric patterns.
Decoration is not characteristic of Kalinga utilitarian baskets and are not decorated either by color or by the use of decorative over plaiting elements. But the use of brilliant color is more common in Kalinga fabric weaving. Decorative elements are a rarity in Kalinga utilitarian baskets *per se*, but have been documented historically in bachelor hats called the *apagok*, photographed here (Figure No. 5.8) from the Fowler Museum Collection. (Hamilton 1998:125).

Figure No. 5.8 Kalinga "bachelor hat" called an *apagok* also called a *katagang*

14 cm.

Plaited construction, rattan with color elements
Fowler Museum of Cultural History Collection (Cat. no. FMCH X961.71)
Gift from the Ventura County Museum of History and Art
Photo reproduced with permission after (Hamilton 1998:125)

Traditional Kalinga bachelor hats are rarely found among the Kalinga today, whether or not they were of widespread use in Southern Kalinga and were specifically used to identify eligible village bachelors has been inferred from historical documentation. Such baskets are in museum collections at The NMNH in the
Smithsonian, The Fowler Museum and The Arturo de Santos Collection (a Filipino family private collection).

Woven hats are common to other Cordillera groups; these bachelor hats are also found among the Bontoc (Jenks 1905, III) called the *suklong* (see following photograph Figure No. 5.9). This particular hat is decorated with a boar’s tusk, dogteeth and on occasion chicken feathers. The Bontoc boy through a rite of passage is given his first hat at the age of six or seven until he is married and the hat changes to a plain one (sensu Jenks 1905). These hats double as pockets for personal items such as tobacco or for chewing betel nut.

Figure No. 5.9 Ifugao “bachelors hat” called a *suklong*

Twined construction material is a rattan, boars and dogs tooth
Fowler Museum of Cultural History Collection (Cat. No.FMCH X96.5-53
Photo reproduced with permission after Hamilton (1998:124)
Why Is Plaiting A Preferred Technique Among The Kalinga

The popularity of plaiting among Kalinga weavers rests in the evidence found in the variety of twenty-two (22) functional forms in the Kalinga basketry industry repertoire and is conceivably dependent upon the facility of the technique as Kalinga children first learn to make simple fish trap baskets using a simple plaited technique.

Despite the absence of pure coiled and twined baskets in the assemblage, the assumption that Kalinga weavers are not capable of using these other weaving techniques, is not a true measure of their skill. It is apparent that they use both twining and coiling techniques, but specific only as twined knots and ties to further strengthen and separate weaving elements in their plaited baskets. The use of coiling is further restricted and found only on the coiled rim in winnowing baskets; in the use and placement of a rod or bundle foundation, in combination with twill plaiting as the overall technique.

When asked, the Kalinga weaver's claim they can make coiled baskets like the Bontoc or the Ifugao, but choose not to because it is not the Kalinga way. Cordillera groups can identify which type of basket belongs to a specific ethnicity (e.g., Kalinga, Bontoc, Ifugao, Benguet etc.). The function of a basket plays a pivotal role in the interpretations we make about these groups and their material culture as well.

At a minimum, this suggests that the extension of morphology to utilitarian containers indicate increased variation that may also be used in identifying social groups. Clearly this analysis is based upon a well provenienced ethnographic collection of whole specimens and with specific functional categories. The fragmented nature of archaeological assemblages can prove to be very difficult but not impossible to analyze.
There are reasons to think that the Cordillera groups, including the Kalinga, have borrowed some pre-existing methods and patterns, some of which have undergone little change, but that they also have invented their own designs, partly drawing on a common Kalinga or what one can call a Cordillera "stylistic" pool.

In relation to pottery, technological information is transferred within a "teaching framework" (sensu Schiffer and Skibo 1987:597). The adoptions of a new ceramic technology, even by experienced craftspeople, generally entails the acquisition of an idea, the manipulative practice, the formation of motor habits and most importantly, the existence of a receptive social and cultural setting (e.g., Arnold 1981; Lechtman 1974; Schiffer and Skibo 1987; Wright 1984).

Pottery technology transfer is often the product of a personal interaction among potters (e.g., Rice 1980; Zedeno 1995). In relation to weaving this is found true among Kalinga basketweavers who produce their products under a common template or shared technological knowledge [e.g., as well as among Cherokee basketweavers, see Hill (1997); and among the Pomo, see Mc Lendon and Holland (1979); Mc Lendon and Lowy (1978)]. In contrast to pottery, the biggest difference between these crafts is that the techno-manipulative attributes in weaving are always physically present, visible and can be isolated and identified. Though seemingly similar techniques are found among these weavers, there is always an identifying element that is uniquely their own. An example is seen in the process of how one Kalinga weaver may form or bundle his foundation elements in the formation of a winnowing basket rim, or his final whipstitch underneath the rim, which differs from another weaver.
It would be imprudent to stray into the style and function debate but the communicative performance of pottery vessels, for example, have come to occupy an important position in functional analyses. Short of being of being criticized by making an over-generalization regarding this matter, it is a safe assumption that there are underlying messaging performances of certain weaving attributes in Kalinga baskets and among Kalinga specialist weavers.

Morphology and decoration are often lumped together in the realm of style\(^2\), in whatever style is defined to be (see Hegmon 1992 for a discussion on style). Yet stylistic elements, those of decoration and form have the capacity for performance in certain activities, and to a certain extent applicable, to Kalinga and Cordillera baskets.

In the wake of Wobst’s seminal paper (1977), style is now associated with communication (cf. Binford 1989; Dunnell 1989). Several examples of this association are Beaudry’s (1988) and Wonderley’s (1986) study of Post Classic Maya polychrome and bichrome pottery; and recently Pryor and Carr (1995) analyzed the basketry of Northern California Indians in the interpretation of stylistic processes. Both conclude that there is a relationship between design executions, the limited corpus of decorative

\(^2\) The difficulty of defining style or design variability per se, and finding the plethora of approaches in defining artifact variability or decorative stylistic analysis - the semantics is troubling and problematic. Archaeologists and anthropologists, particularly in pottery studies differ in the interpretation and the separation between technique or execution versus content has not been delineated - treatments in interpretation emphasize the latter. Virtually all definitions of design/style emphasize communication and information transfer. I will take it to mean that style is how you do something - style is any distinctive and therefore recognizable way in which an act is performed or an artifact is made (see related definitions of artifact variability driven by the premise of the potter’s performance e.g., Rice 1984; Schiffer and Skibo 1997; Van der Leeuw 1984). This definition alone is already up to scrutiny and unfortunately again it offers an endless variability in the interpretation of what is style.
motifs, and the function of vessels to signal group affiliation. Likewise, Crown (1994:195-209) has presented several models in which Salado Polychrome, a Southwestern prehistoric ceramic style, served as a marker in the following settings: a trade alliance system, a religious system and an ethnic system. It is of interest to explore that there might be the same possibilities in a craft such as basketry, as discussed for example in Pomo basket stylistic processes, analysis and interpretation (see Pryor and Carr 1995:260-261), in contrast to pottery.

Kalinga specialist weavers of backpacks claim that the covered or lidded type *pasiking* is a new form. Older Kalinga men say that the older *pasiking* did not have lids or covers, but through the years some weavers have adopted a specific stylistic preference for a lid. Kalinga weavers produce both basket types and individual weavers are known for their specific specialty and their refined work. It would be difficult to trace the origins of this new form as the same type basket is found among the other Cordillera groups. At the level of the individual, the weaver’s preference of a certain form, design or choice of material in basket construction has proven to be an essential determinant of basket “style” (see Pryor and Carr 1995:259-294), in determining individual style preferences in decorative elements among Pomo basketweavers. From this perspective a Kalinga weaver’s technological “style” is brought about by several factors: from his own personal history, as does his contacts with other weavers or their products. Determining patterns of enculturation and stylistic continuity over time and space are important factors to be considered.
Morphology is a feature along with painted decoration that is demonstrably sensitive to temporal change in pottery (e.g., Braidwood and Braidwood 1960; Binford 1962; Haury 1976: 97; Sinopoli 1991). Orton et al (1993:153) warn that it may not be possible to transfer the chronology of pottery from one group to another.

In the case of basketry in the Cordillera where the neighboring Bontoc and Ifugao make coiled baskets but the Kalinga who do not but know of the technique.

This difference apparently relates to different interaction and information exchange among the Bontoc, Ifugao and the Kalinga. Identifying “stylistic” attributes that are affected by these different processes is predictable from the Cordillera groups by the visibility of their decisions in manufacturing choices. A discussion of stylistic differences between the Cordillera groups is not the focus of this research. It is of interest that local Cordillera groups can identify the origins of basketry forms that are either local or belonging to other groups. At the village level, ethnicity as a product of both boundary maintenance behaviors between groups and processes promotes solidarity within groups and can influence stylistic patterns (e.g., Pryor 1987:147-152, 168; Washburn 1995:101-121, Weissner 1983).

Identifying the influences of both macro level and micro-level stylistic processes is essential to building any theory of style (e.g., see Carr 1995:171-250, Roe 1995:27-70). Basketry as a medium of understanding style has great inherent potential and has proven to be effective (e.g., Pryor and Carr 1995).
The Range of Kalinga Plaited Basket Forms

The Kalinga range of basketry forms is relatively great as twenty container-type forms have been found that are plaited in the assemblage, and this does not include the miscellaneous non-container type woven articles that are simple-plaited or braided. The degree of technical sophistication between that of simple versus twill plaiting and the combination of plaiting elements (e.g., rims finishes, number of elements and spacing of elements, placements etc.) is apparent and indicative of the preference of the Kalinga weaver for a specific weaving technique. This is further supported by the large number of several plaited variants as well as functional categories found in the Kalinga basketry repertoire.

The principal products of the plaiting technique are "light, flexible and easily transportable containers", such as mats, winnowing baskets, burden baskets, fish traps and chicken coops and nesting baskets and even house walls. Plaiting clearly represents the preferred manufacturing technique for Kalinga basketry production and it is the most vital and heavily exploited component of the Kalinga basket making industry.

<table>
<thead>
<tr>
<th>Kalinga percentages of the distribution of plaiting technology:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baskets that are Simple (rigid) plaiting</td>
</tr>
<tr>
<td>Baskets that are Simple (flexible) plaiting</td>
</tr>
<tr>
<td>Total simple plaited products by the general basketmaker</td>
</tr>
<tr>
<td>Total Twill plaited Baskets made by specialists</td>
</tr>
</tbody>
</table>
A total of 5408 complete baskets and related woven objects were inventoried from a total of 244 households of which 99.7% were assignable to plaiting, and or related to plaiting (i.e. braiding). For distribution of Kalinga baskets by plaiting technology see (Table no. 5.1). The Kalinga basketry industry is represented by (22) type forms, of which (3) forms are non-containers but are found to be related braided objects: with the exception of one non-Kalinga container type form, these (8) items are coiled jar-shaped rice storage “heirloom” baskets, that were inventoried and individually traded items from the Ifugao Two (2) of the non-Kalinga container type forms adopted from lowland Ilocanos were sometimes adopted by the Kalinga specialist weaver, but woven in the specific Kalinga twill-plaited technique, that of the inchayon (cradle) and tampipi (woven storage for clothing). For distribution by weaver, basket type and weaving technology see (Table No. 5.2).
Table No 5.1 Distribution of Kalinga Baskets by Plaiting Technology

<table>
<thead>
<tr>
<th>Basket Types</th>
<th>Number of Baskets</th>
<th>Plaiting technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Langaya</td>
<td>452</td>
<td>Twill plaiting 2/2 interval</td>
</tr>
<tr>
<td>Lakfya or lakba</td>
<td>195</td>
<td>Twill-plait 2/2 interval</td>
</tr>
<tr>
<td>Labnak</td>
<td>321</td>
<td>Twill-plait 2/2 interval</td>
</tr>
<tr>
<td>Lukgud</td>
<td>161</td>
<td>Twill-plait 2/2/ interval</td>
</tr>
<tr>
<td>Talupao or jamus</td>
<td>160</td>
<td>Twill-plait 2/2/ interval</td>
</tr>
<tr>
<td>Kobkobong</td>
<td>728</td>
<td>Simple rigid plaiting</td>
</tr>
<tr>
<td>Saktung</td>
<td>133</td>
<td>Open twill plait 2/2</td>
</tr>
<tr>
<td>Kagongkong</td>
<td>280</td>
<td>Simple rigid plaiting</td>
</tr>
<tr>
<td>Fuku yut chi manuk</td>
<td>197</td>
<td>Simple rigid plaiting</td>
</tr>
<tr>
<td>Pasiking</td>
<td>230</td>
<td>Twill plait 2/2 interval</td>
</tr>
<tr>
<td>Kalupita</td>
<td>10</td>
<td>Twill-plait 2/2 interval</td>
</tr>
<tr>
<td>Alat</td>
<td>85</td>
<td>Simple rigid plaiting</td>
</tr>
<tr>
<td>Udjaey</td>
<td>6</td>
<td>Simple rigid plaiting</td>
</tr>
<tr>
<td>Tampipi</td>
<td>11</td>
<td>Kalinga types are twill-plaited 2/2 interval</td>
</tr>
<tr>
<td>Fyaloku</td>
<td>153</td>
<td>Simple rigid plaiting</td>
</tr>
<tr>
<td>Kalatoy</td>
<td>11</td>
<td>Bamboo pole used as a carrying pole for carrying baskets on either end.</td>
</tr>
<tr>
<td>Inchayon</td>
<td>24</td>
<td>Simple rigid plaiting</td>
</tr>
<tr>
<td>Chikon</td>
<td>484</td>
<td>Simple rigid braid</td>
</tr>
<tr>
<td>Balukag</td>
<td>1016</td>
<td>Flexible simple plait, with rigid bundled foundation</td>
</tr>
<tr>
<td>Patutay</td>
<td>191</td>
<td>Simple rigid braid</td>
</tr>
<tr>
<td>Sleeping mats*</td>
<td>187</td>
<td>Flexible simple plaiting</td>
</tr>
<tr>
<td></td>
<td><strong>5024</strong></td>
<td><strong>Total Inventoried</strong></td>
</tr>
</tbody>
</table>

Note:

*Lowland sleeping mats are purchased in Tabuk and most are brought in from the lowlands where pandanus sleeping mat making is a commercialized industry. The Kalinga villages of Magsilay, Bagtayan and Balenciagao make local sleeping mats and are also a source for the “doughnut" type pot rests.
Table No. 5.2 Basketry Forms Specific to Basketweaver

<table>
<thead>
<tr>
<th>Non-Specialist General Basket Maker</th>
<th>Weaving Specialist* Basket Forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>a'lat - storage basket for old heirloom coconut shell food bowls: size and shape vary: open rigid simple-plait basket</td>
<td>lang'aya – rice holding, carrying, deep walls, round rim and bottom twill-plait with rigid elements</td>
</tr>
<tr>
<td>fya'loku, carrying basket for soil and, or rice seedlings with attached wooden handles: rigid simple-plait</td>
<td>lak'pfya or lak'ba – rice holding, carrying shallow walls, round rim and bottom twill-plait</td>
</tr>
<tr>
<td>pada pad, or pacha pad - sieve. rigid simple-plait</td>
<td>luk'gud – rice holding, carrying shallow walls, round rim/square bottom twill-plait</td>
</tr>
<tr>
<td>kagong'kong or chicken nesting baskets rigid simple-plait</td>
<td>lab'nak (winnowing baskets) flat square tray twill-plait</td>
</tr>
<tr>
<td>fuk'yut chi manuk or chicken coop rigid simple-plait</td>
<td>t'ul'upao or ja'mus – food, vegetable holding round rim, shallow conical bottom, twill-plait</td>
</tr>
<tr>
<td>kob kob'ong or small fish traps used in ricefields rigid simple-plait</td>
<td>pasi'king. open or lidded backpack basket twill-plait</td>
</tr>
<tr>
<td>ud'jaey or eel traps, rigid simple-plait</td>
<td>sak'nung, snail sieve open twill-plait</td>
</tr>
<tr>
<td>balu'kag. pot stands simple-plait wrapped on bundled foundation</td>
<td>kalupita, shoulder or waist satchel bag (1, 2. or 3 part), twill-plait</td>
</tr>
<tr>
<td>chi'kon. braided hot pot rests rigid simple-braid</td>
<td>tampo'pi, rectangular two part &quot;suitcase&quot; used for storing clothes etc. twill-plait if locally produced</td>
</tr>
<tr>
<td>patu'lay. braided hot pot holders rigid simple-braid</td>
<td>in'chayon, baby cradle deep walls/elongated oval rim: hexagonal rigid open plait. lowland trade item, also locally produced by a weaving specialist</td>
</tr>
<tr>
<td>allut. woven house charms</td>
<td>*weaving specialists also make general basketmakers forms for their own household use</td>
</tr>
</tbody>
</table>
Coiling technology is severely restricted and is only reflected in the Kalinga basketry industry as a minor component. What may have been a technique used by the Kalinga in the past, may have been phased out and abandoned among current Kalinga weavers. There is documentation (Worchester 1912: 1913) that the Kalinga in the Lubuagan area, which had shared boundaries with the Bontoc and Ifugao, may have assimilated the coiling technique or some part of it. At this level it is found that the Bontoc and the Ifugao share a basketry technique that is maintained within their boundaries, while the Kalingas who overall do not employ coiling. The technique continues to be popular between the Bontoc and Ifugao who today still use the technique for traditional forms headed for a commercial market. Ethnicity seems to promote boundary maintenance in a specific weaving technology behavior at least among these groups.

As another import, Chinese porcelain jars (ca 16th Century), has long been prized as a lowland traded item and used as containers for local sugarcane or rice wine and valued as heirlooms, a sign of wealth and prestige commonly shared among Cordillera groups.

These similarly shaped woven baskets may be indicative that these specific forms that have been adopted as a template by a select group of earlier Cordillera weavers may have given some preferential consumer status at one time or another.

The Kalinga household basketry inventory reveal the presence of traded coiled baskets found in the in the specific shape of Chinese Jar-like storage baskets from the Ifugao that may have been a popular consumer item in the past. Only older baskets are now
considered heirlooms among the Ifugao and the Kalinga, but as a technique coiling is not a "preferred" weaving technology among Kalinga weavers.

Twining as a pure technique found common to more pliable carrying bags is rarely found among any of the Cordillera groups, including the Southern Kalinga. They are not found in the Kalinga Basketry Industry and depauperate as a technique used by Kalinga basketmakers, reflected by the minor occurrence of reinforcing simple twined ties specific to eel and larger fish traps that are always in combination with the predominant rigid plaiting technique. This segment of twining as a weaving technology among the Kalinga is undiagnostic.

Woven riverine and locust traps have been abandoned and both functional categories have been phased out. Locust swarms were common in the past and is a food delicacy. The new eel trap made for the KEP Collection project is now at the Arizona State Museum (ASM Cat. no.88-77-672), and the older locust baskets collected for the Arizona State Museum are from Dangtalan; a newer one was woven especially for the KEP by the same basket maker (ASM Cat No. 88-77-689).

I had asked Kalinga weavers at the time of field research (1988) why there were no eel or larger fish traps in the household basketry inventory, given the documentation of eel as a delicacy in the Kalinga diet in the past. This absence was due to river pollution by mine tailings and the extinction of river fauna such as fresh water eels, larger fish and shrimp. These food sources were a rarity and have affected the Kalinga diet, up until recently. Today the Pasil River is no longer polluted and supports a large number of stocked *tilapia*. 
Delia Batalao (1999 personal communication) a Kalinga originally from Dangtalan now living in the United States, informed me that sometime in 1996 there was a landslide across from the sitio of Puapo adjacent to Dangtalan and in the process blocked some of the water from upstream forming a lake. The local Kalingas have stocked it with an imported cycloid, *tilapia*. Currently, the village project is doing well and whether this encourages an overall resurgence of weaving fish traps remains to be seen.

The Preference in Forms

The popularity of the *labnak* or winnowing basket, a tray-like form among the Kalinga, and the use of this particular basket by other Cordillera groups is brought about by the functional necessity in rice processing. After the rice grains have been hand-pounded, tossing a tray full of grain into the air and quickly catching it allows the lighter chaff to blow away, separating it from the grain.

However, the popularity of this form also reflects its importance in sun drying beans, coffee, or meat or as a serving tray for rice in communal family meals. It is involved as a serving tray for rice cakes during village feasting for *bodong* or peace pact celebrations, weddings and funerals, as local villagers and visiting guests from other Kalinga villages are fed.

Large container baskets such as the *langaya*, *lukgud* and the *lakfyä* by virtue of their size and carrying capacity are multi-use heavy burden baskets for rice, sweet potato or *camote*, coffee, or in the transport of unfired pots to the open-firing area by potters. These basket types are common and popular in every Kalinga household and
are normally carried and balanced on top a Kalinga woman’s head. The occurrence of functional forms for specific household purposes such as: fukyut chi manuk or chicken coops, kagongkong or nesting baskets, and the balukag, chikon or pot stands and pot rests, as well as kob kobong or small fish traps are likewise popular. See the following (Table No. 5.3) on the distribution of basketry containers and non-containers by Pasil villages. This data was derived from the household basketry inventory.

My field observations have revealed basketry forms that are on the wane: basket plates, otherwise known as jam-jamus or tal-talupao usually lined with fresh banana leaves are now being replaced by plastic or enamel plates. Similarly, coconut half-shell food bowls or chuyug are not as common as earlier and are slowly being replaced by plastic bowls. The preference for the younger Kalingas for a regular western carrying bag or backpack versus the traditionally woven pasiking seems to show a changing modern Kalinga perspective. Though the popularity of pasiking production by specialized weavers for purposes of outside trade has intensified, local use among the Pasil Kalinga has waned and is limited to one per household as reflected in the distribution table (Table No. 5.3).
Table No. 5.3 Distribution of Basketry Containers and Woven Non-Containers
Functional Categories by Pasil Villages

<table>
<thead>
<tr>
<th>Village</th>
<th>Dangtalan</th>
<th>Puapo*</th>
<th>Dalupa</th>
<th>Guinaang</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of households</td>
<td>72</td>
<td>19</td>
<td>79</td>
<td>110</td>
<td>280</td>
</tr>
<tr>
<td>Total number of households inventoried</td>
<td>66</td>
<td>15</td>
<td>67</td>
<td>95</td>
<td>244</td>
</tr>
<tr>
<td>Basket Types</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Langaya</td>
<td>107</td>
<td>66</td>
<td>106</td>
<td>173</td>
<td>452</td>
</tr>
<tr>
<td>Lakfya or lakba</td>
<td>33</td>
<td>17</td>
<td>50</td>
<td>95</td>
<td>195</td>
</tr>
<tr>
<td>Labnak</td>
<td>93</td>
<td>22</td>
<td>99</td>
<td>117</td>
<td>321</td>
</tr>
<tr>
<td>Lukgud</td>
<td>26</td>
<td>1</td>
<td>111</td>
<td>23</td>
<td>161</td>
</tr>
<tr>
<td>Talupao</td>
<td>25</td>
<td>14</td>
<td>32</td>
<td>89</td>
<td>160</td>
</tr>
<tr>
<td>Kobkobong</td>
<td>219</td>
<td>8</td>
<td>168</td>
<td>333</td>
<td>728</td>
</tr>
<tr>
<td>Saknunng</td>
<td>43</td>
<td>9</td>
<td>34</td>
<td>47</td>
<td>133</td>
</tr>
<tr>
<td>Kagongkong</td>
<td>72</td>
<td>20</td>
<td>69</td>
<td>119</td>
<td>280</td>
</tr>
<tr>
<td>Fukyut chi manuk</td>
<td>77</td>
<td>17</td>
<td>33</td>
<td>70</td>
<td>197</td>
</tr>
<tr>
<td>Pasikcing</td>
<td>45</td>
<td>18</td>
<td>43</td>
<td>124</td>
<td>230</td>
</tr>
<tr>
<td>Kulpita</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Alat</td>
<td>22</td>
<td>4</td>
<td>6</td>
<td>53</td>
<td>85</td>
</tr>
<tr>
<td>Udjaey</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Tampipi</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Fvaloku</td>
<td>36</td>
<td>12</td>
<td>23</td>
<td>82</td>
<td>153</td>
</tr>
<tr>
<td>Kalatoy Note: Is a bamboo carrying pole for two baskets, similar to the Ifugao form called a &quot;gimata&quot; but is a specific functional form of a pair of baskets among the Ifugao attached to a bamboo pole. To the Kalinga it is just that, a carrying pole and the baskets attached to it may vary</td>
<td>4</td>
<td>7</td>
<td>-11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inchayon</td>
<td>3</td>
<td>3</td>
<td>18</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Chikon</td>
<td>138</td>
<td>18</td>
<td>221</td>
<td>107</td>
<td>484</td>
</tr>
<tr>
<td>Balukag</td>
<td>302</td>
<td>43</td>
<td>255</td>
<td>416</td>
<td>1016</td>
</tr>
<tr>
<td>Patutay</td>
<td>46</td>
<td>9</td>
<td>56</td>
<td>80</td>
<td>191</td>
</tr>
<tr>
<td>Ulbung (Ifugao trade item)</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Ovfok or sleeping mats</td>
<td>54</td>
<td>9</td>
<td>61</td>
<td>72</td>
<td>187</td>
</tr>
<tr>
<td>Total baskets and related woven articles per village</td>
<td>1269</td>
<td>290</td>
<td>1377</td>
<td>2044</td>
<td>5024</td>
</tr>
</tbody>
</table>

Note: Bold figures indicate popular occurrence of basket types.
*Puapo is a small settlement or sitio adjacent to Dangtalan and is considered to be part of the village of Dangtalan
Attrition Wear and Mending

Most of the baskets in-use among Kalinga households exhibit wear to varying degrees on one or both surfaces. I have observed, a winnowing abrasion pattern seen in some of the older winnowing baskets (Figure No. 5.10). The abrasion pattern is unique found only in winnowing baskets and is due to the repeated motion involved in winnowing rice. An experiment in attrition patterning could prove to be interesting when a different grain product other than rice is used.

Figure No.5.10 Detail Of Attrition Pattern On A Winnowing Basket or labnak

The following household observations show that sooting is a common occurrence in most Kalinga baskets stored within the household, as most baskets when not in use are stored in roof rafters were the constant firing of the cooking hearth causes this occurrence. In addition, they were sometimes rubbed with animal fat as a waterproofing preservative and this oily coat accelerated the accumulation of soot. The end
result of a basket in regular contact with human hands was a deep brown patina that could not be achieved in any other way (Figure No. 5.11). In the case of baskets that were infrequently handled and left in storage, the encrustation of soot was so great that the baskets turned a solid black so the rattan and bamboo are almost obscure.

Figure No.5.11 Patina of the Accumulation of Soot
When pigs fat is applied for waterproofing.

Heavy container/burden or carrying baskets and mats have moderate to heavy attrition wear on one or both surfaces and hot pot rests tend to show some charring. Mechanics of mending are seen in some minor repairs but major repairs are unlikely on plaited baskets. Minor repairs are made by splicing either bamboo or rattan and these
elements are incorporated into the basket on sections or portions that need repair. Mending is not a common occurrence observed among Kalinga basket users, as they are able to replace them when the need arises. Minor repairs observed in some household baskets were found specific to "specialist" basket types that are either traded for or purchased, and are in areas that are normally exposed to regular abrasion (e.g., rim handles, basket corners, bases and foot attachments).

Traditional Kalinga house walls are built of flattened bamboo woven in a plaited weave that has been known to last over fifty years. Though major repairs are uncommon, most involve sectional replacements that are woven in as most of these sectional repairs are from insect damage, some accidental charring caused by the use of a gas or kerosene lamp or the occasional damage by seasonal tropical typhoons. Common among the Kalinga is the recycling of housing materials: entire houses are dismantled and moved to a new location if need be. In the last twenty years, traditionally woven house-wall constructions are slowly being replaced by wood plank sidings or tabla and galvanized metal sheet roofs. Seen to be a lowland influence their use is increasing and a seemingly new "prestige" item among the more affluent Kalinga. Changing perceptions of household wealth, status and prestige has been discussed elsewhere (Dozier 1966, 1967, Trostel 1989, 1994).

It is apparent that the Kalinga basketry industry shows the importance of specific functional basket types that revolve around rice production, processing and storage. In the event that a larger container specialist type basket is needed and not found in one household, one is borrowed from a neighboring household. The processing
of rice is a communal project, from the harvesting, threshing, and pounding of rice stalks on dry hides of water buffalo or *kurabao* used as mats for covering the ground, to the pounding of the rice in a mortar with a pestle, to the winnowing of rice. These processes involve specific basket types, as they also encourage socialization. camaraderie and gossip among the women and young girls who participate in it. It also provides a learning framework for the younger children to watch their mothers and siblings process and winnow rice.

Plaiting Distribution Between The Kalinga Specialist And The Non-Specialist Weaver

Plaited basketry forms and functional types between the Kalinga non-specialist or general basketmaker and the specialist weaver or *maglalaga* were allocated to three structural types based on interval engagement, rigidity and flexibility of the weave: that is, simple (flexible) plaiting 1/1 (e.g., checkerwork); simple (rigid) plaiting; and 2/2 twill plaiting:

- Simple plaiting flexible 1/1 (one over one element interval). synonymous to checkerboard or plain basketweave. common form: matting (e.g., sleeping mats). Predominant material: pandanus Technique: non-specialist or general basketmaker

- Simple rigid plaiting 1/1 (one over one element interval). synonymous to stake and strand, a combination of rigid and flexible elements; or both rigid elements. Materials: predominant use of bamboo, or in some instances some rattan for ties, and for flexibility, as rattan does not fracture even when it is dry, as does bamboo, specially when used as a tie or bent as reinforcing material. Kalinga baskets that are predominantly made of bamboo is normally woven when the bamboo is freshly cut and is most flexible. Technique: non-specialist or general basketmaker

- Twill plait 2/2 (two element engagement, two over two interval engagement), ascribable to the *maglalaga* or weaving specialists. Though uncommon, shifts to
a 2/3. or 3/3 twill plait has been observed (on some *pasiking* baskets). Most of these are accidental shifts, and not intentional alterations, unless determined that the shifts are for a particular purpose (carrying straps in the *pasiking*), or to achieve a different (design) pattern which is rare among the Kalinga. In the event an intentional shift or alteration was made it was recorded.

Technique: specialist (twill-plait)
Materials: predominant is rattan, bamboo.

Of the three plaiting types present in the Kalinga basketry industry, two are simple plaiting variants and the other is a twill plait. Collectively simple plaiting account for 75.7% of the sample: 51.8% for rigid simple-plait, 23.9% for flexible simple-plait), and the remaining 24.3% to twill plaiting 2/2 interval element engagement.

Additionally, plaited specimens were analyzed for selvage treatments, shifts, and methods in preparation of elements, form, wear patterns, function, mechanics of mending and the presence or absence of color or decorative patterns (rarely found in Kalinga utilitarian baskets).

They were further delimited by what type form is perceived by the Kalinga themselves as products of a non-specialist and specialist (see Table No 5.4), ascribable to the status of *maglalaga* or also know as the expert basketweaver."

**To do this, an easy field experiment was conducted between the men and women of the village. I gathered baskets for a “show and tell”. I asked them to identify which they considered a *maglalaga* form, or weaving technique versus one that was made and can be made by any Kalinga male. In most instances they identified the type of weave, the weaver (likewise the name if available), provenience, whether purchased, for how much and or what it was traded for (further supported by the Household basketry inventory data collected). Individual interviews were also conducted among specialist weavers specifically to investigate individual specialties.**
Table No. 5.4 Distribution of Basketry Between General Non-Specialist and Kalinga Weaving Specialists

Total Number of Households 280  
Total Number of Household Inventoried 244

<table>
<thead>
<tr>
<th>Basket Types</th>
<th>Total Baskets</th>
<th>Non-Specialist</th>
<th>Specialist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Langaya</td>
<td>452</td>
<td>452</td>
<td></td>
</tr>
<tr>
<td>Lakfya or lakba</td>
<td>195</td>
<td>195</td>
<td></td>
</tr>
<tr>
<td>Labnak</td>
<td>321</td>
<td>321</td>
<td></td>
</tr>
<tr>
<td>Lukgud</td>
<td>161</td>
<td>161</td>
<td></td>
</tr>
<tr>
<td>Talupao</td>
<td>160</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Kobkobong</td>
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<td>728</td>
<td></td>
</tr>
<tr>
<td>Saknunng</td>
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<td></td>
<td>133</td>
</tr>
<tr>
<td>Kagongkong</td>
<td>280</td>
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<td></td>
</tr>
<tr>
<td>Fukyut chi manuk</td>
<td>197</td>
<td>197</td>
<td></td>
</tr>
<tr>
<td>Pasiking</td>
<td>230</td>
<td></td>
<td>230</td>
</tr>
<tr>
<td>Kalupita</td>
<td>10</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Alat</td>
<td>85</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>Udjaey</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Tampipi*</td>
<td>11</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Fyaloku</td>
<td>153</td>
<td>153</td>
<td></td>
</tr>
<tr>
<td>Inchayon*</td>
<td>24</td>
<td></td>
<td>24</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>3146</strong></td>
<td><strong>1449</strong></td>
<td><strong>1697</strong></td>
</tr>
</tbody>
</table>

Note: Ilocano trade items, mostly purchased and these forms sometimes adopted by some Kalinga specialist weavers, though woven in a twill-plait technique and not a simple-plait.
The Kalinga *maglalaga* as Craft Specialist

Craft Specialization: Definition and Measurement

In the American Southwest, the highly elaborate basketry manufactured during the pre-ceramic period had an important role in defining social status and defining social relationships (Hays-Gilpin 1993). The social consequences of basketry may have slowed the adoption of pottery as an innovation in material culture, although ceramic containers never superseded all of the functions of baskets and basket manufacture continued into the historic period. Although pottery and basketry are correlated (Driver and Massey 1957:231), careful dating reveals that ceramics and probably basketry precede agriculture in some societies and postdate agriculture in others (e.g., Arnold 1985; Birket-Smith 1965; Brown 1989:211).

Very little theoretical attention has been paid in the past to the conditions under which craft specialization specifically of basketry arise. As one form of economic intensification, Kalinga craft specialization (i.e. basketry and pottery) involves a series of organizational changes in a particular society’s social and technological systems, and how the craft is consumed and distributed (Longacre and Skibo 1994; and Stark in Dalupa 1993).

Craft specialization and agricultural intensification often occur as a pair and is a common form of economic intensification that has been discussed extensively in the context of pottery production useful to ceramic archaeologists. Again, very little is known and rarely investigated in regards to specialization in basketry production as it relates to processes of economic intensification specifically among agriculturists.
I focus on basketry specialization as it relates to processes of economic intensification, and is defined as increases in productivity and in production that involve the social, political and economic spheres. Intensification processes in these spheres have been inferred throughout the evolution of human organization and have been extensively discussed in archaeological literature (e.g., Bender 1981, 1985; Brumfiel and Earle 1987; Knapp 1990; Renfrew 1982).

The growing demand brought about by the ongoing shrinkage in the number of resources is almost always accompanied by status competition through trade and wealth accumulation. Therefore the access and control over the means of production is relevant to studies of social and political complexity (e.g., in basketry see Dransart 1994; Milgram 1997) or state formation (e.g., in pottery see Arnold 1992; Brumfiel 1980; Wright 1986).

The argument I make to explain the emergence of basketry as a craft technology is based on economics, in the sense of cultural materialism and perhaps also in cultural ecology. Small-scale tribal societies like the Kalinga, analogous to a neolithic society, relies on the critical distinction between specialists and non-specialists in the production of basketry and pottery and intensive agriculturists transitioning from a past subsistence economy of hunting, foraging and swiddening, and from a dry to a wet-rice production system. A concomitant result is an extensive variety in the functional categories in the Kalinga material culture repertoire, that of basketmakers and potters.

Variability in types of specialization in basketry is rarely discussed in the ethnographic and archaeological literature, except in specific site situations alongside
pottery (e.g., Adovasio, Hyland et al 1997; Hyland and Adovasio 1995; King 1991; Soffer et al). It does give a skewed picture of the occurrence of basketmakers and the products they produce, if at all specialized — as it rarely links the causality and the uniqueness of the product and the patterning of behavior. The interpretations and measurements vary in the existing literature predominant in ceramic studies (e.g., Arnold 1987; Brumfiel and Earle 1987: Costin 1991: Rice 1981).

The broad focus of Costin's definition (1991) of craft specialization is most useful as a parallel, at the onset of the investigation of Kalinga basketry production and specialization:

...It is a differentiated, regularized, permanent and probably institutionalized production system in which producers depend on extra-household exchange relationships at least in part for their livelihood, and consumers depend on them for acquisition of goods they do not produce themselves (Costin 1991:4)....

Further focusing on Kalinga basketry specialization, as one form of economic intensification, when archaeologists encounter evidence for craft production for example, specific to pottery, the presence of polishing stones and lumps of unfired clay — the tendency is to assume that such evidence implies not only production but perhaps specialization.

In prehistoric basketry, in the event the assemblage is considered representational, production is inferred but the implications for specialization are rarely understood. It is understandable that the situation is more problematic in regards to the indirect evidence of basketry. Whether it is an impression in clay, the presence of awls, borers, or knives, the situation makes it even more complex for the archaeologist to even infer the existence of basketry as an artifact. Nor does the representative
occurrence of a specific technology type or manufacturing technique of the woven artifact provide evidence of a social group’s preference for a manufacturing technique. It is not reliable as it gives us a skewed picture of its representation, by virtue for example, of an intrinsic differential preservation as in coiled baskets due to the tightness of the weave.

Specific to basketry, the incentives behind intensification processes are important topics in research of changing (prehistoric) social relations, but so poorly understood. It is understandably far more explored and investigated in ceramics (specific to Kalinga pottery see Longacre and Skibo 1994 for overview: pottery production, specialization and intensification for Dalupa pottery see Stark 1993).

Understanding the conditions under which craft specialization ensue interests a wide range of anthropologists, whether they are ethnographers, cultural and economic anthropologists, as well as archaeologists. Models of craft production rely heavily on ethnographic case studies to develop typologies and models of production, yet again predominated by pottery. Drawing from previous Kalinga pottery research by the KEP, this Kalinga case is valuable because of the abundant documentation available on parameters that pottery studies commonly employ, such as context, concentration, scale and intensity. In the Kalinga context, that basketry and pottery production are found alongside each other is even more intriguing.

Specialization among Kalinga weavers, gender specific to Kalinga males, is built upon an overall basic skill of simple plaiting, learned from childhood either through play or imitation. One of the first skills they acquire is the weaving of simple
plaited fish traps, as you might say, a "building block" mental template, which they use in play and ultimately in serious food gathering. As they make the transition to adulthood, these men then master the manufacturing technique of most of the items necessary for normal day to day living, from the making of traps, nesting baskets, chicken coops, to the construction of house walls, that are plaited and woven of split bamboo (see Barton 1922:423; Scott 1966, 104,105).

When one Kalinga weaver specializes, it is predictable he will pick a form that is traditionally viewed by the Kalingas themselves as the product of a specialist basketweaver: winnowing baskets, rice holding and container baskets or backpacks. The decision to specialize and intensify production is heavily dependent upon economic reasons.

One implication of this research is that Kalinga basketweavers product specialization at the onset was rather the result of fewer, highly skilled basketweavers producing more difficult basket forms as part-time specialists. Specific specialist baskets still serve as holding containers, for winnowing rice and are still geared towards local village or inter village use, consumption and trade.

Although there has been a handful of emerging weaving specialists today that have intensified production of the pasiking or backpack, they are most often younger Kalingas influenced by a local or lowland trader bound for a regional tourist market. Kalinga weaving specialization in general, does not appear to be in an atmosphere of a transition towards a fully intensified commercialized specialist production, but there is a palpable hint of change towards that direction.
In the total of 3146 container type baskets found within the Kalinga basketry inventory data; 1697 baskets inventoried were ascribed to the *maglalaga* or specialist weavers (non-Kalinga trade items were not included).

In the following analyses of the correlates of specialization to the measurement of standardization in Kalinga baskets: first, basket function and its technological attributes were held constant, specifically delimited by the large and popular occurrence of the *labnak* or winnowing baskets, the *langaya*, a traditional Kalinga rice holding and carrying basket, and the *pasiking* or backpack. Second, the analysis is supported by the representative data from the basket collection housed at the ASM and third, the collected field data on specialist weavers while living in Kalinga.

These types of baskets were chosen for several reasons: winnowing baskets; rice holding/carrying baskets; and backpacks are all recognized in Kalinga as common Kalinga specialist forms, used in almost all Kalinga households, well represented and made by a number of known weaving specialists or *maglalaga*.

A large representative collection of these specific basket types was investigated for individual idiosyncratic attributes in weaving technology (e.g., selvage treatments, shifts, whipping stitch, or finishing elements) that may seem minor and inconsequential, but are important, because it is precisely these details that tend to be most localized in occurrence, most conservative and identifiable. These basketry forms available for analyses have visible idiosyncratic and culturally determined techno-manipulative attributes specific to investigating individual specialists technological differences within the same basket type.
Kalinga Basketry as a Standardized Craft in the Microcosm of the Kalinga Specialist

Examining the initial investigation of basketry standardization as the outgrowth of specialized production by the Kalinga basket weaving specialists, is a dimension of research common in archaeological ceramic production research (e.g., Hagstrum 1985, Hegmon et al 1991, Longacre et al 1999, Mills and Crown 1995; Rathje and Schiffer 1982; Rice 1981), but rarely investigated in basketry production nor applied specific to the measurement of basketry weaving technology.

The technical attributes by which apparently similar baskets specimens can be distinguished may seem minor and inconsequential, but they are important, because it is precisely these details that tend to be most localized in occurrence, most conservative and standardized. A high degree of uniformity, observable in Kalinga basketry products is related to technological, functional, individual and social factors. Examples of a specific type Kalinga basket could be judged as standardized by both makers and users, yet vary in several respects: as specific basket forms are produced by either a maglalaga or weaving specialist or those forms made by a non-specialist. Among specialists the idiosyncratic variability is most observable in similar basket types.

Standardization research specific to basketwork is rare, and is limited to decorative and stylistic components in the interpretation and topical issues on style. One example as in the use of cordage and fabric in the American Southwest in an effort to develop middle range theory of style with attention to visibility and interpretation of isochrestic and symbolic fabric weaving attributes (e.g., Carr and Neitzel 1995; Carr and Maslowski 1995). Another example is in the analysis of design clusters in basketry
from the Northern California Pomo Indians used in the development of style theory by Pryor and Carr (1995). Basketry standardization has not been investigated ethnoarchaeologically, specific to techno-manipulative attributes and its potential correlation with technical specialists skill and standardized products.

I have analyzed Kalinga basketry technology and production, and the discovery of the specific (twill-plait) technique attributed to Kalinga weaving specialists has been examined. Basic assumptions regarding variability in basketry and the relationship to production technology remain untested and are examined here through morphological standardization in the basketry types produced by the Kalinga weaving specialists. Implicit in studies of morphological variability is the assumption that differences in certain attributes reflect differences in the production levels and the degree of skill involved.

Ethnoarchaeological research provides the impetus in the beginnings of generating important inferences regarding relationships between the patterning of behavior and material culture, specific to Kalinga basket makers. Identifying part-time specialization (and associated exchange networks) in the small-scale societies like the Kalinga may be equally informative in understanding the prehistory of basketry production. This is a misunderstood and under-represented artifact by virtue of its organic nature. I hope to provide archaeologists with a key for understanding the transition from simple weavers to complex weaving specialist technology and its probable links to socio-economic and political complexity.
Since we now know that the Kalinga maglalaga or weaving specialists make specific baskets, the question one may ask is, Is his product standardized? Although examples of ceramic specialization and its correlation to standardization in both ethnographic and archaeological literature abound, using basketry for analysis alongside or in contrast to pottery has never been investigated. This topic intrigues me and with prudent applicability towards answering the initial question, it is explored.

Conservatively, for this matter only the formal characteristics, such as size, shape, and weaving technique have been strongly observed and linked. I also believe that the mastery of the specific plaiting technique, that is twill plaiting - as it correlates with motor skill in the repetition of these techno-manipulative attributes are all associated with the production of a standardized product.

As the scale of production increases and as the Kalinga weaving specialist produces a greater number of baskets, the weaving technique becomes more routinized and skill levels increase resulting in more standardization (in pottery see Hill 1977; Sinopoli 1988: 582). From this perspective, routinization is probably responsible for decreased variability in the products produced by Kalinga weaving specialists (in pottery, also see Longacre 1999: 44-58).

Technological or mechanical variables in basketry are probably (and are in pottery studies) most directly related to product specialization, and most often measured in ceramic standardization research (e.g., Costin and Hagstrum 1995; Rice 1989).

In this microcosm, I therefore will assume that standardization of forms may indicate specialist production applicable to Kalinga basketry, specific to morphological
attributes or clusters of attributes that are measurable and quantifiable and have been found specific to the Kalinga specialist. The Kalinga weaver's relationship with any type of basket is predicated on and conditioned by the fact that all of the weaver's manufacturing choices are physically represented in the finished specimen.

I need to reiterate that there are limitations to archaeological application as this is an ethnographic collection of whole specimens, well provenienced and supported by well-documented ethnographic data.

How does one measure specialization and its correlates with standardization more effectively among Kalinga basketweavers in the absence of other comparative examples specific to research on basketry technology and the links to the processes of basketry production specialization and standardization?

There are a few studies of basketry specialization such as the investigation of coiling as a technique in prehistoric context among the Anasazi, by Adovasio and Gunn (1976) and Adovasio et al (1978)\(^1\) or in the interpretation and definitions of style with the use of decorative basketry elements. For a discussion and the interesting use of standardized decorative attributes in the comparison of "style" in Pomo basketry, in the

\(^{1}\) Adovasio and J.D. Gunn 1976; 1975a:1975b; and Adovasio, Carlisle and Andrews 1978 work on Antelope house a multi-component site in Canyon de Chelly. Previous research on Anasazi basketry has suggested, that the evolution of the basketry industry is more or less typologically standardized across the Anasazi domain. Specifically it has been generally accepted as "writ" that during any particular chronological period, whether Basketmaker II or Pueblo III times, that the industry was standard. Largely because of Morris and Burgh (1941), it was generally believed that coiling was the predominant Anasazi production technology specially during Pueblo III times; while plaiting and twining were relatively insignificant. Despite several indications to the contrary, these views have been perpetuated to the present. Recent analyses (Adovasio and Gunn et al. 1976) of the very extensive and exceptionally well preserved basketry assemblage from Antelope House, tend to cast serious doubt on the widely held assumptions that coiling was the "standard". At Antelope House case, in the final analysis, plaiting was the dominant technique employed.
definition and building of style theory, the reader is directed to Carr and Neitzel's (1995). archaeological and ethnological perspectives on Style, Society and Person.

Following the work of ceramic standardization research provided guidelines about the initial applicable tool for measuring what ceramic researchers define as standardization (give or take some minor adjustments in vessel versus basket forms, metric attributes, size, shape or volume, technological weaving attributes and the manufacturing process). Thus as a craft (and artifact), examining basketry standardization may seem to be viable if not significant, as weaving is technically exacting, definitely measurable, is almost always mechanically visible and is perhaps standardized. What makes basketry a unique craft or artifact are the specific attributes of manufacture that are never lost in the production process. They are so distinct from the choice of raw material, to the manufacturing technique employed, even as specific as the direction of the weaving attribute - the sum total is the finished basket.

Recent ceramic research has demonstrated, not surprisingly, that ceramic production and its relationship to standardization are complex issues, are multi dimensional concepts and their relationships by no means constant. In the American Southwest specialist producers may have produced greater standardization and may have been the result of either fewer potters producing a given vessel form or from many potters producing highly uniform products. A number of archaeologists also assume that specialists are labor efficient and intensive and were responsible for the application of decorative designs that are standardized elements on luxury goods (e.g., Hagstrum 1985: Rice 1981: table 1 as quoted by Crown 1995:147).
Costin and Hagstrum (1995) argue that standardization may have resulted from the necessity of producing pottery vessels with specific physical and or social functions or from efficient manufacturing steps associated with production organization. They further suggest that researchers separate the former intentional standardization from mechanical standardization. If potters intentionally standardized their products via clay selection, form and decorative style, in contrast to mechanical specialization, which includes attributes such as material selection and preparation unrelated to performance characteristics, minor color variations, size within a size/form class or volume.

It has been suggested that archaeologists interested in measuring organization of pottery production should concentrate on the attributes of mechanical standardization to examine production organization. For example, Crown (1995:147), has successfully examined the production of Salado polychromes (a prehistoric Southwest American style), and the efficiency of design execution and standardization of forms, (via coefficients of variations of metric attributes of vessel form) as the product of specialist potters.

Greatly encouraged by the work of previous ceramic archaeologists measuring the links between standardization and specialization (e.g., D. Arnold and Nieves 1992; Benco 1988; Crown 1995; Longacre 1999; Longacre et al 1988; Rice 1991; Shepard 1958), this investigation using Kalinga weaving specialist made baskets is initiated as this question is asked: Would I find similar links between the resulting basketry products made by Kalinga weaving specialists? And, indeed are these baskets standardized.
To examine Kalinga basketry specialization and standardization, the collection was divided into what was viewed by the Kalinga themselves as products of weaving specialists or of the *maglalaga* versus those that were products of non-specialists. Specialist basket form categories combined with morphological attributes such as the use of a particular weaving (mechanical) technique, twill-plaiting and the execution of rim finishes, finishing stitches, or selvage treatments. These were found to be idiosyncratic elements delineating these types as specialist baskets. Size variations were likewise investigated.

A total of five specialists forms were well-represented in sufficient amounts for this study in the form of three rice holding and container baskets (the *langaya, lakfya*, and *lukgud*), the *labnak*, or winnowing baskets and the backpack or *pasiking* being products of the *maglalaga*. I further delimited the sample to three specific Kalinga basket types that the Kalinga perceive as traditional and are deep-rooted forms among the Kalinga: the *langaya, labnak* and the *pasiking*. Because the *lakfya* and the *lukgud* have since been adopted shapes by the Kalinga similar to what is found among the other Cordillera groups and lowland Ilocano.

These morphological forms were then subdivided into size categories (small-medium or large), or what was termed by the Kalingas as a "regular" size: as Kalingas do not conventionally assign volumetric size classes to their baskets. There are observable shape and size differences among basketry types as well as structural attributes directly related to functional diversity.
By examining and differentiating a particular type of mechanical weaving technology among Kalinga specialists, that is twill plaiting, standardization can be measured and identified through the study of weaving attributes; such as the size of weaving elements, rim finishes and selvage treatments (specific to winnowing baskets, rice container/holding baskets, and backpacks), that have been found to be consistent and identifiable among Kalinga weaving specialists.

Product standardization is defined in pottery studies as the degree to which one form of vessel exhibits uniformity from one object to the next, and that is probably applicable to basketry. Standardization studies on morphology are especially intriguing whether it be in Kalinga pottery or basketry since forming behavior requires the use of technological skills that are largely unconscious and without the help of a measuring device. How standardization is measured varies according to the attributes investigated and specific to this interest on basketry morphology and weaving technology. Implicit in studies of morphological variability is the assumption that differences in certain attributes reflect differences in productivity levels and the degree of skill involved.

Kalinga basket specialists produce specific types, and this supports the argument that specialist producers produce greater standardization as the result of fewer specialist basketweavers producing a specific form (i.e., backpacks, winnowing baskets and rice holding and container baskets).

In the interest of an initial investigation in the measurement of basketry standardization, this section examines one dimension of standardization that is metric morphological data collected in the study area. In the absence of other comparative
research examples in basketry standardization techniques, it is necessary to define statistical goals by establishing technique and to define benchmarks, constraints and recommendations.

Descriptive statistics are presented here for discovering size variability for functional types: that of winnowing baskets or the *labnak*: a holding and carrying basket called the *langaya*; and the backpack or *pasiking* at the following levels:

1. found between the villages of Dangtalan, Dalupa and Guinaang
2. the weaving workforce of specialists. The sample to examine each variability varies, and (3) intervillage comparisons are made.

These include sample means, standard deviation (s.d.) and coefficients of variation (c.v.). The coefficient of variation describes the homogeneity of the sample by dividing the sample's standard deviation by its mean (Blalock 1979:84) and may present a picture of variability for possible size differences and other measurable attributes between samples, if any exist.

Further, I examine data from these three villages in the same culture area, where specialist weavers use similar weaving technologies to produce the same traditional functional categories based on a defined range of sizes.

This analysis examines basketry in these functional categories by specific weaving specialists that have been identified and found in the basket sample inventoried from these villages. Weaving specialists utilize the same raw material (rattan), practice the same twill-plait technique, produce a specific basket type and in a narrow range of sizes. Weavers do not use a measuring device in the making of their baskets but seem to
share a common “mental template” in size categories; it is for this purpose that this initial investigation between standardization of basketry products to weaving specialists is initiated so as to see if there are links between them. Attention is focused only on these functional categories that are known to be specialist type baskets ascribable to specifically known weaving specialists. The identification of specific specialist weavers producing similar basket types was further analyzed for idiosyncratic techno-manipulative attributes previously discussed to support technological variability and possible relationship to individual skill.

**Variability by Functional Category**

Most Kalinga weaving specialists devote most of their weaving to making square winnowing baskets, or the labnak, the langaya a rice carrying and container basket with a round rim, a conical body cut at its base supported by a smaller round base and the pasiking or the backpack of rather a rectangular shape that can be found either with or without a lid. These forms comprise the largest functional groups of basket types inventoried from these villages. There are differentiating demands for these baskets, at times seasonal and the choice to specialize is both individual and economic. Morphological size attributes that distinguish these functional types are described within each similar basket category, as basketweaving specialists may produce similar functional types, in the same twill-plait technique but may differ in dimensions, in as much as Kalinga basketweavers do not measure basket size by actual volume but by
visual size categories. This will provide benchmark data for comparison between individual specialists, village and intervillage samples that follow.

Winnowing baskets are presented in (Table No. 5.5) and (Table No. 5.6) as a common specialist basket found in almost all households and a representative sample of these labnak baskets were identified to their specific makers. There are clear trends that are evident from these samples and size classes fall within the Kalinga range of “small-medium” and “regular”. Coefficient of variation values for these square baskets are uniform among individual winnowing baskets, falling within the range in a Kalinga “regular” size category.

The dimensions for Sanganab (Specialist 1), considered locally by the Kalinga as “expert” are most significant. A c.v. value of .008 cm in length and width values, suggests increased standardization within “regular” sized winnowing baskets as they are almost identical in dimensions. This is also probably dependent upon the frequency and efficiency with which they are produced. He is considered a high intensity producer as the Kalinga see him trade his winnowing baskets most often in Pasil villages. He is a popular winnowing basket source among Dangtalan, Dalupa and Guinaang villagers as further evidenced in the Household Inventory. The villages of Tulgao where Sanganab and his uncle, Banig, are from, is known for winnowing baskets, as most baskets in the sample are provenienced from there.

His uncle, Banig, produces both size categories “small-medium” and the “regular” size winnowing baskets. Like Sanganab, his baskets are also standardized. Because several winnowing basket specialists are evidenced in the inventory, this
category is appropriate for comparing basket dimensions between them. The low c.v. values suggest that the relationship among winnowing basket specialists is robust. Even when a random sample of winnowing baskets was pooled in intervillage comparisons from Dangtalan, Dalupa and Guinaang the results show a significant standardization in the “regular” size category (see Figure Table No. 5.5).

There is a trend that, among specialists, these weavers do try to achieve a standard size in winnowing baskets. In the “small-medium” size of winnowing baskets, the pooled c.v. values for intravillage comparison shows a low percentage (10% or less) of variation.

This pattern may also be explained by the large proportion of winnowing baskets in the three villages that are from Tulgao. It is possible that specialist weavers of specific types of baskets within a village master certain size categories perhaps standardized winnowing baskets are expected by village consumers in a growing monetized economy. Since these specialist baskets are mostly purchased for cash, certain size standards need to be met to meet market demand.

It is apparent that weaving skill is directly related to product standardization at least from the perspective of size categories. Whether or not weaving skill increases steadily through time and by age is not as clear. As both younger and older weaving specialists produce the same size baskets. Perhaps the greatest variability is in individual techno-manipulative attributes that are diagnostic for idiosyncratic variability in finishing techniques and not relevant for size measurements. Investigating individual stylistic variability is worth a future exercise.
Table No. 5.5 Variability in Size Categories in Winnowing Baskets by Village
Pooled Statistics for All Villages

<table>
<thead>
<tr>
<th>Village</th>
<th>No. of Samples and Size Terms</th>
<th>Length (x) (cm)</th>
<th>Width (y) (cm)</th>
<th>Height (cm)</th>
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</thead>
<tbody>
<tr>
<td>Dangtalan</td>
<td>38 &quot;regular&quot;</td>
<td>mean 56.39</td>
<td>mean 56.35</td>
<td>mean 7.37</td>
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<tr>
<td></td>
<td></td>
<td>s.d. 2.05</td>
<td>s.d. 2.19</td>
<td>s.d. 0.94</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c.v. 0.036</td>
<td>c.v. 0.038</td>
<td>c.v. 0.128</td>
</tr>
<tr>
<td>Dangtalan</td>
<td>15 &quot;small&quot;- &quot;medium&quot;</td>
<td>mean 47.16</td>
<td>mean 47.66</td>
<td>mean 6.16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>s.d. 3.13</td>
<td>s.d. 2.86</td>
<td>s.d. 0.68</td>
</tr>
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<td></td>
<td></td>
<td>c.v. 0.066</td>
<td>c.v. 0.060</td>
<td>c.v. 0.111</td>
</tr>
<tr>
<td>Dalupa</td>
<td>38 &quot;regular&quot;</td>
<td>mean 57.03</td>
<td>mean 57.02</td>
<td>mean 7.62</td>
</tr>
<tr>
<td></td>
<td></td>
<td>s.d. 2.54c</td>
<td>s.d. 2.50</td>
<td>s.d. 0.86</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c.v. 0.04</td>
<td>c.v. 0.04</td>
<td>c.v. 0.113</td>
</tr>
<tr>
<td>Dalupa</td>
<td>15 &quot;small&quot;- &quot;medium&quot;</td>
<td>mean 49.16</td>
<td>mean 49.16</td>
<td>mean 6.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>s.d. 2.67</td>
<td>s.d. 1.95</td>
<td>s.d. 0.47</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c.v. 0.054</td>
<td>c.v. 0.039</td>
<td>c.v. 0.074</td>
</tr>
<tr>
<td>Guinaang</td>
<td>38 &quot;regular&quot;</td>
<td>mean 56.83</td>
<td>mean 56.77</td>
<td>mean 7.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>s.d. 2.18</td>
<td>s.d. 2.05</td>
<td>s.d. 1.24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c.v. 0.038</td>
<td>c.v. 0.036</td>
<td>c.v. 0.171</td>
</tr>
<tr>
<td>Guinaang</td>
<td>15 &quot;small&quot;- &quot;medium&quot;</td>
<td>mean 48.14</td>
<td>mean 48.57</td>
<td>mean 6.14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>s.d. 3.52</td>
<td>s.d. 3.06</td>
<td>s.d. 0.83</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c.v. 0.073</td>
<td>c.v. 0.063</td>
<td>c.v. 0.135</td>
</tr>
</tbody>
</table>
Table No. 5.6 Variability in Size of Square Winnowing Baskets by Individual Kalinga Weaving Specialists

<table>
<thead>
<tr>
<th>Weaving Specialist</th>
<th>No. of Samples and Size Terms</th>
<th>Length (x) (cm)</th>
<th>Width (y) (cm)</th>
<th>Area (cm)</th>
<th>Range Twill-plait Element (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialist 1 Sanganab 28 yrs.old</td>
<td>48 “regular”</td>
<td>mean 54.79 s.d. 0.476 c.v. .008</td>
<td>mean 54.62 s.d. 0.462 c.v. .008</td>
<td>mean 2993.14 s.d. 46.96 c.v. .015</td>
<td>mean 11.75 s.d. 0.595 c.v. 0.05</td>
</tr>
<tr>
<td>Specialist 2 Banig 50 yrs.old</td>
<td>22 “small”-“medium”</td>
<td>mean 48.5 s.d. 0.866 c.v. 0.01</td>
<td>mean 48.5 s.d. 1.11 c.v. 0.02</td>
<td>mean 2292.52 s.d. 89.46 c.v. 0.04</td>
<td>mean 11.5 s.d. 0.5 c.v. 0.04</td>
</tr>
<tr>
<td></td>
<td>32 “regular”</td>
<td>mean 56.83 s.d. 1.54 c.v. 0.02</td>
<td>mean 56.41 s.d. 1.78 c.v. 0.03</td>
<td>mean 2871.75 s.d. 969.41 c.v. 0.33</td>
<td>mean 11.8 s.d. 0.89 c.v. 0.07</td>
</tr>
<tr>
<td>Specialist 3 Wattoc 35 yrs.old</td>
<td>24 “regular”</td>
<td>mean 57.65 s.d. 1.45 c.v. 0.02</td>
<td>mean 58.05 s.d. 1.75 c.v. 0.03</td>
<td>mean 3348.92 s.d. 181.85 c.v. 0.05</td>
<td>mean 11.9 s.d. 0.73 c.v. 0.04</td>
</tr>
<tr>
<td>Specialist 4 Langao 23 yrs. old</td>
<td>24 “regular”</td>
<td>mean 56.83 s.d. 2.75 c.v. 0.04</td>
<td>mean 56.72 s.d. 2.57 c.v. 0.04</td>
<td>mean 3230.47 s.d. 290.87 c.v. 0.09</td>
<td>mean 11.88 s.d. 0.56 c.v. 0.04</td>
</tr>
</tbody>
</table>

Note: Specialist 1 and 2 medium to high intensity, Specialist 2 and 3 low to medium intensity

Inspection of the langaya, a traditional Kalinga rice container and carrying basket, shows similar results in pooled statistical samples for inter village comparisons as seen in Table No. 5.7. These baskets are perceived by the Kalinga to belong to a “regular” size category, a large burden basket most often used by women. Volume is not a standard measure among Kalinga weavers.
Table No. 5.7 Variability in Size of the Langaya (burden basket) by Village Distribution (sample size 40 baskets)

<table>
<thead>
<tr>
<th>Langaya Burden Basket Sample</th>
<th>Diameter</th>
<th>Height</th>
<th>Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Langaya Random Sample of 40 Guinaang</td>
<td>mean 46.22, s.d. 2.61, c.v. 0.05</td>
<td>mean 20.70, s.d. 1.61, c.v. 0.07</td>
<td>mean 20.67, s.d. 1.59, c.v. 0.07</td>
</tr>
<tr>
<td>Langaya Random Sample of 40 Dangtalan</td>
<td>mean 48.48, s.d. 3.49, c.v. 0.07</td>
<td>mean 20.87, s.d. 1.79, c.v. 0.08</td>
<td>mean 20.38, s.d. 1.26, c.v. 0.06</td>
</tr>
<tr>
<td>Langaya Random Sample of 40 Dalupa</td>
<td>mean 47.06, s.d. 3.62, c.v. 0.07</td>
<td>Mean 20.22, s.d. 1.31, c.v. 0.06</td>
<td>median 20.14, s.d. 1.38, c.v. 0.068</td>
</tr>
</tbody>
</table>

Certain morphological elements such as bases, reinforcing elements and foot attachments specific to rice carrying baskets are isolated to its form and functional necessity, as most of these baskets are carried on top a woman’s head. For example, for those unfamiliar with Kalinga basket morphology, the decorative looking takod of bundled rattan found midway in the langaya basket’s body, not only reinforces the basket, but also provides a gripping handle in carrying and unloading the heavy contents of the burden basket. Yet this specific element of construction is also idiosyncratic for investigating and delineating individual weavers technological “style”.

The langaya basket is the largest rice holding and carrying basket in the Kalinga basket industry and its popularity is evidenced in the household inventories of three villages in the study. Of 244 households inventoried, a total of 452 baskets were noted.
(see previous Table No. 5. 4 on the distribution of basket types between specialist and non-specialist weavers). My interviews with Kalinga women who use them suggest that the *langaya* is the most preferred of the carrying baskets because of its intrinsic rigidity and durability. It is a large basket for heavy loads of rice or sweet potatoes or other produce, or for carrying pottery to be fired. Central to its construction is its rigid base and the supporting *lakod* previously mentioned. It is an easy basket to carry given its proportions and the heavy load when balanced on top of their heads. They are proud to say that the basket is truly Kalinga. I was amazed and impressed by the strength and the skill of Kalinga women who would easily balance heavy basket loads of rice up and over rice terraces on mountain slopes a considerable distance from their homes or granary storage houses.

The winnowing baskets collected from two separate weavers who are related is a unique cluster of *microtraditions*² from two craft specialists. Banig and Sanganab are both known for their skill in making winnowing baskets. What is unique between these two weavers is, even if they do use the same twill-plaited elements in a 2/2 construction, the rim finishes they employ are uniquely their own. The duplication of twill weaves is similar except for variation in the combination, length and direction of the finishing elements, the whip stitch in their winnowing baskets. These disparities are not unique to the winnowing basket assemblage, as comparative analyses of backpack burden baskets made by specialist *pasiking* weavers reveal similar individual

² My use of the term “microtraditions” Longacre (1981:61) in Kalinga pottery, similarly parallels my use of the term techno-manipulative attributes, individual weaving “signatures” or idiosyncratic markers that are finishing techniques (e.g., basket rims, selvages etc.) ascribable to individual Kalinga weaving specialists.
"signatures". The selvage treatments and finishes among pasiking weavers are uniquely idiosyncratic elements that allow the identification of individual craft specialists.

Among pasiking weavers these woven backpacks popularly called "headhunters baskets" display considerable morphological variability. Both the un-lidded and lidded pasiking were examined, though the lidded type pasiking may be a recent Kalinga innovation. The lidded backpack pasiking among the Kalingas themselves is seen as uniquely their own.

The unlidded pasiking made by two specialists where examined and measurements are shown in the following (Table No. 5.8). There is more metrical variability than in other forms. These data suggest that although these backpack baskets display stylistic uniformity in functional type, they differ largely in size in whole basket dimensions and the use-range of twill-plait elements. This dimensional variability may also be attributed to a low-production intensity. Ceramic studies reveal significant relationships between standardization, skill, experience and production intensity (Longacre 1999:44-58). Another probable explanation is the small sample size.
Table No. 5.8 Variability in Size of the Open Backpack Type Pasiking by Individual Weaving Specialist

<table>
<thead>
<tr>
<th>Open backpack pasiking weavers</th>
<th>Height (cm)</th>
<th>Length (cm)</th>
<th>Width (cm)</th>
<th>Range in Twill-Plait Elements (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alonzo</strong> (55 yrs.old)</td>
<td>mean 33.16</td>
<td>mean 33</td>
<td>mean 20.5</td>
<td>mean 8.6</td>
</tr>
<tr>
<td>Dangtalan &quot;retired&quot; specialist</td>
<td>s.d. 1.24</td>
<td>s.d. 1.19</td>
<td>s.d. 0.88</td>
<td>s.d. 0.48</td>
</tr>
<tr>
<td>11 samples</td>
<td>c.v. 0.037</td>
<td>c.v. 0.024</td>
<td>c.v. 0.038</td>
<td>c.v. 0.05</td>
</tr>
<tr>
<td></td>
<td><strong>Luis</strong> (48 yrs.old)</td>
<td>mean 36.75</td>
<td>mean 32.37</td>
<td>mean 22</td>
</tr>
<tr>
<td>Guinaang occasional active</td>
<td>s.d. 3.15</td>
<td>s.d. 1.86</td>
<td>s.d. 0.97</td>
<td>mean 7.705</td>
</tr>
<tr>
<td>low production</td>
<td>c.v. 0.085</td>
<td>c.v. 0.057</td>
<td>c.v. 0.044</td>
<td>s.d. 2.59</td>
</tr>
<tr>
<td>23 samples</td>
<td></td>
<td></td>
<td></td>
<td>c.v. 0.336</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Quirino is an expert weaver in Guinaang. He weaves highly standardized backpacks in two sizes, large and regular. The low c.v. values demonstrate that he aims for a particular size and is successful in weaving the lidded *pasiking* in an effort to create baskets that are marketable to satisfy his consumers expectations in terms of size and shape.
Table No. 5.9 Variability in Lidded Backpack or Pasiking Specialist weaver Quirino (38 years old) of Guinaang

<table>
<thead>
<tr>
<th></th>
<th>Height (cm)</th>
<th>Length (cm)</th>
<th>Width/Depth (cm)</th>
<th>Twill elements range (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Large&quot; Size</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 samples</td>
<td>mean 54.75 s.d. 0.82</td>
<td>mean 34.75 s.d. 0.82</td>
<td>mean 24.75 s.d. 0.829</td>
<td>mean 8.85 s.d. 0.709 c.v. 0.08</td>
</tr>
<tr>
<td></td>
<td>c.v. 0.015</td>
<td>c.v. 0.023</td>
<td>c.v. 0.033</td>
<td></td>
</tr>
<tr>
<td>&quot;Regular&quot; Size</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36 samples</td>
<td>mean 40.09 s.d. 1.37</td>
<td>mean 26.86 s.d. 2.09</td>
<td>mean 18.95 s.d. 1.29</td>
<td>mean 13.19 s.d. 0.957 c.v. 0.07</td>
</tr>
<tr>
<td></td>
<td>c.v. 0.034</td>
<td>c.v. 0.077</td>
<td>c.v. 0.068</td>
<td></td>
</tr>
</tbody>
</table>

Note: medium to high production intensity

In the absence of other standardization studies in basketry for comparison, this initial observation is supported by the examination of twill plaitsing, ascribable to the Kalinga maglalaga or weaving specialists. Moreover, individual weaving techniques reveal that there are certain diagnostic attributes such as finishing rims, selvage treatments and stitches, as well as size variations that prove that these standards or elements of manufacture attributed to specific Kalinga weaving specialists do exist.

The analysis further supports the nature of the field collection of Kalinga baskets housed at the ASM and a Household Inventory Data of these baskets specific to these types. Measurements such as height, rim circumference in relation to its depth in round
baskets, length and width in square winnowing baskets, and the height, width and depth of woven backpacks were documented.

The large assortment in Kalinga basketry forms is a result of general household production both of the common simple-plaited products of non-specialists and specialist forms in the twill-plait technique. The Kalinga basketry repertoire is indicative of a great variety of specific forms serving specific specialized functions.

The results presented here suggest that highly skilled Kalinga basket weavers produce a few difficult forms by virtue of the mastery of a specific (twill-plait) technology.

There is an advantage in the examination of whole ethnographic specimens. Being able to determine the preference for a manufacturing technique that is employed overall by a single group was possible and successful. This is based upon measurable standardized attributes among specialist weavers' products and the variation of these attributes between specialist weavers.

The dividing line between Kalinga specialists and non-specialists is that specialists use a more complex twill plaited technology to produce certain standard basket types. The refinement of his work is dependent on the mastery of that skill and is a result of the repetition of that particular motor skill and intensified production. A Kalinga may experiment earlier in life with a twill plait technique, and transition to become a weaving specialist, learning and mastery of the twill-plait technique. Specialists' basketry products are not exclusive of Kalinga weaving specialists, but it is rare that a non-specialist will make a complex basket.
The earliest history of basketry in the Cordillera is obscure and little can be said about its origin and the antiquity of the technique among the Kalinga, but it is a safe assumption that the technique goes far back in time. Though the technique of plaiting is a common manufacturing technology shared among the Cordillera groups in general, certain other weaving technologies are definitely more restricted. The borders between Cordillera cultures are less strict in terms of assimilating certain basket forms and possibly technology types. Kalinga basketweavers are adept in telling you which basket forms have been brought in and what is “truly” Kalinga.

Basket weaving is a prolific craft that exists in the Cordillera Region. The types of baskets are numerous and are conditioned by the use of each in various economic pursuits as they fish, hunt and gather, or adopt a more sedentary and agricultural lifeway, towards a more complex village agriculture. The crucial sequential archaeological data are too meager to attempt to determine whether there maybe some kind of correlation between basketry and transitions in village development. Determining necessary or sufficient conditions or testing models about village agriculture must await the results of future investigations. Unfortunately, one of the most important problems encountered by the basket analysis and from a prehistoric perspective, is comparability of data since most published information of most perishable components of many archaeological assemblages is often lacking or is incomplete.

Whether Kalinga basketry is simple or twill-plaited, it appears to be an established fact that no two Kalinga weavers ever manufactured their basketry in precisely the same
fashion. The technical attributes by which apparently similar baskets specimens can be distinguished, that may seem minor and inconsequential, have been important in this research, because it is precisely these details that tend to be most localized in occurrence, most conservative. Not only is this ethnographically demonstrable from a Kalinga microcosm, it probably is archaeologically valid as well.

The analysis of basketry can provide high-resolution information on such specific topics as subsistence practices including food procurement, transport, processing and storage, trade and exchange, social status differentiation, regional, ethnic and even family or individual boundaries. There are a few artifacts available to the archaeologist that possess more culturally and idiosyncratically determined yet still-visible attributes than does basketwork.

Summary

The analysis of Kalinga basketry technology has provided a finite number of logical alternatives in the production process and the possible links in the patterning of behavior among Kalinga craftmakers that have been investigated are culturally determined to a very high degree. The Kalinga basket weaver's relationship with any type of basket is predicated on and conditioned by the fact that all of the weaver's manufacturing choices are physically represented in the finished specimen.

Therefore for most situations in basket making there are only a finite number of logical alternatives. Investigating the range of techno-manipulative alternatives visible in the existing attributes of a finished Kalinga basket is to a very great degree fixed or
delimited by the customs or standards of the immediate social entity to which the craft specialist belongs to or within which he functions. While these standards are subject to idiosyncratic modification and even occasional borrowing of designs or construction attributes, their collective existence is eminently verifiable. This is not a new observation, but it has been revealed in this analysis that no two individual Kalinga weaver, (specialist or not), or other tribes of the Cordillera ever produced basketry of any kind in exactly the same fashion. The unique qualities of Kalinga basketry as material culture, as well as their importance and multifaceted uses in their society that produced them, the systematic analysis of their nominal and ordinal attributes, method of manufacture, raw material sources, forms and functions can serve both culture-historical and processual goals. The mechanical skills of Kalinga specialist basket weavers prove to be a reliable measure of craft specialization and standardization, ethnographically demonstrated here in the microcosm of the Kalinga.

The following chapter articulates the dynamic processes that link Kalinga basketry production, intensification and exchange. The Kalinga basketry industry ties broader issues that relate to social, political and economic factors as the following chapter suggests. The identification and articulation of these spheres in contrast and parallels to Kalinga pottery production will be successful with a broad based approach as it is applied here in the hope of better understanding material culture, specifically basketry.
CHAPTER SIX

KALINGA BASKETRY PRODUCTION,

PRODUCT INTENSIFICATION AND BASKETRY EXCHANGE

Previous archaeological and ethnographic basketry studies have concentrated on
distinct aspects of technology types, or on purely functional categories, and or what is
utilitarian or ceremonial, but rarely of the organization of basketry production and the
patterning of behavior among basketweavers. The identification of a technology, or
technological innovation and the successes or failures of a technology in explaining the
complex interrelationships between human societies and material culture over time.
specifically of basketry, has not been explored. At present there has not been a
concentrated work that covers the notion of a "tribal" basketmaker economy.

Ethnoarchaeological research has focused on ceramic production and has not
particularly looked into basketry production as a viable parallel research of an ancient
material culture and is understandably so as the ubiquity of the former artifact is evident.
For archaeologists, ceramic distributional data and perhaps consumption data are more
accessible than is ceramic production (see Rice 1987). Pottery studies extensively
researched by ethnoarchaeologists have proven that intimate relationships exist between
production organization, scale, range of distribution and consumption within ceramic
systems (sensu Rice 1987).

Proponents of the New Archaeology have effectively shifted the focus in
distributional studies away from a specific culture area approach and toward a more
comprehensive understanding of economic and social systems in prehistory.
This investigation of basketry economics focuses on the spheres of production, consumption and circulation of Kalinga baskets, towards the ethnoarchaeology of basketry as a valid research topic and its untapped potential. The results of these analyses not only permit examination of working hypotheses, but provide probable glimpses in the varying facets of prehistory, social, political and economic dynamics of a basketmaking society – previously “unheard of” as an artifact, or as a “minority” in the whole research scheme of material things.

The most useful approach in identifying basketry production in the archaeological record lies in a multi dimensional research strategy that combines archaeological, ethnographic, regional, technological and stylistic approaches to understanding a particular basketry weaving production history. The appearance, for example, of new paleoethnobotanical methods for analysis and inference specific to prehistoric basketry production poses new methodological and explanatory challenges for archaeologists to consider. Sourcing techniques that involve plant or plant remains and or other related organic artifacts should be run on well provenienced samples from the soil matrix in a site (e.g., dry screening, water screening and flotation), as variations in method within each technique also produce different results (Hastorf 1995, 1998; Hastorf and Pepper 1988). Paleoethnobotanical research may address questions in environmental reconstruction, economic models, culture change, processes of food production and domestication and encourage new research in human-plant interactions to interpret patterning of plant remains (sensu Hastorf and Pepper 1988). The documentation of correlates that will permit the prehistorian to further strengthens his or her interpretations
on basketry in antiquity. By tackling such collaborative issues, archaeologists will address research questions more successfully leading to a shared database necessary for developing well-grounded interpretations of basketry production and human behavior.

It is in this latter context where ethnoarchaeological research can make its largest contribution. The organization and material patterning of basketry production in small-scale societies can be better understood and the probable links to the processes of craft specialization explored. I examine why economic intensification is the broader process into which craft specialization is juxtaposed, what it means and how one measures it.

With the interest of archaeology in settlement pattern studies and concern with the dynamics of cultural process and regional interaction, prehistoric exchange networks became a focus of interest. Ceramic studies focused on patterns of pottery distribution in order to understand patterns of trade and exchange. Basketry artifacts by virtue of their organic composition leave very little behind but patterns can be identified.

It is necessary to identify characteristics of production, distribution and exchange to facilitate comparison between other artifacts. This chapter examines and identifies those characteristics that are unique to basketweavers that may possibly have similarities and differences in contrast to potters, as producers and consumers. To further understand the behavioral patterning involved in material goods circulation, we need to identify and define the processes of distribution, exchange and trade of goods other than pottery.

Hypothetically, if basketry production is not a prime mover in state formation as compared to pottery (see Brumfiel and Earle 1987), it should at least be useful for studies of material technology in the transition from hunting and collecting bands to settled village
life (e.g., among *Austronesians* see Bellwood 1990a, 1990b). From incipient and settled village agriculturists, the origins and spread of agriculture in the Indo-Pacific region (e.g., Bellwood 1996a, 1996b, 1996c) the domestication of certain plants such as rice (e.g., Glover 1977, 1985) to theories of the origins of agriculture (e.g., Asch and Asch 1975; Asch et al 1972; Hastorf 1988, 1998; MacNeish 1992).

This Kalinga case study is valuable and unique as it focuses on product specialization and intensification as it is expressed through basketry production on one side and pottery production extensively researched by the KEP on the other (e.g., Graves 1981, 1991; Longacre 1974, 1981; Longacre and Skibo 1994; Stark 1991a, 1993). Varying topics specific to Kalinga ceramic production have been discussed: Longacre (1974, 1981) in Dangtalan; Skibo (1992) and Kobayashi 1994) in Guinaang; Stark (1993: 178-236) in Dalupa. The abundance of previous ethnoarchaeological research on Kalinga ceramics provides the benchmark to a pioneering ethnoarchaeological, comparative case study on the existence and importance of basketry production among the Kalingas.

This chapter attempts to explore how basketmakers, alongside potters, negotiate their activities in response to the changes in their economy, the effects and changes in subsistence strategies, ecological change and population increase. The organization of production is investigated, the variability in goods produced and the variability in the intensification between the products of the *maglalaga* as a predominantly part-time-specialist weaver and those of the non-specialist are examined. The differences in work intensity of the part-time craft specialist and the current transition of a handful to full
time craft specialization of specific basket types and the processes of exchange are further explored.

Correspondingly, product intensification systems have been the focus of extensive economic anthropological research. As economic anthropologists look into product intensification, within and beyond the agricultural sphere, as this process characterizes households and small-scale societies during periods of economic transformation (e.g., Boserup 1965, Harner 1970). Economic development based research encouraged the emergence of demographically driven theories of culture change and studies of intensified production in smallholder economic systems that provide both comparative data and a theoretical perspective (e.g., Cook and Binford 1990; Netting and Wiber 1985). Households and communities as parts of regional ecosystems are integrated in terms of both subsistence and socio-political structure suggesting appropriate scales of analysis (e.g., Cook 1984: Orlove 1980).

The availability of excellent data and theory, rather than an indifference to cultural anthropology, should encourage archaeologists to consider the potential of economic and ecological anthropological data. Economic and ecological approaches can provide archaeologists with excellent guidelines and a comprehensive research framework for understanding prehistoric small-scale economies. It is clear that a more wide-ranging theoretical framework is required to understand the origins and mechanics of specialization in prehistoric small-scale societies.

Cook (1984:14) and Cook and Binford (1990:39), have argued that anthropological studies of small-scale peasant societies have repeatedly "agrarianized the
"countryside" in their research by failing to recognize the integral role of craft production in a household's subsistence activities and this is particularly true in the study of the Kalinga, if not of the Cordillera in general. Colonial anthropological research has extensively documented agricultural practices in the region but has neglected adequate exploration of other sources of non-agricultural income such as craft production and trade (e.g., Barton 1919, 1949; Guy 1958; Jenks 1905; Lambrecht 1932; Osman 1990).

To redress this bias, even among archaeologists, this investigation specific to basketry economics, examines the interplay between agricultural intensification, craft specialization and the heterogeneity of the Kalinga economy, as basketmakers and other craftmakers live, work and trade alongside each other.

Kalinga basketry provides a viable research parallel in the specific ethnoarchaeological research interests of the KEP, and the ethnoarchaeology of material culture in general—the significance, artifact, in the predominance of the craft, as it used greatly among rice agriculturists like the Kalinga. Wet rice agriculture is by definition intensive and the Kalinga households' strategy of combining intensive agriculture with intensified craft production, specifically in basketry, is a strong pattern throughout the Cordillera, if not most of Southeast Asia.

This chapter contributes to our knowledge of how and why non-specialist basketmakers transition to specialized producers in a socio-economic and political complex society like the Kalinga.
Kalinga Basketmakers and Potters

Production is the basic foundation of all economic models but before the distribution and consumption of goods can be fully understood the social and spatial contexts of production must be defined (Mills and Crown 1995:1). The dichotomy between Kalinga basketmakers and potters is apparent on the specific purpose each craft serves, paralleled by the supply and at times seasonal demand for a particular form.

In the last century, specific villages in the Cordillera region have been known for the production of specific specialized basket forms but had never been investigated. Historical Cordillera literature mentions basket “specialities” such as the finely made woven backpack type, the *fangao* among the Bontoc known from the specific towns of Barlig, Ambawan and Kanyu. I wonder whether this has been a phenomenon based on colonial expansion as mentioned by Jenks (1905: 122). Village based specialization in the Kalinga area has operated in the context of a regional economic network for at least two hundred years and elsewhere in the Cordillera region (e.g., Antolin 1970 [1789]; Jenks 1905; Keesing and Keesing 1934: 204-207; Lambrecht 1932: 24; Schandenberg 1889; Scott 1977; Vanoverberg 1929: 181-244; Worchester 1906:840)

The difference between the products of general basketweavers and weaving specialists is apparent and is documented here among the Kalinga of Pasil to be specific to a particular weaving technology and the production of specific forms. In Kalinga villages, simple plaiting was an old tradition instilled in male children, a prerequisite in the making of household utilitarian baskets in adulthood. The choice to become a *maglalaga* (the specialist) may have been to provide a “specialized” service, dependent upon the mastery of
a specific weaving technique in making a specific basket – villages and their specialist weavers in turn became known for their “specialities”. Through time and the impact of concomitant change in subsistence patterns, agricultural and economic intensification, as well as the growing population, the tendency to intensify basketry production has been carried on today as an economic choice. I am sure that certain forms have developed in time through changing subsistence patterns, as some basketry forms are adopted and at other times abandoned.

Though there may be some parallels in its correlation with agricultural intensification and the rise of non-agricultural craft specialization: village or “community” based general Kalinga basketry and pottery specialization alongside village based intensified specialization, and interdependent systems characterize most of the Kalinga Pasil villages today.

General village based specialization characterizes the Kalinga basketweaver during the year of field research (1987-1988) in the villages of Dangtalan and Dalupa. At about the same time, there were villages that produced a specific basket type such as the pasiking weavers in the neighboring village of Guinaang and specialist weavers of winnowing and rice container baskets in the villages of Balenciagao, Tulgao and in Tinglayan. These forms of production have also been observed in Kalinga pottery studies and operate within the Pasil regional economic system at different time periods (Longacre 1974. Stark 1993).

1 Stark (1993), uses the term “community based” pottery production in her study on Dalupa pottery parallels my use of the term “village-based” basketry production. It parallels generalized village based specialization with intensified village-based specialization among basketweavers as well as potters.
Kalinga basketmakers produce general types for local household use, while Kalinga basket weaving specialists found in specific villages produce a particular specialized basket type or several basket types for local as well as intervillage consumption. This examination includes village-based specialization in the context of regional integration and the conditions under which village-based specialization develops, and why this specialization leads to systems of regional economic integration.

Cashdan (1985) discusses specialization as low intensity among mobile populations in which the process involves “generalized community-based specialization”. Used ethnographically, village or community-based specialization refers to the resource that a community produces or procures but not to the intensity of involvement in resource production or procurement (see Stark 1993:48-58 for Kalinga pottery).

The procurement or the dependency of these Kalinga villages among other villages varies and is related to alternative subsistence strategies. Kalinga basket making is characterized as a non-intensive, low labor pursuit and qualifies as a generalized village-based production specialization, organized into small kin-based groups on a part-time basis. Two recent syntheses (Costin 1991; Pool 1992) emphasize the underlying multi dimensional scales or parameters of existing typologies in ceramics that to some extent are applicable to basket weavers. Though both models present similar terminology, there are differences. Costin places greater emphasis in organizational variability: context, concentration, scale or size of production unit and recruitment principles, and intensity and Pool points to segregation of activities, size of production entity, scale, intensity and efficiency (Mills and Crown 1995:5). Despite differences, these current
approaches illustrate several themes: first, the inter-relatedness of production with the components of distribution and consumption of economic systems; and second, the emphasis of underlying variability to define modes of production or types of production and the difficulty in measurement. Finally there is the careful consideration of the match between archaeological methods and the specific dimensions of variation identified for investigation in a given archaeological setting (Mills and Crown 1995:4). Cross-cultural research in pottery production specialization has proven that cultural complexity covaries in social stratification and political integration (e.g., Clark and Parry 1990).

In a microcosm, this research initiated with Kalinga basket production ties broader issues that relate to social and political organization, commonly done by ceramic archaeologists (e.g., Brumfiel 1987; Brumfiel and Earle 1987; Feinman et al 1984). This ethnoarchaeological research suggests that the identification of the social and political contexts of craft production will be successful with a broad based approach as it is applied here in the hope of better understanding material culture, specifically basketry alongside pottery production. The common parameters in Kalinga pottery research may apply to Kalinga basketweavers as distinctions between attached and independent, and part and full-time specialists can be demonstrated.

Cordillera village specialization occurs when particular villages become recognized for the production or procurement of particular goods: winnowing baskets and the pasiking among the Kalinga, and coiled baskets among the Bontoc (Lambrecht 1932), and the Ifugao (Worchester 1906). Village based specialization of specific basket types, as well as a general village basketry production of non-specialist types.
characterizes the Kalingas in the Pasil region. Village based specialization occurs when specific basket types are made by village-based weaving specialists, and villages are recognized for the production and procurement of such goods. These baskets are then exchanged between villages within a regional economic system. Village-based specialization correspondingly involves the exchange of other goods such as pottery, agricultural produce, and forest resources, even the walking "stores" that ply lowland goods to more remote Kalinga villages. Specialization may vary and fluctuate in intensity. Most Kalinga specialist basketry weavers are characterized by low-intensity production and are independent, but the current growth of a number of specific specialist weavers of the *pasiking* has intensified production today (1999) ten years after the onset of the research project. The extent to which villages depend on specialized baskets varies and has been found to be seasonal among village consumers. The growing intensified production of woven backpacks or the *pasiking* on the other hand is dependent upon outside traders that have slowly come into Kalinga that serve a larger market.

Since most Kalinga men make baskets of the general household types (e.g., chicken nesting baskets, chicken coops and fish traps) the procurement of specific specialist type baskets is dependent upon the seasonal rice harvest. Specific basket forms figure greatly among rice agriculturists like the Kalinga and similar Cordillera groups in the planting, harvesting and processing of rice and are produced by the *maglalaga* or weaving specialist. There are no specific baskets made for ritual among the Kalinga today, as have been found among the neighboring Bontoc.
Village based specialization is similarly found among Iban specialist basket weavers, who seasonally cater to making specific baskets produced for utilitarian use during the harvest season, and purely ritual baskets tied to their belief in a rice cult, or as wedding baskets or for the festival of the dead or the Gawai Antu. These baskets of most peculiar shapes are attributed to the deceased according to a strict code in which age, sex, leadership qualities, and past accomplishments are taken into account. At the high point during the festival, recognized warriors drink a consecrated rice wine, out of the *garong* baskets, which are fitted with bamboo containers. At the end of the ceremonies, all baskets are left in the family *sungkup* (funerary hut). All Gawai Antu baskets must be made out of bamboo and can only be woven by women of good repute (Blehaut 1997: 38, Fig.29; Gavin 1996).

The extent to which Kalinga villages depend on goods from other villages varies and has to do with alternative subsistence strategies. Village based specialization involves economic integration at the regional level especially when certain subsistence commodities such as a particular crop, industry or trade is needed and is not provided within that village. The network created by the exchange of goods also provides an information highway, mitigates political tension, creates and promotes peace pacts, and even the flow of possible marriage partners among Cordillera villages. The village economic exchange system further reinforces social boundaries by linking other Cordillera groups that interact in a broader regional exchange network.

There are several questions we can ask about how and why some Kalinga basketmakers involved in general household basketry production make the transition to
become village based specialists, and more recently, why a few move into a system of intensified production of only specific forms. This transformation is often through different periods of time and through a variety of reasons. The discovery of its origins is nearly impossible to reconstruct, but the processes of transformation from several perspectives are explored.

Basketry Production and Historical Commercialization of the Kalinga Economy

Interregional trade has played a vital role throughout Philippine history and archaeological evidence, at least in the islands of the Visayas, indicates intensive trading networks that extend back to at least the eleventh century (Junker 1990). Sixteenth century Spanish accounts in northern Luzon describe lowland and highland trade that brought the Cordillera traders into the surrounding lowlands to exchange highland goods such as forest products and gold ore (Scott 1982).

In historical retrospect, the Spanish colonizers never reached any secure economic and religious foothold in the Cordillera for the duration of their colonial regime in the Philippines, from about 1565 to 1898. The Kalinga, like most of the Cordillera peoples, renowned for their fierce headhunting pursuits proved a different force to contend with by the Spanish throughout their rule (Scott 1974: 292). Historical documentation account for only three permanent missions in 1889 in the Cordillera, two in Benguet Province and one in lowland Ifugao, and the existence of these posts was precarious at best. Much of the Cordillera remained autonomous and inaccessible to the colonizers (Scott 1974: 267)
The Spanish pre-occupied by the Galleon trade between China the Philippines and Acapulco took few initiatives to stimulate local manufacture as a source of revenue throughout the Philippines (Aguilar and Miralao 1984:1: 1985:9). As the Galleon Trade came to an end in the early nineteenth century, the Spanish instituted some measures to stimulate local commodity production such as basketry and fabric weaving, but this was centered in Manila and in other lowland areas such as northwest of the Cordillera range in the Ilocos Provinces (Blair and Robertson 1973 v. 8: 79-80).

Hence the commercialization of the rural Philippine economy in the late Spanish colonial period was concentrated in the most densely populated lowland areas firmly under Spanish control. The monetized lowland economy that developed during the 1800’s did not occur in the Cordillera highlands. The shift from subsistence farming to cash cropping that was made by some lowland cultivators and landowners (Rutten 1993:14) was not duplicated in the agricultural practices of the Cordillera region.

The highlands did not experience the same improvements in infrastructure that fostered the profitable growth of rural, commercial centers of a specialized craft industry such as the lowland Pangasinan basket weavers I had visited while working with the Kalinga. Such is also evidenced in commercial basketry weaving found in lowland Iloilo, Leyte, Aklan and the Bicol Provinces and the Ilocos region (Aguilar and Miralao 1984:5-6, 1985 a. b. c; McCoy 1982:9). Aguilar and Miralao (1984:5) confirm that the

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2 Commercialization - I use the term to define a seasonal, predominantly monetized economy with a specific local and some regional (sometimes tourist) market destination and customer base, including both highland and lowland traders.
communities in the highlands of the Cordillera certainly resisted or at least controlled the amount of colonialism in both economic and cultural spheres, and long have successfully retained their crafts, that of basketweavers, back-strap loom weavers, potters and woodcarvers.

Kalinga craft production continues to produce both baskets and pots for local consumption, either for themselves, between villages and growing regional markets. The Kalingas, because of their geographical, mountainous inaccessibility, compared to other Cordillera groups, fulfill mostly local needs based on a slow changing traditional barter economy. This is still predominant in the general craft economy, but to some extent there are differences between basketmakers and potters. The need for secular and sacred objects and for local, regional non traditional trade items in Kalinga pottery has led to change, and Stark (1993), discusses non traditional trade items called ay-ayam or novelty items that have been an alternate source of profit for Dalupa potters. The word ay-ayam in Kalinga means toys as potters have always produced miniature pottery for their children to play with. Stark records about 50 of these forms such as squash shaped money banks, flower vases and teapots (Stark 1993:186-187). These non-traditional items began during the late 1970's and early 1980's. These products are normally bought rather than bartered like pots by non Kalinga (e.g., mine workers, soldiers, construction laborers), associated with the re-opening of the Batong Buhay Mines and the Chico River Dam project.
The reasons why Dalupa potters adopted certain non-traditional innovations rather than others are complicated, and are explored elsewhere (for Kalinga pottery see Stark 1991: Stark and Longacre 1993). Though these forms serve no utilitarian purpose other than as toys, they do provide an alternative source of cash and the influx of non-Kalinga personnel in the region with cash are always potential customers for Dalupa potters (Stark 1993: 189). What has developed is a uniquely Kalinga tradition of “tourist art” yet specific to Dalupa potters serving specific customers (Stark 1993:189. and see Graburn 1984). Whether this trend increases among other potters in other villages remains to be seen but it is apparent that the growing outside influences will be a definite factor in influencing the results of the rise of a local commercialized “tourist art” if it is given the chance to develop.

A similar trend but a highly commercialized system, has been observed by Milgram (1997, 1998) among the Ifugao in Banawe beginning about the early 1980’s among female back-strap fabric weavers and the traditionally male baskets weavers. There is a change from a traditional gender specific fabric craft by women, to women turning to basket weaving, adopting a male craft, yet only creating non-traditional forms. Seen as a viable and positive alternative source of cash, basketry has become a cultural form that aids cultural and economic survival. It provides an avenue to marginal economic participation in the emerging cash oriented society of the highland Cordillera, while continuing to furnish a means of keeping tradition among male basket weavers and female back strap fabric weavers (Milgram 1997:196-198).
During the subsequent American colonial period (ca 1898-1946) at the beginning of the twentieth century, the Cordillera highlands were quickly brought into the overall market economy, yet the general Cordillera people (as well as the Kalinga) still controlled the amount of their involvement with the predominant economy. Though the American regime concentrated on improving the Cordillera infrastructure, most of the American modernization centered on the southern Cordillera region (i.e. Baguio and Benguet Provinces) as an administrative center. The Americans showed particular interest in mining and lumbering in the pine forests of Benguet Province (Jenista 1987: 256-257; also see Fry 1983) just as the previous Spanish regime. The Americans were successful in furthering intensive mining and lumbering in the Benguet Provinces, causing hardship for the Ibaloi and Kankanay peoples, but such developments did not occur to any significant degree in the other Cordillera regions until later (Jenista 1987:257).

Today economic development in Kalinga, especially mining and forestry, has caused a heavy toll on the environment. Mine tailings and industrial waste have polluted the Pasil River as well as the other tributaries so severely that sources of fresh water fish, eel, shrimp and other riverine products have died out. a similar situation seen in large mining operations in the outskirts of Baguio City in the Mountain Province as early as the 1950’s (Briones 1987). Full-scale timber and logging operations have also depleted the Cordillera region of valuable rattan and wood resources. As the ever-growing Kalinga population work as much of the land in swiddens as possible, this process has inadvertently transformed formerly wooded areas into wastelands of cogon grass. Among
basketmakers. In the absence of a palm called the abnut traditionally used in the making of rain capes, the Kalinga now use cogon as raw material. The effects of economic development and ecological change have had severe ramifications for most of the Kalinga craftmakers be they basketweavers or potters.

Soils in the Cordillera, though rich in iron and aluminum are generally acidic and tend to be clays that are generally low in organic matter and plant nutrients. The area did support dense forests but once cleared, these mostly lateritic soils lose the nutrients that leach away, often with devastating results. Because the soils have become unfertile, they become unsuited for traditional cultivation except for shifting agriculture and they do not do well in irrigated terraced rice fields (see Polak 1975; Bellwood 1985 regarding Malay Peninsula, south and western Borneo coastal regional soil problems).

The geographic isolation of the Kalinga, away from strict colonial rule and general American policy, maintained much of their regional economy with the exception of the suppression of headhunting. Baskets and pots continued as a local household production designed to fulfill the requirements of the inter and intra-village utilitarian and ceremonial needs and some regional trade.

It was also about this time in the early American occupation that most of the larger and well represented ethnographic collections in the United States of Cordillera material culture (e.g., basketry, pottery, and woodcarving) were collected by (e.g., The Smithsonian Institution NMNH Philippine ethnology collection specific to basketry, and the St. Louis exposition of 1904). The contemporary world realized the existence of the Cordillera peoples. The ubiquitous references to “heathens” and “savages” are
particularly ironic, as about eighty percent of the Philippine population had been converted to Catholicism, of which the first conversions date back to the sixteenth century following initial contact with Spain. It was the unconquered, unconverted, unassimilated “tribal” groups of the Cordillera and Southern Mindanao who figure prominently in colonial accounts, photographs and expositions. America’s colonialism generated an impassioned debate at home between aspiring imperialists and ardent anti-imperialists. Kamow (1989:11, 136) states that President William McKinley justified the invasion of the Philippines with the notion of “manifest destiny”, revealing to a group of clergymen that God had told him to annex the Philippine Islands and “to do the best we could for them” (Ibid.).

Within this politically charged context, the “Igorots” of the Cordillera were singled out for particular scrutiny. The subject of sensationalized melodramatic titles, such as *Headhunters of Northern Luzon* (Worchester 1912) and even scholarly works as *Taming the Philippine Headhunters* (Keesing and Keesing 1934) appeared. The Americans exhibited live Igorot village life in the United States at the Louisiana Purchase Exposition held in St. Louis in 1904 to celebrate the new territorial empire (Scott 1974: 276). In spite of the degradation and negative impact of such displays of what was called the Philippines, it was not an exposition of the Philippines at all, but only of the Igorots (i.e., Bontoc) of the Cordillera. Nonetheless, the exhibition of “savages” from the
Philippines continued, establishing the image of a less than civilized people dependent upon America's benevolence, a notion not easily dispelled. At the end of the Second World War and the independence of the Philippines in 1946, the new Philippine government focused on an overall policy of import substitution schemes, fueled still by the continuing export of primary commodities (Aguilar and Miralao 1984: 2; Pye 1988:95). The policy was designed to promote domestic industrialization to preserve foreign exchange. Though this may not have impacted overall Cordillera craft production initially, it paved the way for the increased interest in their lives and material culture (e.g., basketry, fabric weaving on back strap looms, woodcarving, pottery and some metal work), resulting in the commercialization of certain craft specialties among certain Cordillera groups (e.g., Ifugao woodcarving and backstrap loom weaving) is today important as an export item for an international market. Wood carving at one time was a local household production specialty among Ifugao carvers, mostly seen in the carving of houseposts and large hagabi benches carved from whole tree trunks, once commonly found underneath traditional homes.

The American colonial administration did little to protect traditional Philippine crafts from competition from imported machine made goods (Aguilar and Miralao 1984:2-3; Suratman 1991: 265). Indigenous craft industries in mostly rural and remote

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3 Note: Residual effects of the St. Louis Exposition of 1904 on Americans who had visited the fair as young children and on contemporary Filipino-American descendants of Igorots who had been exhibited at the exposition are explored in two recently completed documentary films by Eric Breitbart and Mary Lance (1994) and Marlon Fuentes (1995). Breitbart, Eric and Mary Lance A World on Display by New Deal Films, videocassette 1994. Fuentes, Marlon Bontoc Eulogy. New York, The Cinema Guild, videocassette 1996.
areas however did still persist and continued to produce utilitarian objects used by the rural population. Thus, crafts like basketweaving, pottery, and fabric weaving continued as a local production designed to fulfill the requirements of a village’s needs for scared and secular objects and for local and regional trade (Milgram 1997: 121-122).

The Philippine government sought to win the Kalinga’s allegiance during the Chico River controversy from the 1970s to the 1980s tried to establish a “weaving” artisans cooperative in Lubuagan that was unsuccessful and may have also influenced the commercialization of basketry production in the area. The Philippine government thought that an income generating cottage industry in both fabric weaving and baskets destined for a tourist market in Baguio and as far away as Manila might develop. This is true among such other Cordillera groups as the Bontoc (Bacdayan 1998: 33-52) and Ifugao (Milgram 1998: 53-68). Today these attempted cooperatives influenced both Kalinga basketmakers and potters. For example, in the use of red ocher designs on Kalinga Dalupa water jars was a recent influence as discussed by Stark (1991) and Stark and Longacre (1993) with water jars being sold in Lubuagan and even as far away as Tabuk, the Kalinga provincial capital. Kalinga specialist basketweavers do mention being influenced to increase pasiking production and to find a trader to find them a regular commercial consumer market. Traders have traveled to the villages in years past where both basketry and pottery is produced widely.

Ten years after the onset of research investigations on Kalinga basketweavers, a not so surprising change among the specialist weavers has started. (Delia and Napoleon Batulao-personal communication). The Kalinga maglalaga have increased pasiking
production – there seems to be a growing interest in a larger regional market system, brought about by the growing interest of yet a small lowland demand for Kalinga “quality” woven backpacks. The lowland traders who come to Tabuk have found a few maglalaga selling their baskets, purchase woven backpacks, or advance an “order” to make more, and are said to be destined for “tourist” markets (such as found in Baguio and as far away as Manila). A growing and quickly continuing cash economy and commercialized consumption for more lowland goods have crept into the Kalinga and weavers are not exempt to this growing trend.

Ironically, the potential for survival of selected traditional baskets from the Cordillera (specifically among the Ifugao), resides in tourism. Bacdayan (1998) notes that with the growing concern in the Philippines and in the world at large regarding things “native”, or “tribal” coupled with ethnic pride and cultural nationalism on the part of the “Igorots” themselves may have positive effects. As it is already evident in the case of the Ifugao sangi or backpack, it is not unusual to see an educated Ifugao, traveling to the lowlands, Manila or Baguio wearing the sangi. In Baguio, known as the educational center for the Cordillera region, a thin smaller version has appeared to be a popular bookbag of both highland and lowland college students alike. Finally, as tourists pour into the area that is in Banawe, and Baguio they want local artifacts (e.g., crafts) including baskets as mementos. These factors combine to create a demand ensuring the survival of some of the traditional baskets (Bacdayan 1998:51).

While the technology involved in Kalinga basketmaking is traditional and still remains holistic, shifts are beginning to emerge in the more market driven production of
specific basket types. It seems the Kalinga basketmakers are experimenting with these trading options. Whether these trends continue, and I assume they will, is dependent upon how the Kalingas themselves see this as a viable source of income and help improve a marginal subsistence economy. The overall Kalinga economy may seem somewhat stable, yet the growing orientation towards an outside cash economy has continually provoked and influenced the Kalinga, as the basket specialist weavers increase production of a specific basket type, yet still at a household level. Whether or not the Kalinga maglalaga emerge in the commercial production of the pasiking, the instance of a division of labor is likely to emerge as specialist weavers may employ younger children and some kin to cut, decorticate and prepare weaving strips to make these baskets.

As Kalinga basket weavers are developing along a continuum, characterized from a simple to a more complex mode of production. Dependent upon production scale, seasonal and market demand, the maglalaga will decide to pursue what is best for him and his family for economic survival.

Basketry Production And The Socio-Economic Organization Of Kalinga Households

Kalinga specialist weavers agree that the maintenance of their households in a growing cash economy is more secure with the income generated from the sale of finely woven specialized baskets. With the growing increase in Kalinga population, the lack of tillable ricefields and not having enough rice to feed their families: specialized craft production for sale, exchange, or trade, in a local, regional or national markets has
emerged as one of the viable ways of Kalinga agriculturists/weavers can earn additional cash (e.g., Cook and Binford 1990; Rutten 1993; Tice 1995).

Although the demand of baskets is often seasonal, income from basketry production by the maglalaga provides the family cash to purchase basic household necessities for much of the year. The uncertainty and fluctuations of seasonal demand do not mean that Kalinga weaving specialists abandon their dependence on agricultural production. They do not readily engage in income generating activities such as contractual field labor or pango, or as occasional wage laborers in maintaining or clearing roadways, or as construction laborers in larger towns like Tabuk. Kalinga male and female craftmakers cultivate land, are wage laborers, as well as make pottery or weave fabric; they combine a variety of jobs to survive. There are several studies of female craft makers and is discussed elsewhere (e.g., Babb 1989; Clark 1989, 1995; Illo and Polo 1990) most showing combining their activities in the domestic and non-domestic spheres.

Relatively little is know about men as craftmakers or about how they move in and out of craft production as opportunities arise. We do not know how male basketmakers emerge as specialists within the initial village specialty, the growing commercialization of the specialty and production intensification of a household industry.

Analysis in terms of household survival strategies as Schmink (1984:87) suggests, indicates that craft makers decide in which activities to engage so as to maximize their household income and their personal social positions. The concept of survival strategies highlights Kalinga specialist basketmakers productive roles in realizing their basic subsistence needs. It examines how they maneuver and make decisions within the
internal dynamics of the household unit and how they respond to social and economic constraints of the village or community

Kalinga Craft Production and Product Specialization

Both basketry and pottery production among the Kalinga is a relevant form of craft specialization to study ethnographically (see Longacre & Skibo eds. 1994 for research overview). Contemporary households worldwide whether they are in Southeast Asia, South America or Africa, turn to specialized craft production as an alternative subsistence strategy when faced with insufficient agricultural landholdings (for pottery see Arnold 1980: 147; Scheans 1960: 9). The degree of specialization tends to be associated with areas of marginal agricultural land, especially at the onset of sedentism (e.g., Arnold 1985) or with agricultural intensification (e.g., Netting 1990). Specialization among the Kalinga may include either craft manufacture (e.g., baskets or pots) or productive specialization of agricultural and or forest products (e.g., coffee or rattan).

Weaving and pottery production among the Kalinga makes sense when placed in an economic framework; its implications for population pressure theories and agricultural intensification are important. Faced with a growing population and an incessant demand for production and consumption of rice, both Kalinga men and women weave and make pots to make ends meet. Economic acculturation towards a cash economy, inspite of a traditional barter economy, has added increased pressure for the Kalinga family as it tries to survive. This is especially true when a child seeks education or medication that requires currency. One strategy towards craft specialization compensates for resource
deficits and provides a cash return. One need not look further than the village itself as one sees weavers and potters busy working their craft.

Craft production as a form of productive intensification is a common ethnographic pattern in the Philippines. The basic stimuli for village-based intensification among the Kalinga include population increase in the face of limited agricultural resources and the lack of integration of communities into the larger Philippine national economy (The Philippines: Country Profile, United Nations Conference on Environment and Development 1997).

When this type of strategy is widespread, community-based specialization unites groups into systems of regional integration and forces links across ethnic boundaries. Resources, demography and population may aggravate the degree of specialization, particularly when the mechanism in distribution become sophisticated enough to require middlemen and secondary distribution centers. This milieu describes how village-based specialization operates and conditions under which systems of production intensify. Since the Kalinga are crafts men and women there may be a tendency to intensify craft production when faced with the lack of resources for sustenance.

In general, Philippine Cordilleran small-scale “tribal” societies are commonly characterized by mixed economies and non-intensive production systems (Aguilar and Miralao 1984; Casambre et al 1992, Jenista 1987, Rutten 1993). The question then of the development of intensified subsistence production arises.

Agriculture, either extensive or intensive, may be combined with such subsistence strategies as hunting, gathering, or fishing. When land is available, several strategies can
be used to ease population increase and the related stress on existing resources. In the short term, groups can rely on exchange as an immediate survival mechanism, and in the long term, alternatives can be residential dispersal, the expansion into hinterlands for agriculture and horticulture or increased reliance on non-agriculture food procurement (Cashdan 1985). As land becomes constrained, populations lose the options of residential mobility that accompanies swidden agriculture, and they intensify craft (basketry) production for exchange (for an in depth discussion on Kalinga pottery production and the exchange system see Stark 1991a, 1991b, 1994).

The relationship between intensification and wealth accumulation is of great concern to archaeologists (e.g., Knapp 1990, Renfrew 1982). However wealth accumulation receives very little ethnographic attention as a force behind the development of intensified production, and when agricultural intensification is specifically considered as a means to surplus accumulation, archaeologists and cultural anthropologists sometimes disagree.

Archaeologists traditionally view agricultural intensification as a means of wealth accumulation and ultimately as contributing to the processes of state formation. Cultural anthropologists, on the other hand, argue that agricultural intensification is often a response to diminishing resources rather than a strategy for accumulating surplus. When wage labor and tenant farming systems are used extensively, economic stratification can result from intensified production (Maclachlan 1987). Stratification need not always result from the shift to intensified production.
The existence of population pressure as a feedback mechanism for the development of craft specialists is further reflected in their social position. If craft specialization is, in part, the result of population pressure on agricultural resources, forcing people into alternative non-agricultural occupations like weaving and pottery making, it can be assumed that people become craft specialists out of necessity.

Can one also expect that these craft specialists have a low social position? Pottery research show some evidence that some craft specialists occupy low social positions especially in the case of potters, as seen in hierarchically arranged social groups (Foster :1965); this is seen also among the Quinua potters in Peru (Mitchell:1979), and among the Ticul, Yucatan Mexico where potters are in the bottom of the social scale in wealth and prestige (Thompson :1974).

Among basketmakers, the Ge people of the Amazon and Orinoco Rivers hold a similar, though not as formalized a position as the shaman, but the basket weaver attains specialist status akin to a shaman (Riviere 1992: 147). Among the Iban, only women of respectful status and of admirable reputation are allowed to produce specific ritual baskets, and for their services are paid in cash or they are given large amounts of agricultural produce. The Iban acquire prestige and social status within their longhouse in their weaving endeavors (Blehaut 1997; Dunsmore 1991).

Among Kalinga specialist basket weavers, economic positioning is dependent upon whether one has made some money in making baskets and continues to do so. What may seem to reflect a low social position initially can turn to a higher social status, but this only seems to happen to a few weaving specialists who intensify their production.
Some Kalinga weavers now have intensified production of specific basket type to that of the initial stages of a small-scale commercialized level. Some entrepreneurial Kalingas are looking into finely woven Kalinga backpacks as saleable and acting as middlemen to lowland traders. Some Kalinga specialist weavers that have intensified production have improved their social position in the village by the amount of cash accumulated from the sale of baskets, and though this special case scenario is not the norm, change does seem to be coming.

Among the neighboring Ifugao, famous for their rice terraces, woodcarving skills and fabric weaving, full-time craft specialist families have accumulated enough capital to involve themselves as independent entrepreneurs in a national “tourist” market. purchasing riceland, opening local shops, garnering social capital and are now perceived by the Ifugao as a new merchant elite. Over the past decade both basket and fabric weavers in Banawe have positioned themselves to the new baknang class, a nouveau riche group of craft specialists and traders (Milgram 1997:346-355).

This once gender specific division of labor with basketweaving and woodcarving for men and fabric weaving for women has broken down, demonstrating that trade in a particular product is not the prerogative of either gender due to the articulation of a tribal barter economy with a more predominant capitalist one. In due time, Kalinga basketweavers may decide to join the national “capitalist” economy as well.

Cordillera craftmakers straddle a difficult line. on one side they strive to maintain the sphere of traditional basketry production and their personal artistic preferences and on the other, they try to be responsive to the exigencies of a growing monetized economy
and the growing consumer tastes. Among some Kalinga specialist weavers, intensified production provides a viable alternative as a source of cash and has provided them an alternative vehicle to position themselves socially by virtue of having cash.

Constraints to Kalinga Basketry Production

In as much as climate and temperature affect both weavers and potters; weaving is not overly dependent upon climatic, sunny and dry conditions, important to pottery making. The composition and availability of clays, the constraints and the seasonality of ceramic production is discussed elsewhere (for Kalinga pottery see Longacre for Dangtalan. Stark for Dalupa and Arnold 1975:203 and 1985:61 for other world locations). The seasonality of basketmaking, among Kalinga weaving “specialists” is heavily dependent upon the rice harvest, the success and failure of the production season and the demand for a particular basket type. as in for example. winnowing baskets – rather than the general availability of raw material. Compared to Kalinga potters who have to mine clay. dependent upon weather constraints. the immediate need to be pounded and prepared to form in a short period of time. Basketweavers can and will leave an unfinished basket if required to perform other tasks, and readily pick up where they left off. Weaving materials such as bamboo and rattan can be pre-harvested or bought from traders. long before a basket or several baskets are to be woven. decorticated. prepared and stored till the need for it arises.

Rattan is usually harvested during the dry months from February to May. In the event that rattan is not available. both local and lowland traders will barter or sell rattan
either for coffee, rice or for cash. In 1988, the prices (in Philippine pesos) for a bundle of rattan was determined by the number and quality of pieces in a *palko* (unfinished bundle) of *iway* (rattan) 20 pieces at six pesos; 50 pieces for twenty pesos and 100 pieces for thirty to thirty five pesos at roughly about 12 to 15 feet in length. The difference in pliability and thickness of the vine too had specific purposes: *nachaw* are wider decorticated pieces used for tying for strength, *kurayot* are thinner and more pliable pieces used for braided or woven straps used for handles or carrying straps for example in the *pasiking* or backpack. The *chamayon* is considered the best, and used for the overall body of the basket (e.g., *pasiking*). The *litoku* are rattan shoots that are edible and at times gathered for food.

Bamboo thicket's on the other hand, still abound in the village (see Figure No. 6.1) predominantly used by the Kalinga family man in the making of household type simple-plaited baskets – and is used for fish traps, chicken coops and nesting baskets that involve just a few hours in harvesting, preparation, weaving and finishing.

Figure No. 6.1 A Typical Kalinga Bamboo Thicket Being Harvested for Household Type Basketry Products or for Traditional Kalinga House Construction
In the specific case of *pasiking* or backpacks, weavers are dependent upon the demand or number of baskets required by the occasional Kalinga or lowland trader – *pasiking* weavers will make these baskets year round because of the time involved in weaving them and at times create a very conservative in-stock surplus. It takes three days of about six to seven daylight working hours to complete a backpack. That surplus is dependent upon the amount or cost of raw material harvested for free, traded or purchased. Age seems to be a contributory factor in having to harvest available rattan within the boundaries of the nearby forest according to older weavers – they say younger Kalinga weavers have the stamina and strength in the harvesting of rattan deeper in the forest than they do now, but the refinement of the skill is still seen in “older” weavers work.

Younger *pasiking* weavers are slowly finding other market sources other than trading within local villages and have found their baskets taken as far as Tabuk, Abra, Tuguegarao and Baguio. Tabuk, the capital of Kalinga Province, is predominantly populated by “lowland” Ilocanos who control business, groceries and the public market – Saturday and Sunday, being popular market days in most provincial towns tend to be a day for some specialist weavers to trade and sell their wares.

Older weavers like Alonzo Bayangan (about 55 years old) of Dangtalan considers himself “retired” from being a *maglalaga* and rarely weaves his open or unlidded type backpack or *pasiking*. That is believed to be an older Kalinga type form and he personally feels that his work is not as refined as it was, now as a “retired” weaver. He compares his work with the neighboring village *pasiking* weavers of Guinaang, but also mentions that
given the opportunity and the cash to buy rattan to make baskets his work will just be as
refined. The (KEP) "special ordered" a basket for the collection. he obliged and was
compensated the amount he asked for (Figure Nos. 6.2-6.6).

Figure No. 6.2 Alonzo Bayangan of Dangtalan is a "retired" pasiking weaver here at 55
years old taken at the time of field research. He weaves the traditional open pasiking or
backpack without the lid and is believed to be an old Kalinga form.

Figure No. 6.3 Alonzo prepares his material by cutting strips of rattan to a preferred
width then decorticated and smoothened. Behind him is the woven bamboo house wall
common in traditional Kalinga architecture
Figure No. 6.4 Alonzo then starts the weaving of the *pasiking* by starting and arranging his beginning elements to form the base of the basket, eventually being the main body of the basket.

Note: Twill plaiting is initiated at a corner rather than in the center. The nature of the plaiting process allows initiation to be accomplished in numerous ways, very few of which leave readily observable clues. This means that while all specimens of plaiting must have a method of starting, the method need not manifest itself in the form of a distinct center.
Figure No. 6.5 The previously prepared rattan is used to continue the weaving process. He continues the process until he reaches the desired height, truncated and is then finished with a false braid selvage technique; straps and loops are then also attached.

Figure No. 6.6 The finished *pasiking* as collected for and photographed by the Arizona State Museum.

Arizona State Museum Collection
Cat. No. 88-77-594
Weaver: Alonzo Bayangan of Dangtalan, Kalinga, Philippines
Photographer: Kathy Hubenschmidt
In the case of labnak or winnowing baskets made by Banig Palutan (about 50 yrs. old) and his nephew Saganab Unalan (28 yrs. old) see Figure No. 6.7. access to raw material (rattan) is mostly harvested by them and or traded with other weavers in the village rarely purchase rattan. Saganab says he does make a small stock surplus of a few winnowing baskets (8-12) that he stores until harvest. He says his uncle Banig tends not to store a surplus and weaves only when there is a “special” order for it, normally right before harvest. His uncle says, …"villagers like new baskets and older jajaan or a soot-stained basket is not what they want”. They trade within surrounding villages involving a few hours of hiking or an occasional overnight stay in further distances. Both weavers are from Tulgao and are part-time weaving specialists: participate in other day-to-day agricultural activities throughout the year. I have recently been told that Saganab, normally a winnowing basket maker, has switched to pasiking weaving, a more intensified production and is working with a Kalinga trader living in the lowlands and comes to Tulgao regularly to pick up his “orders”: that is probably destined for a commercial and eventually a tourist market.
Figure No. 6.7 Kalinga *maglalaga* Banig Palutan, on the right wearing his red blazer and traditional woven loincloth and his nephew Saganab Unalan; both weaving specialists of winnowing baskets from Tulgao, visiting Dangtalan to trade.

Note size range between the products of both specialist weavers
It is evident that individual specialist basket weavers product is dependent upon local demand both within the village and intravillage level. Local Kalinga specialist basket weavers will trade with surrounding villages involving a few hours of hiking to an occasional overnight stay for further distances. Whether or not a specialist decides to take his products out to a local market or larger regional market (e.g., Tabuk the provincial capital, or as far out as Tuguegarao or Baguio) is dependent upon individual economic constraints and seasonal agricultural labor demands during rice cultivation and harvest.

While men and women share the intensive rice cultivation schedule - the individual basket specialist will decide how to divide his time between craft production and rice cultivation. Almost always their decisions are tempered by the need for their labor in rice cultivation.

The Kalinga social structure is not in any way a classless society. In the event that a Kalinga specialist weaver does not have enough land for rice cultivation the tendency to intensify craft production is most likely. Basket weaving as an alternate source of income is also a vehicle in establishing or increasing their social standing in the village by furthering his economic status. Currently some basketweaving specialists have intensified into full production of certain basket types and have been successful in maximizing their time between rice cultivation and craft production. Further pushed by population increase and economic constraints, the number of intensified specialist weavers has increased through time.

Whether or not the commercial production intensification phenomenon similar to what has occurred among the Ifugaoos happens among the Kalinga remains to be seen.
Though the beginnings of increased production is happening, whether they trade fully in a commercial market catering to the tourist industry is dependent upon the Kalinga weavers themselves and their family’s survival.

In the specific case of pasiking or backpack weavers, they are now more dependent on the demand for baskets required by the occasional “lowland” middleman or itinerant trader, rather than locally – pasiking weavers will make these types of baskets year round because of the time involved in weaving them and at times create a very conservative surplus (4-6 baskets). A finished pasiking requires at least three to four days of about six daylight-working hours per day, and the surplus is dependent upon the amount or cost of raw material especially when it has to be purchased. The deforestation of the surrounding area has led to the depletion of rattan and free access to wild rattan is not as common as before.

Age also seems to be a factor in having to harvest available rattan within the boundaries of the nearby forest according to older weavers – they say younger Kalinga weavers have the stamina for harvesting rattan deeper in the forest than they do – but the refinement of the skill is still seen in the older weaver’s work.

With the growing encroachment of cash in a traditional barter economy, younger pasiking weavers are slowly finding other markets other than trading within local villages and have taken their baskets as far as Tabuk, Abra, Tuguegarao and Baguio. Tabuk being the capital of Kalinga Province and having a public market structure, is predominantly controlled by “lowland” Ilocanos who operate the commercial “open” market, the western version of a farmers market, provide local Kalinga weavers a public market
option. Some storeowners in the market take "consigned" baskets from these Kalinga weavers in an effort to sell their products. Popular weekend markets in most provincial towns tend to bring in some specialist weavers to trade and sell their wares.

When one Kalinga weaver specializes, it is predictable he will pick a form that is traditionally viewed by the Kalingas themselves as the product of a *magialaga* or specialist basketweaver. Though Kalinga weaving specialization does not seem to be yet in an atmosphere of a fully intensified specialist craft production mode, one implication of this research is that Kalinga basketweavers product specialization is rather the result of fewer, highly skilled basketweavers producing more difficult basket forms as part time specialists. Although there have been a few emerging handfuls of weaving specialists that have intensified production of the *pasiking* or backpack, that influence have been through a local or lowland trader bound for a larger regional and eventually a tourist market. Though most weaving specialists are much on the brink of change, that change is still wholly dependent upon several economic factors and the individual choices they make for themselves.

Social and Political Diversity Among the Kalinga

On the question of socio-economic inequality among the Kalinga, foreign ethnographers have displayed incredible naiveté and have described them as "essentially classless" (Dozier 1966:118, Takaki 1977), or characterized by an "incipient class structure" (Barton 1949). Though these disagreements regarding the political structure stem partly from historical factors; the differentiation in inheritable wealth is tremendous.
The poorest households may have one to three small ricefields; the richest, 30 to 40 large ricefields. The poor households may have one swidden, the rich 4-5, and the difference in the number of working and domesticated animals is great. For example, the rich have many more water buffaloes or karabao for plowing as well as a meat source for ritual, and the same is true for chickens, pigs and dogs. These economic differences continue to grow among the Kalinga today (Trostel: 1989).

Wealth distinctions are well established in Kalinga society and these have been explored in earlier research (e.g., Dozier 1966; Lawless 1978; Trostel 1989). Whether the economic stratification observable today has its roots in the American period - when headhunting was replaced by entrepreneurial activity as the basis for status and prestige (e.g., Dozier 1966: 66; Keesing and Keesing 1934: 112) - or if the affluent baknang class has deeper origins is unclear. Wealthy or haknang households possess both prestige and power in the decision making of the village. But as off farm income opportunities become common (e.g., contract work, government, and wage labor), this class has begun to change. Those traditionally wealthy families who have taken advantage of educational opportunities have maintained their positions. Former baknang families have lost their power to a growing educated elite constituting of college educated Kalingas who are privately or government employed. The access to cash can make it easier for the new rich to hold traditional feasting, a conspicuous consumption of meat, to gain prestige and political power.

In spite of social change the traditional institution of leadership, the pangat has retained. Leadership is not exclusive of the elite or the underprivileged; the pangat may
come from either group and hold position by virtue of their leadership skills. Leaders, old men, laklakay or pangat are primary to the functioning of any Kalinga ili or village, as their contributions to public disputes are invaluable and they form the customary “judge advocates”. They are effective leaders whether it entails tribal warfare or simple matters of the village. Questions that are largely legal and may affect the whole village are set out for these pangat or laklakay to deliberate and are settled by custom law involving the maintenance of the bodong or peace-pacts (Bacdayan: 1967). Philippine national laws among indigenous groups are less likely actively implemented by the remoteness of these areas.

These codified institutionalized systems of custom law that revolve around peace pacts remain the primary aspect of Kalinga society. Peace pacts link Kalinga ili or villages and other areas to one another through agreements that primarily provide: arrangements to end tribal wars caused by blood feuds, ensure justice when a crime is committed, establish peaceful areas of travel and trade alliances, and establish agreements between villages that permit intermarriages. Peace pacts have been maintained for generations and individual peace pact holders pass their responsibility down to the next generation.

Kalinga Property Rights and Access to Land Under Philippine Law

Among the Kalinga and among most indigenous Philippine groups, the national government does not officially recognize “tribal” claims of ownership to the ancestral land they occupy under their local, customary laws (Leonen 1991; Lynch 1982; Prill-
Brett 1991, 1994). The dominance of either customary laws or national land reform laws continues to be debated in Philippine courts and has not been settled to date. Throughout the Cordillera and among the Kalingas however, customary law continues to determine one's right to land in the local level and kinship determines one's inheritance rights to land at a familial level.

Throughout the Cordillera, indigenous concepts of rights to land and management practices conflict with national Philippine laws on land classification as Lynch (1982: 274) states. "...the national land laws are premised on the regalian doctrine which declares that all natural resources in the Philippines belong to the State". Philippine state laws recognize evidence of land ownership as demonstrated in paper titles and lands not covered by such titles may be classified as belonging to the public domain (Prill-Brett 1994:26). Cordillera cultivators cannot obtain titles to their land because of Presidential Decree 705 (the Revised Forestry Code) that states that "no land of the public domain 18 percent in slope or steeper can be classified as alienable and disposable for agricultural or settlement purposes" (quoted in Prill-Brett 1994:26). Most Cordillera groups have, for centuries, practiced wet rice agriculture on steep slopes ranging from 40 to 80 degrees (Prill-Brett 1994:26). Cordillera people assert that the Philippine national government should respect their traditional ancestral land ownership patterns as dictated in customary law. Although the 1987 Constitution mandated this provision, the National Department of Agrarian Reform ordered in 1993, that all land in the Cordillera region be titled according to national laws, including rice terraces. This would supersede the indigenous system of ancestral land ownership (Dizon 1993:5). At this time, this debate has not been resolved.

Among the Kalinga, irrigated rice land is perceived as the most valuable type of land because considerable technical knowledge, labor and material are involved in its construction (Prill Brett 1994:25) while houses on the other hand are easily dismantled, moved and the construction materials recycled and used. As part of a family’s inheritance, irrigated rice land is passed down by both parents individually to their children at marriage. Men and women inherit wealth equally, but birth order among siblings determines who inherits what. Under the principle of ranked bilateral kinship (primogeniture), the eldest child male or female inherits the largest rice field, the second child, the second largest and so on. If the family is large, and only owns a few possessions, often the youngest siblings do not inherit anything. Older children then may hire their younger siblings to work in the fields or if they leave the province, they often assign the care of the inherited fields to their parents who then distribute the rice to the younger siblings. This system of inheritance, documented by Barton (1949) in the early 1900’s, continues today among the Kalingas.

Origins of Socioeconomic Inequality

As Lawless (1977) aptly states...“all institutions contain their seeds for change in former societal structures, and the dynamics that bring about changes are usually small consequences of routine decision-making processes that are nearly impossible to reconstruct. The reasons for the origin of socioeconomic inequality are not the same as
the mechanisms for the maintenance of the distinction between the rich and the poor. The rise and fall of the rich and the poor in contemporary Kalinga does not necessarily indicate causes of the origins of this inequality, though some of the mechanisms display dynamics that could have worked in the beginning" (1977: 102-103).

It is therefore quite difficult to speak of origins, but there are a few things that can be discussed. There are certain broad levels and stages in the evolution of Kalinga society in the Cordillera of Luzon. These are hunting and gathering, swiddening, and wet-rice agriculture. The advantage of studying societal dynamics among the Kalinga is that, perhaps more regularly here than anywhere else in Northern Luzon, all three subsistence strategies existed at the same time for the same people (sensu Lawless 1977).

At each stage of evolutionary adaptation there is a build-up of population pressure and then a release as the intensification process enters into new stage (Harner 1970:68-79). Socio-economic inequality is evident in each phase and is intensified as the resources become scarce. Generally the factors of production, land, labor, and capital, play different roles in each of the dynamic stages. In the earlier stages of swiddening and the later stages of hunting and gathering, those who successfully manipulate labor, increase the degree of inequality since labor is the scarcest factor of production. In the later stages of swiddening land is the principal manipulative factor, though not as important as later under more intensive agriculture. In the early stages of irrigated wet-rice agriculture, labor is the prime factor, and later land is the scarcest factor of production and consequently the most important component in the creation of socioeconomic inequality. As agriculture intensifies and capital investment becomes necessary, especially in terms
of tools, capital becomes the prime factor, along with the normal governing relations between elites and the people and the superstructure that justifies exploitation (Van Velsen: 1964: xxiv). Sequentially labor, land, and capital is then, each in its own place, the limiting condition of production and therefore the most scarce factor of production, the manipulation of which is the way to wealth and power (Lawless 1977: 110-112, 1978).

Kalinga Tribal Leadership or the Pangat system and the Manipulation of Labor and Norms

Socioeconomic growth and inequality is an elite-directed process that concentrates social power in some proportion to increases in culture scale. Power elites have controlled social power to their own advantage in at least three different ways: domestically, by means of kinship, politically, by means of rulers, and by trade and exchange.

Most Kalinga pangat, in answer to the question why are there rich and poor, reply that some had fathers and grandfathers who were more industrious and who started terracing earlier while others had fathers who wanted to work only swiddens because they were lazy. Most Kalingas go along with this folk explanation. Many pangat and ordinary Kalingas often point out that the rich produce more and the poor produce less, implying that the society as a whole owes more to the rich. They do not point out that this production relies on the ability of members of the elite to manipulate the land, labor, and capital of others and is not based on their working twenty hours a day while the poor work only ten hours a day, in fact the reverse ratio is far more common (Lawless
So although craft industry may possibly have had some initial importance in the origins of socioeconomic inequality, certain degrees of control of the most scarce factor of production is both the key to the maintenance of contemporary inequality and the creation of new inequalities, and manipulative feature of the system, not of particular households or individuals within the system (Van Hekken and Van Velzen 1972: 14-15).

_Pangats_ decide wages when it comes to tenant labor, and they argue that they are merely carrying out the people’s wishes. The Kalinga villagers at times will make comment (when they are out of earshot of any *pangat*), and say that the *pangat* decide everything. The fact that there are no landless households in Pasil tends to create a labor scarcity that keeps wages from staying at the very low level that they are pegged at during the rice gap. During the harvesting and planting and various cleanings of the terraces these households are unlikely to work at very low wages but instead will cultivate their own land more intensively. In fact, in Pasil the current work on new terraces and on extending old terraces is being done only by the poor households—generally they are turning their swiddens into paddies. In Pasil the poorest households are building ricefields on their swiddens even though there is no water supply for irrigation (Lawless 1977: 101-104; Lawless 1975: 18-33: Lawless 1978).

Boserup (1965:108) discusses much of this in strictly economic terms without indicating the role that the leaders would play in such a situation. The economics set the parameters, but it has been observed, powerful socio-political leaders, the *pangat* system, can use their authority to manipulate wages to their advantage, as demonstrated by
Lawless (1977:108). This may have indirectly affected the cost of baskets and pottery purchased by the KEP during 1987-1988.

The ecological basis for such an observation seems evident in Kalinga where households have continued to shift from dry to wet-rice agriculture due to population pressure. There is a tendency toward diversity in natural ecosystems; but there is also a tendency toward uniformity in artificial ecosystems or those strongly influenced by humans. Diversity is a component of the organized complexity of an ecosystem (sensu Lawless 1975:23-33). Generally the greater the degree of diversity and complexity within an ecosystem, the greater the stability of the system. A reduction of complexity usually leads to changes in the direction of entropy within the system. This is the ecological explanation of why labor input increases as agriculture intensifies; as the cultivation system is made simpler it is also made less diverse. Such a system is in a precarious position tending toward entropy. The more artificial an ecosystem, the more carefully must its artificiality be tended and the more people hours of labour are required (Netting 1986, 1993).

Therefore all farmers must work harder and leave socio-political functions to a group specializing in this. The increased competition for scarce resources itself leads to increased disputes that require supra-kinship types of authority to settle them - thus the pangat system among the Kalinga. The division of labour and specialization of work leads to a rise in the value of permanent markets and secure transportation. All of this requires interregional authority (sensu Netting 1990: 21-61).
Population pressure among the Kalinga has its implications for the agricultural cycle. The demands on resources for subsistence, and continuing sustenance as well as the increase presence or at times the abandonment of craft technology. In this microcosm, we see the evolutionary progression of full-time craft specialization in relation to the Kalingas' overall mechanism in coping with change.

Increasing stress on available resources may influence the intensity and scale of basketry production that has responded to fluctuations in the availability of resources of raw material in the last several decades (rattan and bamboo), important in the history of production of certain type of baskets. Likewise, mining, dam construction and logging have affected changes in resources and have likewise changed the demand for both Kalinga baskets and pottery. If these changes continue, it is most likely that these villages will exhibit local and eventually regional changes in craft production as a response to these external pressures.

The steadily increasing Kalinga population patterns noted by both (KEP) research team members Kobayashi (1989; 1995) in the village of Dangtalan and Guinaang, and by Stark (1990; 1991) in the village of Dalupa - has outstripped its available subsistence resources, as evidence by the increasing rates of work related emigration and the intensification of non-agricultural craft specialties.

The villages of Dangtalan, Dalupa and Guinaang, the three villages intensively studied by the Kalinga Ethnoarchaeology Project, respond to these strains on their resources by subsistence diversification and work-related emigration. Subsistence diversification includes both craft production and cash cropping such as in coffee
cultivation, or in the harvesting and sale of wild rattan. Work related emigration to surrounding mines, tenant farming during periods of peak labor demands, even construction labor in larger towns or cities and the occasional migrant contract worker going to the Middle East provide sources of income and agents of culture change. Most of these jobs are temporary in duration, at times political and provide only sporadic sources of cash. Poor households in Kalinga may borrow money from wealthy households at almost usurious rates by Kalinga standards. More common work alternatives for Kalinga residents involve wage labor in tenant farms or lowland rice farms in neighboring municipalities (Eder 1982. Milgram 1997). Notes a parallel situation with the neighboring Ifugao.

Agricultural Intensification and the Implication to Kalinga Basketry Production

Agricultural intensification is traditionally associated with changes in land use and fallow periods. Following the definitions of Ruthenberg (1980) define the intensity of cultivation among other ways and the length of fallow periods between planting. Though primarily a microcosmic application in exploring the conditions under which agricultural intensification and the rise of basketmakers take place, exploring the origins of craft specialization is relevant to this case study among the Kalinga. in examining the links between the problems and theory of the population pressure model proposed by Ester Boserup (1965) in *The Conditions of Agricultural Growth* and further critiqued and discussed by the work of Michael J. Harner (1970) in *Population Pressure and the Social Evolution of Agriculturists*. Two basic concepts to the Boserup hypothesis are ecological
substitution and technological change. Rising population are compensated by working the land harder, often with decreasing returns for each additional unit of labor.

Conceptual approaches of swiddening in Southeast Asia (e.g., Spencer 1966:1) include broad approaches to employ in studying how humans live in an area, and may involve the geography, the commodities, the economy, the culture, the technology, the history, and the government. Ethnoarchaeological analysis must touch on all these, and in addition, we must include the consequences of population dynamics and its links to the rise of craft. Before the 1970’s there was a lack of explanation on the aspect of demography and reflected the lack of concern among social scientists in general and anthropologists in particular with population growth.

Population Pressure Theory and the Rise of Craft Technology

The prospect of viewing societal change as a consequence of a growing population's pressure on natural resources added another dimension to discussions on the evolution of society, agricultural change, political centralization, and socioeconomic differentiation. Boserup forcefully focuses on population growth as the independent variable, which in its turn is a major factor determining agricultural developments (Boserup 1965:11).

In the 1970’s, anthropologists had begun to examine the implications of Boserup's population-pressure model (see Spooner ed.: 1972). Harner demonstrated an advanced application of the population pressure model to successfully predict kinship shifts, political organization, and class stratification from a large sample of agricultural societies based on their decline in hunting and gathering and increased dependency on farming (Harner: 1970).
Geographers working in developing nations were increasing their attention to the effects of population growth on ecology and environment, discovering in their detailed empirical studies of these regions that the uncritically accepted Malthusian assumptions did not hold (see e.g., Zelinsky and Prothero 1970). Some geographers demonstrated that specific small-scale alterations in agricultural practices were caused by population pressure (e.g., Vermeer 1970), while others emphasized the force of population growth in bringing about changes in stages of subsistence, such as from hunting and gathering to cropping and animal husbandry (e.g., Newman 1970). Still others independently developed a population model that bore considerably similarity to the Boserup model (e.g., Cleave 1974, White 1973).

Central to the population pressure theory are the propositions that intensification of agriculture requires more labour input per unit of produce than the previous agricultural practices and therefore individuals will not change agricultural practices nor use intensification innovations (e.g., agricultural or non-agricultural craft production) until forced to by population pressure, or by natural resource scarcity in the food supply. The elasticity of the land to feed people may be stretched to relatively unlimited lengths by adaptive changes in technology and by capital improvements. The growth of population, intensification of agriculture, and development or intensification of craft technology may even result in societal intensification and stratification. There is a notion that the changing structures of cooperation and competition resulted from rising population pressure and increasingly scarce natural resources, specifically cultivable land (sensu Harner 1970). A considerable amount of rethinking has been prompted by
Harner’s article (e.g., Sprenger 1972; Isaac 1975), and an investigation of western European prehistoric societies finds the Harner’s model to be a valuable framework for understanding many confounding changes (Phillips 1973). One of the most convincing restatements of the population pressure model is by Cohen (1975) and focuses on disproving the common technological deterministic explanations of the origin of agriculture.

Problems in the Population Pressure Theory

One of the major problems in the population pressure model is how to measure population pressure itself. Although natural resource scarcity is supposed to correlate with population growth, most historical reconstructions generally lack reliable demographic data. Investigators have attempted other means of measurement and as Boserup (1965:15-16, 118) presents such a scale for measuring population pressure, based upon the frequency of cropping, it suffers from the fact that two of its five categories representing population pressure, “annual cropping” and “multi-cropping” are susceptible to the influence of climate, and a third, the “short fallow” category, is primarily a function of the use of the plow (Harner 1970:72).

A related difficulty then in any encounter with population pressure theory is the level of its application. In general, the population pressure models that have been developed operate at a level of confusion that is so obscure in terms of geographical variations and negates any historical significance of particular ecological systems. Although this is to be expected in evolutionary and cross-cultural applications, Waddell (1972a) suggests that certain agricultural practices and intensification processes among
groups in the Central Highlands of New Guinea develop ... "in direct response to environmental variables, and independently of any variations in population size or density" (Waddell 1972b: 219). He concludes that the population pressure theory requires a more complex explanation and that ... "further local studies are a necessary prerequisite to such enquiry. for it is only at this level that one can isolate the uniqueness and establish the regularities that are required to lead cultural ecological research toward more general theory" (Waddell 1972b: 220).

While it may possibly be more accurate to measure population pressure as resource scarcity or specifically as a lessening of dependency on hunting and gathering in societies practising agriculture—in a cross-cultural application, as does Harner (1970:71-72), it may not always be possible in the microcosm of the Kalinga. Scarcity of wildlife may result from other causes such as epidemics, forest fires or changing environments and climates. Population pressure related to population growth therefore can be definitely established only with demographic data.

Bronson's (1972) criticism similarly points out that some difficulty in evaluating the Boserup model comes from the fact that many of the data ... "are cross-environmental and cross-cultural: a comparison of English wheat farmers and African cassava growers must disregard many differences in environment and economy (Bronson 1972:191: 1979).

Kalinga is a relevant setting for examining these issues as Kalingas still engage in varying degrees of three subsistence activities (1) hunting and gathering (though it has declined drastically and practiced on a very limited scale due to forest recession and denudation, brought about by illegal timber cutting without government regulatory
implementation of reforestation programs), and the erosion and ill effects of years of swiddening; (2) swidden cultivation and (3) irrigated rice terrace agriculture. The latter two provide a more specific case for discussions of the varied theories of population pressure-the demands on resources for subsistence and sustenance resulting from population increase-as well as the increase presence or absence of craft technology - as a mechanism of the Kalinga in coping with change.

Focusing largely on agricultural economics and the factors of production-land, labor, and capital - population pressure seems to be the prime mover behind the increasing agricultural intensification among the Kalingas, especially the important change from dry to wet-rice cultivation systems. Specific demographic measurements illustrate the mechanisms and the argument between population growth and environmental change. The outstanding consequence of population pressure among the Kalingas appears to be increasing socio-economic differentiation as various groups compete for the scarcest factors of production. Changes in the subsistence base as population pressure increases land scarcity lead to changes in the scarcest factor of production, which in turn lead to the rise of new socioeconomic groups that struggle to establish their own socioeconomic power (Lawless 1975: 1977).

Population increase has characterized the Cordillera region since 1913 and may have been the primary incentive for the development of irrigation agriculture and rice terracing (Keesing and Keesing 1934:185). The gradual increase in population growth through time is evident by the total population estimates at varying points through the history of the Kalinga as well. At each ecological stage that the Kalingas adapt to, there is
buildup of population pressure and then the intensification process enters into a new stage. Socioeconomic inequality is evident in each phase and is intensified as the resources become scarcer. Generally, the factors of production play varying roles in each of these stages. In the earlier stages of swiddening and the later stages of hunting and gathering those who successfully manipulate the factor of labor, increase the degree of inequality since labor is the scarcest factor of production (Lawless 1973: 18-33).

In the later stages of swiddening, land is the principal factor, though not as important as later with agriculture that is more intensive. In the early stages of irrigated rice, agricultural labor is the prime factor, and later land is the scarcest factor of production and consequently the most important component for the creation of socioeconomic inequality. As agriculture intensifies and capital investment becomes necessary, especially in terms of tools, fertilizers, insecticides, and capital becomes the prime factors, along with the norms governing the relations between competing elites that justify exploitation of the non-elite (Lawless 1977: 95-120; 1978).

To understand this seemingly complex relationship one needs to understand the interplay of basic Kalingas social and political structure and subsistence strategies. Political and economic changes in the study area are described in other sources as well (see Aranal-Sereno and Libarios 1983; Lawless 1977, 1978; Stark 1991, 1993), and have substantially affected Kalinga economics and subsistence.

Population pressure among the Kalinga has implications for the agricultural cycle, the demands on resources for subsistence and continuing sustenance as well as the increased presence or abandonment of craft technology and the evolution of full-time
craft specialization. The steadily increasing Kalinga population patterns noted by both (KEP) research team members Kobayashi (1989; 1995) in the village of Dangtalan and Guinaang, and by Stark (1990; 1991; 1993: 97-99) in the village of Dalupa support the links in craft production intensification and specialization, found among both Kalinga basketweavers and potters.

Population Increase Among the Kalingas Through Time and the Implications for Craft Production and Intensification and Subsistence

It is evident that population among the Kalinga's along with the other Cordillera peoples has increased since the turn of the twentieth century. Existing literature describes such an increase. The gradual increase in population growth through time may have been a primary incentive for the development of irrigated rice terracing among the Kalingas (see Keesing 1963).

It is apparent that the household counts and population information gathered by the Kalinga Ethnoarchaeology Project have changed through time (see Lawless 1977: 63; Kobayashi 1989; Graves 1991 for Dangtalan and Stark 1993: 97-98 for Dalupa population increases) and this increase is apparent from about the 1930's.

In the 1940 census of population, Kalinga had only 54,843 inhabitants of whom 96.8% were ethnic Kalinga. The population density was 0.12 per square kilometer. With improved medical and health care considerably lowering the general mortality rate coupled with the influx of immigrants into the municipalities of Tabuk, Rizal (Liwan) and Pinukpuk, the population has more than doubled from 54,843 to 149,940 in 1980. In
the 1980 census. 66.4% of the populations are the ethnic Kalinga while the rest are immigrants from the neighboring Cordillera groups such as the Bontoc, Benguet and lowland Ilocano and Ibanag, mostly in the capital town of Tabuk. Most municipalities of Kalinga further away from the capital are still predominantly Kalinga. The total population of the province of Kalinga on September 1, 1995 is 154,145 and the average Household Size is 5.52. see Table No. 6.1. on Kalinga demographics data by Kalinga municipality. adapted from the Philippine National Statistics Office Reports 1996).

Table No. 6.1 1995 Kalinga Demographics By Municipality. Population and Number of Households (data adapted from the Philippine National Statistics Office 1996)

<table>
<thead>
<tr>
<th>Name of Municipality</th>
<th>Total Population</th>
<th>Number of Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balbalan</td>
<td>11,742</td>
<td>1,831</td>
</tr>
<tr>
<td>Lubuagan</td>
<td>9,897</td>
<td>1,782</td>
</tr>
<tr>
<td>Pasil</td>
<td>8,935</td>
<td>1,506</td>
</tr>
<tr>
<td>Pinukpuk</td>
<td>23,057</td>
<td>4,186</td>
</tr>
<tr>
<td>Rizal (Liwan)</td>
<td>12,173</td>
<td>2,283</td>
</tr>
<tr>
<td>Tabuk</td>
<td>63,507</td>
<td>11,955</td>
</tr>
<tr>
<td>Tanudan</td>
<td>11,243</td>
<td>1,818</td>
</tr>
<tr>
<td>Tinglayan</td>
<td>13,591</td>
<td>2,494</td>
</tr>
<tr>
<td>Totals</td>
<td>154,257.897</td>
<td>27,855</td>
</tr>
</tbody>
</table>

Household size has increased steadily in Dangtalan (Kobayashi 1989) as well as a similar pattern reported for Dalupa (Stark 1991,1993). In summary, population pressure serves as a deviation amplifying mechanism for the development of craft specialization in a population. Both weavers and potters continue economic dependence on the craft and this seems to lead to evolution of full-time specialization. This increasing population
among Kalinga villages has outstripped the available subsistence resources as evidenced by the increased craft intensification as well as other non-agricultural specialization and the rates of off-farm labor and work related out migration. Kalingas in the Pasil municipality have taken advantage of an increasing variety of employment opportunities beyond their respective ili or village. Education has not kept the isolated Kalinga an unassimilated “tribal” culture or in a state of “underdevelopment”. The value of education is a vital factor among the Kalinga, and has changed the traditional baknang class to a growing educated “elite” as some Kalingas have gone on to college.

To what extent education among the Kalinga will intensify and promote culture change depends on several factors. Education, the rate of emigration of Kalinga residents, the availability of resources, local village politics and the unpredictability of the Philippine national government will all affect these villages. Schools not only provide education but they are always an agent of acculturation and assimilation of the Kalingas to the dominant Philippine society. The impact of overall Philippine development has produced substantial change in their political and economic systems. Yet, they remain isolated from technological changes by virtue of their geographic isolation and receive the least amount of government funding for infrastructure. But the Kalingas have demonstrated the value of tradition and exert an active role over the degree and specific forms of acculturation that they accept.

The prospects for change in general in these Kalinga Villages and specifically in craft producing villages are all dependent on time. After living with the Kalingas for close to a year in 1988, and in the twenty-first millennium, the men still weave baskets
and some have intensified production in the villages of Guinaang, Bagtayan and Tulgao. The expert weaver of winnowing baskets from Tulgao, who was my research consultant, has stopped making baskets, but his nephew has continued. He has involved other skilled young weavers of the village in the production of backpacks or the *pasiking* due to an Ilocano trader’s request.

Potters still make and sell pots. I have been informed (Miriam Stark personal communication), that pottery production continues and changes as active potters live, give birth and die. Occasional potters have joined part-time specialists groups and other potters have become itinerant “walking stores” selling clothes and other lowland items (see Stark 1993: 89-102). In 1998, I was told that a Dalupa resident has introduced a potter’s wheel (Longacre personal communication), but it does not seem to have been adopted.

Since the Philippine government under the former President Corazon Aquino took a major step in canceling the Chico River Dam Project, local Kalinga politics have improved and have become a little more stable. Unfortunately, economically disenfranchised Cordillera indigenous groups by virtue of the overall disinterest of the national Philippine government are dissatisfied and intervillage warfare has increased. Peace pact agreements are set and broken and the local people wounded or killed. Illegal firearms promote highway banditry and these crimes are rampant. The Kalinga Ethnoarchaeology Project was informed that Cholera swept through the Pasil Municipality in 1993 but most of the villages were unharmed. On the local level, where one Kalinga village goes, the others follow. Because of internal feuds, Kalinga warfare
continues and it is contingent on local events, and the outcome will likely affect craft production and could push it either towards further intensification or extinction.

On the national level, since craft production is inter-connected to a larger Philippine capitalist system, the weavers have intensified a particular basketry form. Trade networks will expand as they have since the colonial period, and the lowland market demands for a specific basketry form supports a growing "tourist" and "export" trade market. If the current Philippine government supports the greater interests of the Kalinga via a Cordillera Autonomous Region: then the Kalingas may enjoy more economic and political autonomy, which will in turn affect the men who weave baskets and the women who make pots.

KALINGA BASKETRY EXCHANGE
Craft Income in Context

What becomes evident from the results of this research and from my interviews with non-specialist weavers and weaving specialists is the heterogeneity of the basketweavers involvement with the craft and the differences in their earning capacity from basketmaking.

Kalinga specialist weavers incomes that come from craft production can provide as much as 68 percent of a households cash income, and as little as 10 percent, depending upon the market demand for their products and the activities of the other household members. Income from crafts is most essential to poorer households who have little or no access to land and only irregular wage work (see also Cook and Binford 1990:35; Garcia-
Canclini 1993:110,111; Rutten 1993:97). Without a mixed agricultural production base and with no agricultural surplus, the options for Kalinga craftmakers in general to earn cash are very limited. Thus, incomes from basket specialist’s households represent the major cash income generating activity for that particular household. Many of the households which do not engage in a specialist basketry production mode and sale devote most of their time to farming, although ownership of land does not preclude craft production. In some other households, other sources of cash income are through wage labor and the occasional income from a cash crop such as coffee, beans etc. A cash income from a specialist basketweavers household enables their families to purchase items that cannot be bartered or exchanged for (e.g., medicine, school expenses, the luxury of store bought canned goods, cigarettes, or transportation money, or even betel nut). Betel nut chewing is considered a luxury among Cordillera tribes, and the Kalinga is not an exception - women and men purchase betel nut, betel nut leaves, lime powder and tobacco, and along with it special woven basket carrying pouches. The constant exchange of these ingredients is essential for promoting social relationships with neighbors and family members.

Craft specialists who have intensified craft production are able to accumulate cash and invest their money on their children’s education, maybe renovating their houses from a traditional thatch roof to a galvanized metal tin roof, or for a cash emergency to purchase livestock or animals (e.g., pigs and water buffalo) required for traditional feasting, funerals or weddings. Larger investments such as these are usually funded through a combination of husband and wife’s incomes whether it is from crafts or wage...
labor. Raising chickens and pigs can provide a source of cash as they are always in demand for ritual celebrations. Sources of families' limited resources moreover are being continuously drained by the demands of sponsoring and contributing to traditional Kalinga rituals or palanos. Although the majority of Kalingas in the villages of Dangtalan, Dalupa and Guinaang have converted to some form of Christianity, traditional feasting is organized and prepared at all major rites of passage such as birth, death, marriage and illness curing ceremonies. During the time of my residence in Dangtalan Kalinga, every household within that year made at least a contribution (rice, labor, food or cash) to families sponsoring rituals in the village, whether relatives or neighbors. Even the poorest households gave some form of donation. These donations are reciprocated through generous village meals served during these major ritual feasts, especially funerals and weddings. Kalingas are known to go into substantial debt for this reason. Donations from more affluent families in the village, defined by the amount of riceland they own, are expected to be generous in either rice or cash as they hold a prestigious social position in the village. Food exchange in the form of garden produce from swiddens is widely practiced, as families continually receive gifts of vegetables from their neighbors and depending upon what they grow, they reciprocate these over time with balanced gifts.

Craft Exchange, Exchange Rates and Seasonal Values

Baskets as well as pottery among the Kalinga are commonly exchanged for rice. Men trade baskets, women trade pots with the goal of obtaining rice for their families, as rice is the single most important and prestigious component of Kalinga diet. The
exchange values of pots are set prices based on vessel volume (Stark 1994:301-303).

Baskets have a different value as vessel volume is not measured like pots; the discrepancy then lies between the customary price and the actual exchange price of the basket both of which are referred to as ngina or value (see Takaki 1977:354). Negotiations between the basket weaver and the buyer may also be dependent on the number of measured rice in pots in exchange for the basket, an arrangement is reached and the items exchanged.

The exchange of baskets and pots varies with the phase of rice production, the history of social and economic transactions between producer and consumer, and the site of the transaction. Exchange values for pots can plummet during pre-harvest rice shortages and are most pronounced immediately before the harvest of the second crop in September and October (see also Stark 1993; Lawless 1978; Takaki 1977). On the other hand, certain types of baskets are popular during harvest (e.g., winnowing baskets), when the demand is high and values rise. When potter households experience severe subsistence problems and stress, household members borrow rice from wealthy households in exchange for field labor or barter pots for lower exchange values (see Stark 1992:125-136; 1994:287-303). Craft products go through three transaction types (i.e. barter, gift and sale) and generally through a primary distribution from producer to consumer and on occasion a secondary distribution the use of intermediaries and sometimes, itinerant traders.
Regional and Interregional Trade

Archaeological evidence from the Visayas indicates that extensive trading networks within the other insular communities and long distance trade to extend back to the eleventh century (Junker 1990). Spanish accounts in the sixteenth century describe extensive highland-lowland trade that brought in highland traders to the lowlands to exchange highland forest products such as honey, rattan and gold ore (Scott 1982), for metal implements and Chinese trade porcelain jars, from the lowland groups. Regional and interregional trade has played a crucial role throughout Philippine history in linking populations from disparate and environmental backgrounds (Hutterer 1976; Hutterer and Macdonald 1982).

Among the Kalinga, household goods such as baskets and pots are distributed traditionally in a barter economy by means of a balanced exchange transaction as seen by Takaki in Uma in (1977), and results of Stark’s Dalupa pottery studies in (1993) showing a similar trend in Kalinga pots.

Though the KEP has seen an influx of a growing cash economy from the time the research project was started (Longacre 1977), through the present time – the barter of baskets and pots are still exchanged with food items such as coffee, rice, raw materials such as rattan and field labor. Pounded and winnowed rice is generally and still commonly used in subsistence transactions for pottery (Takaki 1977: 375; Stark 1994: 301-303), likewise for basketry as seen in my research in 1988. On occasion preferred trade items among male weavers are tobacco and the occasional lowland import of gin.
This statement is not meant to come across as androcentric and does not preclude some Kalinga women from smoking tobacco or drinking gin.

The range of traditionally bartered items has changed through the years, especially with the growing outside contact between the Kalingas themselves and contemporary Philippine society. Stark (1993, 1994) in her research among Dalupa potters has recorded the exchange of pots for clothing, groceries such as canned goods, cooking oil, soap, enamel plates and metal cooking pots or calderos in her 1988 field research. Both Kalinga baskets and pottery are also given in gift exchanges in social displays of generalized reciprocity.

In the absence of a true market economy at least among the Kalingas of the Pasil Municipality or non Pasil (e.g., Bagtayan, Tinglayan and Tanudan), the village system lies between a marketless and peripheral market. Not having an actual centralized physical market suggests the difference in the regional economic systems differentiating one municipality from the other. The concentration of actual markets on specific days or every day are found in larger more populated Kalinga areas such as Lubuagan or Tabuk, the provincial capital that do have a regularized and physically appropriated area. Lowland Ilocanos predominantly own the Tabuk market. The lack of a developed transportation system is one reason why the economy at least of these municipalities is not dependent upon an actual existing market system. The still thriving Kalinga barter economy still operates in the Pasil River area, and still is the main system of exchange and trade among basketweavers. Descriptions of the Kalinga economic system have been
discussed in detail elsewhere (e.g., Dozier 1966; Takaki 1977; and Stark 1993, 1994 169-196, specific to Dalupa pottery economics).

Basketweavers still thrive in a barter economy, and cash transactions for 
*maglalaga* baskets are getting more common. See Table No. 6.2 for subsistence and specialty goods among the Kalinga in the Pasil municipality economic network. Data for subsistence goods supplied by villages in the Pasil Exchange system were adapted from Stark (1993: 299)

Kalinga baskets circulate, either through a primary producer to consumer or secondary distribution network or trader, one that involves an intermediary between the producer and the consumer. Among the Kalinga weavers in the study area - a primary distribution network is the traditional form of exchange at least with a number of basketry specialists or *maglalaga* in the villages of Guinaang, Tanudan, Tulgao and Uma. Depending on the basketry types they specialize in, certain specialist weavers may involve a secondary distribution network or trader especially in the case of the *pasiking* or the woven backpack that has found its popularity among larger provincial markets such as Lubuagan, Tabuk, or as far as Tuguegarao or Baguio (see map Figure No. 6.8). depicting exchange routes of specialized basketry, woven articles and rattan for raw material in making baskets.
Table No. 6.2 Subsistence and Specialty Goods Supplied by Villages in the Pasil Exchange System
(Stark 1993: 299)

<table>
<thead>
<tr>
<th>Regional Exchange</th>
<th>Traded Specialty Goods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pasil and Non Pasil*** Villages</td>
<td>Store bought goods (e.g., salt, sugar, canned goods, cigarettes, gin, dry salted fish etc.)</td>
</tr>
<tr>
<td>Ableg</td>
<td>Lumber, resin, wild deer, wild pigs, sleeping mats, rattan, rattan shoots, white beans, chili, coffee, squash, ocher, onions</td>
</tr>
<tr>
<td>Bagtayan</td>
<td>Resin, ocher</td>
</tr>
<tr>
<td>Balatoc</td>
<td>Woven pot stands, sleeping pandanus mats, resin, bananas, oranges, coffee, lumber</td>
</tr>
<tr>
<td>Balenciagao</td>
<td>Coconuts, sugar cane wine (basil), mung beans, machetes, hoes**</td>
</tr>
<tr>
<td>Cagaluan</td>
<td>Rattan baskets, winnowing baskets</td>
</tr>
<tr>
<td>Dalupa</td>
<td>Pottery, bananas, ginger, onions</td>
</tr>
<tr>
<td>Dangtalan</td>
<td>Pottery, coffee, coconuts</td>
</tr>
<tr>
<td>Guina-ang/Galdang</td>
<td>Sleeping pandanus mats, rattan shoots, rattan baskets (pasikings), coffee, white beans, green beans, chili, mung beans, woven pot stands</td>
</tr>
<tr>
<td>Lubuagan (Lubuagan Municipality)</td>
<td>Store bought goods (e.g., baskets, textiles, salt, sugar, canned goods, matches, cigarettes, gin, dry salted fish etc.)*</td>
</tr>
<tr>
<td>Malucsad</td>
<td>White beans, coffee, lumber</td>
</tr>
<tr>
<td>Magsilay</td>
<td>Woven (pandan) sleeping mats, sweet potatoes (camote), watercress, resin, wooden pestles for pottery making, bananas, oranges, coffee and taro</td>
</tr>
<tr>
<td>Pugong</td>
<td>White, beans, coffee, lumber</td>
</tr>
<tr>
<td>Tabuk</td>
<td>Provincial Center established public markets (commercialized)</td>
</tr>
<tr>
<td>Tanudan (Tanudan Municipality)</td>
<td>Rattan, winnowing baskets, rice holding and container baskets, rattan, beans, coffee</td>
</tr>
<tr>
<td>Tinglayan (Tinglayan Municipality)</td>
<td>Rattan, winnowing baskets, rice holding and container baskets, rattan, beans, coffee</td>
</tr>
<tr>
<td>Uma (Lubuagan Municipality)</td>
<td>Rattan baskets, white beans, sweet potatoes, watercress, taro, resin, harvesting knives and hoes**</td>
</tr>
</tbody>
</table>

*Store bought baskets found in Lubuagan are a mix of lowland and Kalinga types
**Metalsmithing is found in this village and is a source of machetes or bolos
***Non-Pasil municipalities (e.g., Lubuagan, Tanudan, Tinglayan and Uma) are active in the Pasil exchange network when peace-pact agreements are maintained and not interrupted by tribal war
Likewise, lowland groups that trade regularly with the Kalingas in these provincial, and the two latter regional markets have found this a marketing opportunity, at times to the deterrent of the Kalinga basketmaker who has the disadvantage in deciding “fair” market prices – set by the “shrewed” and “unscrupulous” intermediary, described by some of the Kalinga weavers. It is unfortunate, but the Kalinga specialist weavers are at the mercy of the “affluent” lowland traders, loaded with cash, albeit their only contact within a reasonable distance from their already remote villages to the larger markets.

The traditional Kalinga barter economy is now plagued by the influence of the Philippine cash economy. Distances between Kalinga villages at least within the Pasil Municipality varies greatly in relation to local geography, topography and the availability of routes and foot paths, in relation to the mode of transportation. Among the Kalinga weavers, that would mean a considerable amount of travel time by foot to other villages within their traditional exchange networking system – villages that are located within the Pasil River Valley and those villages, that they and their village have mutual peace pacts with.

The introduction of truck transportation brought about by mining and logging in the surrounding area has brought the Kalinga, to some degree, access to the provincial markets, thereby enlarging their distribution system. The closest market to the Pasil Municipality is located in the provincial capital of Tabuk and takes an average of 8-10 hours on very rough roads. Then depending on the distance of the weavers’ village to road and transportation, access has favored an expansion in the scale of basketry
exchange (likewise seen in Kalinga pottery exchange systems) see Stark (1993:288-342) and Longacre and Skibo (1994).

In the absence of a local specialist weaver, village women consumers will visit the *maglalaga* weavers in neighboring villages to obtain specialized baskets. Some weaving specialists will travel from one village to another at certain times of the year to trade specific baskets, such as rice containers and winnowing baskets that are popular during harvest. Specialist basketweavers and potters will exchange baskets for pots and vice versa, along with other trade items such as rice, coffee, and beans or for wage labor.

Kalinga specialist weavers by virtue of the amount of time involved in weaving certain baskets types, (winnowing baskets or *labnak* and backpacks or *pasiking*) tend to make baskets year-round thereby creating a small amount of surplus. Baskets are stored and taken to other villages when certain types such as winnowing baskets are more in demand during the harvest season, a seasonally induced inflation during the month of June, and the months of November through December.

*Pasiking* or backpack weavers tend to find a larger provincial or regional market to sell their wares or use a local or lowland trader as middlemen. These specialist weavers that have found a market or a trader to buy and sell their products, tend to intensify production. This seemingly small household business is now growing (summer 1997) and has proven to be a successful alternate source of cash.

It has been documented within Kalinga communities and between other Cordillera highland groups that economic networks bridge ethnic boundaries. Such networks were encouraged traditionally through the political institution of the peace-pact or the *bodong*
(e.g., Bacdayan 1967, Dozier 1966, Scott 1979; Takaki 1977). Exchange in the Cordillera highlands, the neighboring lowland Cagayan Valley and Abra Province, was facilitated through the development of trading partnerships dependent upon peace pact arrangements. These exchange transactions focused on the importation of prestige goods such as water buffalos, Chinese trade porcelain and trading beads (Abellera 1987).

A social network of kinship ties binds the Kalinga and where these direct ties cannot be found, an affinity is reckoned (Barton 1949:83), channeling the distribution of material goods, within and among the Kalinga villages. Both basketmakers and potters (for pottery see Stark 1993:300-303, 1994:169-197) circulate their wares, through three transactional types of exchange: barter, gift giving and cash purchase.

Stark (op cit. 1993: 301) further observes, the occurrence of Kalinga women as itinerant traveling vendors, hiking from village to village, known as “walking stores”, bearing loads of store goods like salt, cigarettes, dried fish, for cash purchase and or to exchange for rice or pottery. Specialist produced baskets are not a common commodity sold by these women vendors. The maglalaga himself trades or sells his products and are more often sold for cash rather than bartered for rice or coffee. As a local commodity, specialist baskets cost more than pots and are not as easily bartered or replaced as it costs more to make a specialist basket, especially when rattan is bought for cash. The need for baskets is more seasonal and they tend to last several years, in comparison to pottery for as pots break they can readily be replaced, as there are more potters in a village than there are specialist weavers.
Based on the household basketry inventories taken from the three villages in the study there is a large (68%) percentage of specialist baskets that have been purchased, 23% exchanged for rice, coffee or some other items and the remaining 9% received as gifts. The maglalaga or specialist weavers themselves say they have bartered baskets for rice, coffee, rattan or pots for their wife but have mostly sold their baskets for cash. This cash exchange has become a growing occurrence among these specialist basketweavers during the last three decades. This is due to the fact that these specialist basketmakers now have to purchase the rattan to make these baskets. Rattan as a local forest resource has dwindled through the years and this depletion is apparent in most Kalinga villages. Basketweavers from relatively far more isolated and forested villages (e.g., Guinaang in the Pasil municipality and the remote villages found in Tinglayan and Tanudan municipalities) still find rattan locally; some specialist weavers will purchase rattan from other basketweavers or from a trader. See following (Table No. 6.3) on specialty basketry goods and rattan supplied by specific villages.

Simple plaited, non specialist basket types such as pot rests, small fish traps, chicken coops, and nesting baskets commonly used for household-use are woven when the need arises. Since these baskets are commonly made, they are given as gifts, or exchanged for other products more than they are sold and purchased for cash. Bamboo and or pandanus leaves are the common material used in these baskets and sleeping mats. Bamboo thickets still are abundant around the periphery of the village and are communally owned.
### Table No. 6.3 Specialty Basketry Goods Supplied by Villages in the Pasil and Non Pasil Exchange System

<table>
<thead>
<tr>
<th>Village</th>
<th>Specialty Basketry Goods Supplied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bagtayan</td>
<td>Sleeping mats, rattan</td>
</tr>
<tr>
<td>Balenciagao</td>
<td>Woven pot stands, sleeping mats</td>
</tr>
<tr>
<td>Coluyo</td>
<td>Rattan, winnowing baskets, and rattan baskets (lakpfya, langaya)</td>
</tr>
<tr>
<td>Guina-ang/Galdang</td>
<td>Sleeping pandanus mats, rattan baskets (pasiking), woven pot stands</td>
</tr>
<tr>
<td>Lubuagan (Lubuagan Municipality)</td>
<td>Store bought baskets *</td>
</tr>
<tr>
<td>Magsilay</td>
<td>Woven (pandanus) sleeping mats</td>
</tr>
<tr>
<td>Tabuk</td>
<td>Provincial Center established public markets (commercialized) source of lowland Ilocano type baskets and sleeping mats*.</td>
</tr>
<tr>
<td>Tanudan (Tanudan Municipality)</td>
<td>Rattan, winnowing baskets, rice holding and container baskets, rattan</td>
</tr>
<tr>
<td>Tinglayan (Tinglayan Municipality)</td>
<td>Rattan, winnowing baskets, rice holding and container baskets.</td>
</tr>
<tr>
<td>Uma (Lubuagan Municipality)</td>
<td>Rattan baskets (lakpfya, langaya)**</td>
</tr>
</tbody>
</table>

*store bought baskets found in Lubuagan are a mix of lowland and Kalinga types

**Non-Pasil municipalities (e.g., Lubuagan, Tanudan, Tinglayan and Uma) are active in the Pasil exchange network.

The following map depicts exchange and trade routes for rattan, specialist baskets, woven articles and sleeping mats. The previous table shows village specialties.
Figure No. 6.8 Map of Pasil and Non Pasil Municipalities Involved in Specialized Basketry Exchange

(Adapted from Stark 1994: 192 Figure 9, original drawings drafted by Ronald Beckwith, additional illustrations by Jeff Raby)
Basketry Exchange

The Kalinga social network is continuously reinforced by gift giving and barter (Garming 1981:31; Takaki 1977:59-60), a common networking relationship between lowland Filipinos is likewise the norm based on reciprocity, gift giving and mutual aid (Anderson 1969; Kaut 1961). Seen in Kalinga pottery exchange systems, a similar occurrence has been observed among basket weavers. Exchange values differ within the site of transaction, the season of rice harvest, the stage of rice production and the social relationship between the producer and the consumer, a common trait among specialist weavers and potters.

Fictive social relations between female potters (producers) and female consumers known as the suki system (Stark 1992) typifies the Kalinga pottery exchange system. The suki system is common in Philippine markets and as a term for regular customers. Male specialist weavers do not call their relationships with individual female consumers a suki system, but will call their relationship with their regular trader a suki system, especially when they order in bulk.

Among Philippine lowland tradesmen and tradeswomen, the suki relationship becomes more of a system used in “commercial” business relationships. To facilitate trade and minimize risks, traders and craft producers throughout the Philippines often develop a suki relationship. Among the Kalinga, this ongoing trade relationship within economic exchanges (e.g., baskets, pots and agricultural products) is conducted through informal channels. It is based on mutual trust and reciprocal favors such as cash advances

In the Philippines, the *suki* relationship exists between trade partners operating at various levels such as craft producers and local traders, between local traders and regional and larger national buyers, shop owners and customers (e.g., Anderson 1969; Davis 1973; Russell 1989b; Rutten 1991, 1993; Szanton 1972). Davis (1973:179) suggests that such relations are the very foundations of entrepreneurship in the Philippines.

In building up their social network of *suki* relationships, specialist basketweavers and traders try to develop new personal ties or activate existing relationships of kinship and neighborhood. Some affluent, mostly lowland traders will offer cash advances to increase their chances of receiving the volume of commodities they require (Anderson 1969:648). This consideration is important because these traders, in filling orders of urban buyers, need to meet the latter’s deadlines in order to maintain a dependable reputation.

In theory, the aim is to ensure reliability in a changing economic environment that is often erratic and where traders seldom negotiate with written contracts. Anderson (1989:642-643) argues that “economic personalism” is essential to Philippine entrepreneurs because it ...“provides the social cement which helps overcome the lack of trust and weakness of institutional facilities...economic success depends importantly upon social alliance. technical competence is less crucial”.
In his work on Haitian markets and particularly on the activities of market women selling fresh agricultural produce. Sidney Mintz (1961) identifies the pratik relationship which functions very much like the Philippine suki relationship. Pratik is an institutionalized personal economic relationship established between producers, numerous intermediaries, consumers and retailers. Like the suki relations, this relationship develops over time and is intended to stabilize and regularize sequences of dyadic economic transactions in an economy characterized by irregular supplies and fluctuating demands. In the process of securing economic channels, intermediaries may also give concessions to one another (e.g., loans, extra produce) in good faith. Guaranteeing that a pratik relationship will persist, like the suki bond, are not legal or contractual, but personal and customary based on mutual trust (Mintz 1961:54-57).

This research reveals however that the suki relationship can waver, as there are common cases between basketweavers and traders entering into contradictory situations in which they jeopardize the expectations of mutual trust by manipulating their social resources for personal gain. Although everyone involved in the exchange of craft products acknowledges the integral role of the suki system at every level, among Kalinga specialist basketweavers, this relationship is neither exclusive, nor fixed or compulsory. In general, craft producers due to competition have moved in and out of their suki relationships with buyers if the opportunity arises for personal advancement. If there is a breakdown in the relationship, either the producer or the buyer fails to honor or defaults on cash advances or the delivery of the goods for one reason or another. One can describe this current relationship at least among Kalinga specialist weavers with traders as an
ambiguous continuum in which both basketweavers and traders selectively participate. Negotiations between craftmakers and their suki buyers often involves a pattern of behavior, which Rutten (1993:148) perceptively describes as persuasion and flattery.

Craft Producers as Simple Commodity Producers and the Growing National Philippine Capitalism

Craft producers have been defined to include a wide variety of individuals, including basket weavers, woodcarvers, fabric weavers, potters, and metal smiths (e.g., Cook and Binford 1990; Cook 1982; Orlove 1974; Rutten 1993; Tice 1995). These craft makers produce items made from indigenous materials that are intended for local use and trade, with some bound for sale to tourists. Recent literature makes it evident that small-scale industries such as craft production and trade are integral components of a community's subsistence activities (e.g., Alexander et al. 1991; Cook and Binford 1990; Jensen 1987). Their productive activities, however, have been viewed most often within the paradigm of petty commodity production commonly defined as "the unity of property and labor" within the enterprise in which wage and dependency relations are not widespread, but remain at the household level (Friedmann 1986:47). While it is possible to conceive of a pure form of simple, independent, craft production in the Chayanovian (1966) sense in which people produce and exchange items exclusively for their families' consumption needs, simple or petty commodity production generally emerges as a consequence of its association with capitalism (Alexander and Alexander 1991; Alexander et al 1991; Long et al. 1986:2). Although the reproduction of simple
commodity production relies on the market for certain inputs acquired through commodity exchange, the extent of its dependence on a capitalist market may vary greatly. This focus draws on literature that has examined small scale economies within the petty commodity production framework to explore the nature of the interdependence between indigenous and regional, national Philippine capitalist economic forms and the agency of craft makers and agriculturists such as the Kalinga in shaping the course of this articulation.

Culturally diverse indigenous peoples responses to national Philippine capitalism have ranged from accommodation to resistance to rejection, and in a microcosm, in Kalinga craft production (and the Cordillera in general), we see evidence of all three. Recognizing the great diversity in how a growing cash economy has expanded throughout the world, Marcus and Fischer suggest, "These processes are more complex than the dominant paradigms [understood as the ultimate domination of capitalist practices] seem able to represent them, and therefore one obvious course is for political economy to rebuild understandings of macro level systems from the bottom up" (1986:80). They go on to advocate that scholars focus "their attention on close analyses of the historic and ethnographic conditions of regions and locales" (1986:81).

In the 1980s, literature began to question Marx's assumption that "precapitalist" relations of production would disappear with the expansion of capitalism. Marx argued that "the craftsman who produces with his own means of production will either be gradually transformed into a small capitalist who also exploits the labor of others, or he will suffer the loss of his means of production" (quoted in Mc Lellan 1977:398).
However, much of the discussion of petty commodity production at this time does little to enhance our understanding of how the complex circumstances of craft production interact with wider market systems. The recent economic anthropology literature tediously debates to try to develop one comprehensive definition for the concept of petty commodity production. They initially addressed questions such as whether or not surplus value at the level of the craft production enterprise can be extracted and what place non-wage labor holds in the production process. Friedman (1986:47) and Kahn (1980:133-134), maintain that there is no requirement for profit in petty commodity production. Chevalier argues that there is a maximization but no accumulation, while Carol Smith goes on to imply that profit can be realized if simple commodity producers have options other than competing with capitalist producers in the same markets (1983 quoted in C. Smith 1984:205-206). Corresponding with the circumstances of household production, Cook and Binford argue that capital accumulation does take place within simple commodity production using either family or wage labor in different situations (1990:236-237).

Household or family labor is often considered the critical form of non-wage labor in such household craft enterprises (Friedman 1986:47; Gibbon and Neocosmos 1985:170; C. Smith 1986:32-33). However Gavin Smith, rather than emphasizing household labor, asserts that “a crucial characteristic of simple commodity production is that it relies on a category of labor which is made available through non-economic means that may originate outside of the family” (1989:157). Although the family is the most common source of domestic labor in simple commodity production, he argues that it is not
necessarily the sole source of help. Gibbon and Neocosmos (1985: 170) consider the lack of wage labor essential to the definition while Chevalier (1982) and Cook and Binford (1990:237), as noted, advocate that there may be a systematic use of wage labor, depending upon the circumstances.

The view then of an undifferentiated mass of small household independent craft enterprises whether they be basketmakers or potters, is no less a myth than the view of Kalinga agricultural producers as an undifferentiated mass of small farmers. Indeed, my findings in Kalinga indicate that some craft producing families and small traders, while still working at the household level, are able to accumulate and extract capital, and that, while family members provide the core of non-wage workers, non-family help is enlisted when required through the direct payment of wages and by drawing on obligations rooted in reciprocal labor exchanges. Most of my respondents confirm that they seek to make their small enterprises financially successful and to retain control of their operations, regardless of how petty they may be.

Basketry production in Kalinga represents the least intensive type of a specialized system that is ethnographically evident. They are generalized systems that differ from intensified specialist production systems that pottery research tries to identify (e.g., Clark and Parry 1990). Basketry production at the level of the Kalinga weaver earns income for both the weaver’s household basic survival and for certain villages that are dependent upon for specific baskets for processing rice for subsistence. The Kalinga basketry exchange system is best understood within a broader system of petty commodity production and may provide some insights on general differences in production modes.
The Kalinga Craft Specialist as Craft Entrepreneur and Trader

In a Small Scale Society and in the Philippine Modern World

In an effort to understand exchange of material culture, the parameters of exchange involved in Kalinga may help provide both the ceramic ethnoarchaeologist and the archaeologist a better perception of the distinctions between comparisons of the production of basketry and pottery production. General models of exchange and distribution are best built on comparative case studies from small-scale societies.

In Kalinga, the fact that petty craft producers often market or trade crafts in addition to producing them emphasizes the need for a more flexible definition of exchange and entrepreneurial activities.

Archaeologists who work with non-state or small-scale societies generally have difficulty in explaining exchange patterns because models that adequately explain economic networks outside of these systems are not common. Economic as well as ecological anthropology have addressed aspects of production and exchange that may generate better insights for archaeologists. Cultural anthropologists similarly contribute to the growing literature on social relations of exchange systems that assist archaeologists in reconstructing ancient economic networks have been explored in parallel small-scale societies (e.g., Clark 1989; Ellen 1982, 1990; Sahlins 1972; Tobert 1993).

As self-sufficient Kalinga households engage in intermittent production from a household level in the hands of a general basketmaker, the Kalinga setting also presents the existence of both a part-time as well as a few specific basket specialists transitioning to a full-time production of the pasiking, active year-round and is transitioning to a full-
time economic strategy. Though there are other contrasting and parallel aspects in the whole production scheme the occurrence and production of both crafts in a predominantly non-market towards a market distributional economy is worth investigating.

This section of this research in the analysis of the Kalinga basketry economy draws on concepts from the current economic and cultural anthropological literature that is rethinking the criteria used to identify craftmakers as entrepreneurs in small-scale societies. This work seeks a more comprehensive understanding of the entrepreneurial sphere, to reflect the broader parameters in which entrepreneurs operate and the multifaceted character of their actions. The term "entrepreneur" applies in a broad sense to persons involved in innovative, commercially oriented activities (Nafziger 1978:2). In so-called developing regions or on a large scale countries like the Philippines, entrepreneurship may encompass activities such as craft production and trade, producing cash crops for local or a small commercial market or establishing privately owned "stores" (in the Philippines the common occurrence of what they call "sari-sari" or convenience stores, or the itinerant Kalinga "walking" stores, or the small village pottery "factories").

Schumpeter's classic study stresses that the growth and development of an economy is brought about through the innovative efforts of entrepreneurs who carry out "new combinations" of economic processes in emerging commercial spheres and "disturb" pre-existing equilibriums (1949:64-66, quoted in Nafziger 1978: 1-17). Barth's (1963) influential early work similarly portrays the entrepreneur as a decision-maker
within her or his cultural context. Central to his argument is the idea that the entrepreneur is a person who breaks with or adapts traditional practices to novel ends. Despite a large number of historical and empirical studies on entrepreneurship, which have been critically reviewed by Long (1977) and Nafziger (1978), there is a dearth of such studies in the current theoretical literature in anthropology. Nafziger attributes this to the fact that the entrepreneur has most often been cast as a businessperson, usually male, who operates within static Western economic models (1978:21). These studies have failed to conceptualize entrepreneurship in an empirically meaningful manner, as they do not analyze the structural constraints that impinge on individual behavior, especially those which result from a society's political and economic class structure (Nafziger 1978: 21; see also Long 1977).

Recent literature in economic anthropology has begun to redress this shortcoming. William Rodman and Dorothy Counts argue that small-scale groups in Oceania must have personal as well as structural or political legitimacy in order to be supported by their constituents (1983:31). They maintain that successful Pacific small entrepreneurs need not be dynamic, risk-takers to effect change as long as their “behavior expresses community values” (1983:31). Realigning their earlier decision-making model of entrepreneurship, Greenfield and Strickland move from identifying the entrepreneur as one “essential” or “transcendent” type to stressing the variability in individual decision making processes (1986:13-14). For them, entrepreneurs (craft specialists) mobilize and use whatever resources are there at their disposal to realize their goals. These can include not only raw and financial resources, but also social capital in the form of access to
individuals in influential positions, social networks and obligations and or cultural capital, such as access to important information and symbols. They argue that these small-scale entrepreneurs operate according to the constraints and standards prevailing within their group while incorporating new or alternative patterns of trade or “business” to achieve their ends. Using a “multidimensional” approach they regard entrepreneurship as one aspect of continuous variation in village or small-scale production and marketing processes (1986:15; See also Nafziger 1978:25-26).

Similarly, Cook (1984, 1986) equates (craft production) and entrepreneurship with management in the broadest sense. He assumes that entrepreneurs engage in productive activities as well as in supervisory roles. Cook points out that this approach is in contrast to Schumpeter's emphasis on the "carrying out of new combinations" which he states singles out and restricts the entrepreneur to the singular position of unique innovator in the process of industrial capitalist accumulation (1986:54). Nafziger agrees that in changing economies, it is difficult to separate the daily management of a small business and the creative decisions of fluidity which means that today’s craft entrepreneur may have been yesterday’s craft producer, just as tomorrows artisan may be today’s trader (Cook and Binford 1990:31).

Basketry Production Schedule and Production Variability

Variability in productivity data may be examined from numerous perspectives. Factors affecting the monthly scale of production both among basketweavers and potters differ and include the size of labor force, seasonal agricultural demands and the
availability of other economic resources. Basketweavers and potters in households with a
greater agricultural commitment may forgo craft production in lieu of farming. It is
known that craftswomen (along with the demands of other domestic constraints such as
pregnancy, childcare) will cease craft production. Among Kalinga potters, women will
generally stop making pottery for at least a year following childbirth (Stark 1993:212).

Kalinga men, specifically the maglalaga, depending on seasonal demands will
involve themselves greater with agricultural manual day labor in exchange for cash or
palay or rice. More so, for basketweavers who may not have as much landholdings,
maximizing the opportunity to make the deficit in labor exchange, for rice and or cash.

These maglalaga spend a considerable amount of time working on their craft and
intensify production during seasonal lulls in agricultural labor demand. More an
exception to the rule, there is a small number of maglalaga, who have turned to full time
craft production of woven backpacks or pasiking, as a cash resource, with an itinerant
Kalinga or lowland trader. Weaving the pasiking is a better alternative than field labor,
among younger cash-oriented maglalaga as they can purchase rice for cash. A contention
among older Kalinga as that the growing cash influence on these changing younger
craftsmen is criticized as a threat to the traditional lifestyle. Most Kalinga villages still
rely on institutionalized cooperative labor groups called the pango that draft labor from
multiple households on a daily or weekly basis to meet labor demands. Though
participants in cooperative labor are compensated in rice or cash, the increasing cash
influence is slowly affecting this practice. As these weavers believe they make more cash
out of the sale of their baskets, and less physical labor in working the fields, it takes an
expert weaver three to four days at an average of 6-7 daylight hours per day, to complete a regular size pasiking.

Agricultural and craft production form complementary parts of the Kalinga household economy. So peak production periods in either activity occur at different points in the year (see the following Table No.6.4 Kalinga Annual Agricultural Cycle, Gender Division of Labor and Peak Demand for Craft Production). Kalinga agriculture cycles do not operate strictly according to the Roman Christian calendar, and therefore fluctuations in annual precipitation cycles affect the precise timing of each farming period. Periods of peak agricultural labor generally last between four and six weeks. During fallow, or periods where either men or women are not involved in agriculture, the production of both baskets and pots are busiest.

Although there is a marked gender difference between Kalinga craft producers, that being basketweavers to men and pottery to women, there are observable crosscutting ties based on principles of kinship, geographic proximity and class.

Based on subsistence needs, Kalinga social order is a macrocosm of activities necessary to sustain the particular economy upon which this subsistence is based. Class relations among the Kalinga have become more complex as households take the opportunity to make money, or borrow, and in some cases they manage to earn and accumulate income, providing access to more land using cash earnings from crafts (e.g., basketweaving or pottery). Comparing these two forms of craft production, it is obvious that when a Kalinga maglalaga decides to intensify production the difference in earning capacities are largely marked. From an overall standpoint, both craft producers and
traders have been able to access new economic opportunities and their economic activities have affected their social positions and their relations with both men and women.

Table 6.4: Kalinga Annual Agricultural Cycle. Gender Division of Labor and Peak Demand for Craft Production

<table>
<thead>
<tr>
<th>Month</th>
<th>Kalinga Term</th>
<th>Agricultural Activity</th>
<th>Level of Basketry Production Among Kalinga Men</th>
<th>Level of Pottery Production Among Kalinga Women</th>
<th>Level of Farming Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>kiyang</td>
<td>ricefields are plowed cleaned, repair terraces and dikes</td>
<td>very low</td>
<td>moderate</td>
<td>high</td>
</tr>
<tr>
<td>February</td>
<td>ladao</td>
<td>transplant rice seedlings and swidden</td>
<td>high</td>
<td>low</td>
<td>high</td>
</tr>
<tr>
<td>March</td>
<td>panaba</td>
<td>weed ricefields and swidden</td>
<td>high</td>
<td>high</td>
<td>low</td>
</tr>
<tr>
<td>April</td>
<td>adawoy</td>
<td>seedbeds are cleaned</td>
<td>moderate</td>
<td>high</td>
<td>low</td>
</tr>
<tr>
<td>May</td>
<td>akar</td>
<td>dikes are cleaned and rice seedling nursery begin</td>
<td>moderate</td>
<td>high</td>
<td>moderate</td>
</tr>
<tr>
<td>June</td>
<td>kamadoyong</td>
<td>rice is harvested, dried and stored</td>
<td>low</td>
<td>low</td>
<td>high</td>
</tr>
<tr>
<td>July</td>
<td>waro</td>
<td>ricefields are plowed, repair terraces and dikes</td>
<td>very low</td>
<td>low</td>
<td>moderate</td>
</tr>
<tr>
<td>August</td>
<td>bisbis</td>
<td>transplant rice seedlings and swidden</td>
<td>moderate</td>
<td>moderate</td>
<td>low</td>
</tr>
<tr>
<td>September</td>
<td>aradog</td>
<td>weed ricefields and swidden</td>
<td>moderate</td>
<td>moderate</td>
<td>low</td>
</tr>
<tr>
<td>October</td>
<td>boyboyag</td>
<td>dikes are cleaned</td>
<td>low</td>
<td>high</td>
<td>low</td>
</tr>
<tr>
<td>November</td>
<td>gabbok</td>
<td>rice is harvested, dried and stored</td>
<td>low</td>
<td>low</td>
<td>high</td>
</tr>
<tr>
<td>December</td>
<td>opok</td>
<td>finish harvest and the rice seedling nursery begin</td>
<td>moderate</td>
<td>low</td>
<td>moderate</td>
</tr>
</tbody>
</table>


While some literature proposes that Cordillera gender relations, including those of the Kalinga, are primarily egalitarian (Bacdayan 1977; Casambre et al 1992; Fiagoy
1990), others, especially women involved in analyzing contemporary "tribal" feminist activism, focus on the Cordillera women's inequality in relation to men (e.g., CWERC. Inc. 1995). Assigning a single level status, high or lows is problematic and is not a topic discussed in this research. The assumption that Cordillera women hold a higher degree of gender "equality" may be attributed to the Cordillera regions bilateral system and to the fact that women participate in economic opportunities within and outside of the household, suffer few legal or traditional restrictions in their access to land and inherited wealth and live in a culture where the position of men and women are construed in terms of "nonhierarchical complementarity" and balance, rather than an unequal valuing of gendered roles (e.g., Atkinson and Errington 1990; Bacdayan 1977; Karim 1995). In such a "complementary" system Errington explains, there is an ideology of "unity...men and women are regarded as very much the same sort of creature, descended from a common ancestral source" (1990:54-55). Although involved in different activities, men and women's actions always complement each other to form an "undifferentiated whole" (Errington 1990: 55). Differences in work patterns are viewed as simply differences in gender roles, roles that the literature describes as being complementary to each other (Bacdayan 1977:277-281).

For example, among Kalinga rice cultivators, men build and repair terraces, clean rice fields while women plant, weed and harvest rice, all of which are necessary tasks for the production of a family's basic subsistence needs. In the event that some women may feel that they are disadvantaged, women are not prohibited from pursuing prestige, but the reality of their everyday tasks are such that they are disadvantaged in this pursuit
University of the Philippines professor. Lydia Casambre’s (personal communication) research on gender roles in the Cordillera concludes that there is little evidence of systematic oppression of Cordillera women either by socialization or through social institutions associated with agriculture (Casambre et al 1992:93).

Intensive wet rice agriculture requires a heavy agricultural labor investment, and since the Kalingas plant two crops each year, more than half a year is spent farming (Hanks 1972:50). The months of February, June and November are the busiest months in rice farming. Among the Kalingas of Pasil, individuals also engage in rice tenant farming known as tobao for a few wealthy households. From those households that have larger landholdings, hiring outside labor is necessary to till plots that are further away from their residence and are smaller parcels of land.

Daily tenant labor is differentiated from traditional and seasonal agricultural labor, known as pango; similar cooperative labor is found in association with rice cultivation throughout the Cordillera. Among the neighboring Ifugao the tenancy arrangement is called a chowa or a dowa, and daily agricultural wage labor is called ubfu and both would be either paid in rice or in cash, or they might accumulate future labor obligations when the need for extra hands for harvest is required (see Conklin 1980); among the Benguet Ibaloi (see Wiber 1985).

Though tenant farming does have more risks, as it is dependent upon climate and precipitation patterns, daily labor wages offer more predictable source of economic returns though it does lack the potential for relatively large profits from tenant or tobao farming.
Daily labor is a preferred alternative for households that have very limited economic resources, and have smaller ricefields to attend to. Having that extra amount of time, Kalinga basketweavers determine which of these possibilities translate to be more economical, resulting in more rice or cash for their families. Likewise, the intensification of production of a small group of specialists specializing in specific basket types is dependent upon whether the “contact” or itinerant trader has come to put in their “order”.

During the year of study (1987-1988) the exchange rate of the Philippine peso to the U.S. dollar was about a little over 20.00 pesos, and that translated to one day of wage labor, while the cost of selling a *pasiking* was anywhere between 150.00 pesos for a “regular” size to 200.00 pesos each for the large size. A *pasiking* specialist weaver in the village of Guinaang made 9,000.00 pesos for the year he intensified production and sold his backpack baskets to eighteen other Kalinga villages and a trader. Though this case is uncommon, having to make money out of basketweaving specific to the *maglalaga* has been documented through the years but the degree of intensification is of low-medium intensity and often varies. Winnowing basket specialists from Tulgao, famous for their fine work, came to trade their wares during the harvest season, and winnowing baskets were priced at 30-40 pesos each (1988), in (1982) the same size basket was sold at 15-25 pesos; current (1999) prices fluctuate from 80 to 100 pesos. These data demonstrates that the Kalinga are not exempt from the effects of the devaluation and inflation of the national Philippine capitalist economy and are constantly readjusting a traditional barter exchange for a more monetized system. It is noticeable from the Household Inventory data collected from the three villages, that a large proportion of basketry products of
specialist weavers were sold for cash (Table No.6.5 Distribution Table for Specialist Baskets Purchased and Traded).

Table No.6.5 Total Dangtalan Dalupa and Guinaang Village Specialist Baskets Purchased Versus Specialist Baskets Traded

<table>
<thead>
<tr>
<th>Village</th>
<th>Dangtalan</th>
<th>Dalupa</th>
<th>Guinaang</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Households</td>
<td>72</td>
<td>79</td>
<td>110</td>
</tr>
<tr>
<td>Total No. of Households Inventoried</td>
<td>66</td>
<td>67</td>
<td>95</td>
</tr>
<tr>
<td>Sold</td>
<td>Traded</td>
<td>Sold</td>
<td>Traded</td>
</tr>
<tr>
<td>Langaya</td>
<td>67</td>
<td>39</td>
<td>84</td>
</tr>
<tr>
<td>Lakfya</td>
<td>26</td>
<td>7</td>
<td>31</td>
</tr>
<tr>
<td>Labnak</td>
<td>72</td>
<td>21</td>
<td>63</td>
</tr>
<tr>
<td>Lukgud</td>
<td>16</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td>Talupao</td>
<td>14</td>
<td>11</td>
<td>18</td>
</tr>
<tr>
<td>Pasiking</td>
<td>31</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td>Totals</td>
<td>226</td>
<td>102</td>
<td>286</td>
</tr>
</tbody>
</table>

Data derived from the 1987-1988 Kalinga Basketry Inventory

There is a marked difference in the number of functional categories evidenced by the Kalinga Basketry Inventory that are more commonly made than others, traded or sold for cash and are most often products of the weaving specialist. Common forms made by the general Kalinga male basketmakers are mostly small fish traps, snares, coops, or chicken nesting baskets that are made by a simple plaiting technique, and take no more than a few hours to make. They are only made when the need for them arises, rarely are they bought, bartered or sold. Specialist rice container baskets and the *pasiking* that are more complex and are woven in a twill-plaited technique are generally left to the *maglalaga*. 
It is a known fact among the Kalinga, that the neighboring Ifugao men, having been fine woodcarvers and basket weavers and for years have traded and sold to a national “tourist” market. (for example, woodcarvings by the Ifugao have found an international export market) from the time of American colonial rule, a minimum of 70 years. Although the Kalingas are not in anyway close to the commercialization of the neighboring Ifugao (with the exception of maybe fabric weaving) on a national level, the Kalingas. I am sure, have considered that possibility.

At least, among back strap loom (fabric) weavers and a handful of basketweavers that have found a “tourist” market, in places like Baguio (e.g., Baguio Easter School)⁴ that have promoted the mountain crafts as early as 1900. To what extent Kalinga craftmakers take this pursuit further, all remains to be seen.

This focus on the aspects of the Kalinga basketry exchange economy has drawn some concepts from the economic, ecological and cultural anthropological literature to understand the shape, range and direction of the economic system in which the Kalingas participate. This multi-centric economy is used to understand variability and the influence of cash in a traditionally barter economy as well as mostly the absence of a national Philippine infrastructure such as electric power, markets and road systems.

It has allowed one to examine how a variety of elements that originate both in external market conditions and in internal labor relations determine the ways in which the

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⁴ Baguio Easter School, originally founded (1906) as a regional Igorot boys school by Americans, turned into a women’s craft center (1920) representing the different Cordillera groups, now called the Easter Weaving School. It is a private learning school that caters to indigenous fabric and basket weavers from different Cordillera groups. They are employed to weave and their products sold to visitors and tourists.
dynamics of production are manifested at particular periods, thus effecting the dynamic changes in basketry production, intensification and exchange.

Summary

This chapter has described the production environment of the Kalinga basketweaver that plays a critical role in shaping decisions that basketweavers make regarding their activities. The combination of social, economic and political processes that affect his production for exchange, includes observed changes in environmental degradation such as river pollution, the depletion of forest resources for raw material that constrain basketry production, the abandonment of basket forms or the production intensification of specific basket types for an outside market. The growing modernized and monetized nation-state of the Philippines impinge on indigenous tribal groups like the Kalinga thrown in this constant flux of change that explains modifications in the local economic patterns of specialized basketry production, intensification, exchange and trade.

I have emphasized the characteristics and the consequences of population pressure among the Kalinga, the effects of agricultural intensification, and the changes in subsistence patterns. I have discussed increasing socioeconomic differentiation and how different households use different strategies in dealing with subsistence constraints and diversification (i.e. craft production, itinerant vendors, cash crop production as well as wage labor).

Whether they are small-scale craft producers or the educated elite the use of cash and capital gives rise to new practices to establish their social and economic power as
individuals or as the political elite in displacing the traditional pangat. A change in the 
scarcest factor that is land generally means that new socioeconomic groups rise to seize 
control of the new factor of production be it either in craft or other cash making or 
subsistence endeavor. The degree of exploitation of these elements is determined by the 
opportunities for capital accumulation. The Kalinga have shifted from labor to land to capital 
as they have shifted under population pressure from incipient swiddeners to wet-rice 
agriculturists. The degree of control of the scarcest factor of production depends on the 
potential it holds for capital accumulation.

Therefore the highest concentration of wealth in individual households between the 
Kalinga and the greatest socio-economic inequality between groups occurs where capital is 
the scarcest factor of production. This is evident where population growth is the highest and 
where agriculture has intensified to the point of requiring capital investment to maintain 
subsistence. When population pressure leads to capital accumulation becoming essential for 
the survival of a society, then there is a solid basis for durable socioeconomic power and 
exploitation – the rich or baknang and the poor or the kapos.

In a larger economic and ecological picture if the interests of the Kalinga 
economy and environment become a major concern for the national Philippine 
government, then we may see some positive changes. This is a particular serious issue 
among the Kalinga if not the Cordillera in general. Not only is the environment more 
fragile today, but the non-capacity of the Kalingas themselves and the lack of integration 
with the Philippine national government to put together policy and the understanding of 
the complex requirements of a failing farming environment to meet basic subsistence
needs of the small Kalinga farmer to achieve marginal improvements in productivity is even more restricted.
CHAPTER SEVEN

CONCLUSION

The Ethnoarchaeology of Kalinga Basketry

The goal of ethnoarchaeology as a research strategy has been the development of operational models for interpreting archaeological data based on ethnographic analogy. The ethnoarchaeology of Kalinga basketry is initiated to understand the antiquity of a material culture that eludes most archaeologists, ethnographers and ethnoarchaeologists. To examine and understand material culture such as basketry we need to recognize that it is an organic artifact when compared to pottery or lithics and the factors of preservation limits its potential for archaeological comparison. Basketry is relevant - but it is understandably "misunderstood" in antiquity as an artifact class and in material culture studies in general.

The lack of information on prehistoric basketry lies in the intrinsic organic fragility of the artifact and is not, in most instances considered representational, but in areas that the basketry assemblage is representative, certain robust inferences have been successfully documented. It is also understandable that ethnoarchaeological topics specifically on pottery are more directly relevant for archaeologists than are others. Ethnographic basketry studies however, have greatly articulated the specific relationships between technology, form and function, or stylistic and decorative styles or meaning thereof. It is unfortunate that most of the data in ethnographic basketry production precludes a specific explanation in the articulation of the socio-economic and political spheres and their complex, yet identifiable relationships.
Thus it is clear that the origins and mechanisms of basketry economies – the production, consumption and exchange is clearly one of the least discussed and obscure in the archaeological and ethnographic record. But it can be understood in ethnoarchaeology both as a research strategy here, and as an interpretive resource that archaeologists can utilize to build broad-based models of human behavior specific to basket makers. The argument I make to explain in the emergence of basketry as a craft technology is based on economics, in the sense of cultural materialism and also in cultural ecology among the Kalinga.

The assumption that the Kalinga is a small scale tribal neolithic group where the commonality lies in the organization of a certain technology at least among pottery makers and likewise basketmakers – from the household level to a hand crafted production in a non-market economy, yet balanced by the difference in gender specific craftmakers, pottery to women and (not always) basketmakers to men. [The rationale in the use of the term neolithic is used in comparison to societies documented in the prehistoric Southwestern United States as discussed extensively elsewhere by Longacre 1974: Longacre and Stark 1992].

The richness of previous ethnoarchaeological research on Kalinga ceramic production by the Kalinga Ethnoarchaeology Project provides the benchmark data for a pioneering ethnoarchaeological comparative case study on the existence and importance of basketry production among the Kalingas. In the absence of ethnoarchaeological research specific to the use of basketry, this approach is broadly based using ethnoarchaeological models founded on pottery production research.
Production is the cornerstone of all pottery economic models (Mills and Crown 1995:1) and before it can be understood the social and spatial contexts of production must be defined. The Kalinga basketry production economy is best described from a multi-causal approach in determining the articulation of craft specialization and intensification among basket weavers – linking technology, economics and ecology of the Kalinga and the Cordillera Region.

There are certainly general approaches that are applicable to basketry production, intensification and exchange. The same variables seen in differentiating the categorical pottery research models that include frequency and seasonality of production, the number of workers: age, sex, or status, and relationships of these workers; degree of labor division: the kind of investment in specific work space, tools, variability in raw materials and products; and the size and proximity of consuming groups, can be applicable to basketry.

This research initiates examination of Kalinga basketry production and its makers in exploring the strong parallels and contrasting differences between the economies of basketmakers and potters among the Kalinga. This is one in a multitude of relationships that require study to illuminate the full range of factors that encourage the development and the probability of subsequent intensification of production in basketry more commonly employed in ceramic ethnoarchaeological research. This Kalinga case study is valuable and unique, as it focuses on the successful beginnings of an investigation on product specialization and intensification, as it is rarely expressed.
through basketry production, on one hand, and on the other, in contrast to and alongside pottery production.

Basic to understanding Kalinga basketry production is that the analysis of weaving technology is a vital prerequisite in this investigation, as no two individuals, hunters or gatherers, bands or tribes ever manufactured their baskets in the same way. Not only has this fact been demonstrated ethnographically here, in the identification of individual weaver’s “signatures”, techno-manipulative attributes that are idiosyncratic to Kalinga weaving specialists; but it may also be archaeologically valid as well.

All research on the relationships between human behavior and the material-spatial-environmental milieu in which it takes place is important (Schiffer 1978:230). The intimate relationships and nuances that may exist between the organization, production scale, distribution, and consumption of Kalinga basketry is verified here as it contrasts and parallels Kalinga pottery research.

Microcosmic in its application, the Kalinga basketry economy involves the study of the social relations that the Kalingas establish to weave baskets, as producers, consumer and traders alongside Kalinga potters. With this understanding it paves the way to initiate more interesting questions in cross-cultural comparisons on material culture studies to better understand and infer the antiquity of basketry as material technology. Basketry as an artifact links with their environment, the social-political milieu and with other material culture technologies.

This dissertation identifies who makes basketry among the Kalinga and is dependent upon the investigation of the complex relationships of the demographic and
socioeconomic positions of basketweavers in this society. Kalinga basketry production is built upon a preferred plaiting technique, by virtually every Kalinga male on one side and on the other, a limited number of specific complex forms ascribable to only weaving specialists with the mastery of a twill-plait technique.

The Kalinga Ethnoarchaeology Basketry Collection

The Kalinga Ethnoarchaeology Project basketry collection was made during the field season from 1987 - 1988 directed by Dr. William Longacre and is an extensive, well-represented and documented collection that is housed at the Arizona State Museum. The analysis of any ethnographic basketry collection (or archaeological assemblage) involves classification, description and interpretation. This dissertation presents a comprehensive morphological typology, and completes the description and analysis of this collection. The conclusion of an ethnoarchaeological case study on Kalinga basketry is the final phase of interpretation of a basketry collection that provides a comparative data resource for similar assemblages. We must remember that this is a collection of whole baskets and not of fragmentary archaeological specimens.

The analysis of the Kalinga basketry assemblage is found to be consistent with other collections from the other indigenous groups in the Cordillera Region, but it is unique to the Kalinga evidenced by a variety of functional categories and the supporting data, which articulates basketry to a larger Kalingas socio-political and economic milieu. The high proportion of individual and specific containers is a function of a number of interrelated factors. Kalinga basketmakers, regardless of whether they are
non-weaving specialists or specialists, make baskets in response to a variety of reasons. Basketry production is related to household needs that are keyed to the variety of Kalinga subsistence strategies of a wet rice agriculture environment, tropical swiddens and a dwindling hunting and a former riverine food source. Kalinga basketry production also reflects the transitioning from a traditional barter non-market economy, to a national cash economy, and an ever-growing population.

Kalinga weaving specialists intensify production as an alternative strategy when faced with insufficient agricultural landholdings. Based largely upon the economics of the household, craft specialization is a common pattern worldwide. Weaving among the Kalinga makes sense when placed in an economic framework, in relation to population pressure and agricultural intensification. Faced with a growing population and an incessant demand for production and consumption of rice. Kalinga men weave baskets to make ends meet.

Kalinga Basketry Technology and Craft Specialization

While plaiting, twining and coiling are represented in the analysis of the Kalinga basket weaving industry, they are clearly of unequal importance. Plaiting is the weaving technology that fully represents the manufacturing vehicle for Kalinga basketry production and it is well represented, most vital and heavily exploited component of the basketry industry. As a technique it is the prevailing if not preferred class of weave evidenced here by the number of categories and the distribution within the entire Kalinga basketry industry. It is apparent that plaiting as a technique is used for specific
forms, given specific Kalinga terms and carries separate utilitarian value. The high proportion of types of individual plaited containers is a function of interrelated factors. Clearly the products of the Kalinga basketmaker are dependent upon who makes what basket. Specialists make specific basket types that are standardized and ascribable to the *maglalaga* by virtue of skill.

The range of plaiting forms is relatively great and the degree of technical sophistication is notable in the specialized basket types produced by the specialist weavers such as the *pasiking* or backpacks, winnowing baskets or the *labnak* and specific rice holding and container baskets such as the *langaya*, *lakfyay* and *lukgud*. Intricate selvage finishes in backpacks and rim finishes in holding/container and winnowing baskets further identify the plaiting technique and are idiosyncratic elements that eclipse any segment of the other classes of weaving that of twining and coiling. The popularity of plaiting among the Kalinga basket typology rests in large measure in the facility with which plaited baskets could be manufactured when compared to the technology behind twined and coiled baskets.

Coiling as a technique generally is characterized by a proportionately greater variety of types and involves a high degree of technical sophistication (e.g., as compared to the coiling industry in the American Southwest) but is a minority component of the Kalinga basketry industry. Though coiled baskets made by their neighboring tribe the Ifugao are considered valued heirloom pieces, the Kalingas do not employ coiling as a “pure” weaving technique. “pseudo-coiling” maneuvers are found restricted in their incidence to finishing winnowing basket rims, as a weaving process in
binding together a bundle or group of rim foundation elements. Whether or not they had woven coiled baskets in the past is not known nor documented.

Though it is not surprising that the Kalinga weaving specialist when asked can make coiled baskets, yet surprisingly they do not “copy” and adopt the technique. It could be argued that social constraints may have retarded innovation in Kalinga basketry technology, as it may play an important role in marking social status as a prestige item. Ethnicity seems to promote boundary maintenance in a specific weaving technology behavior at least among these groups.

Twined baskets are not found among the Kalinga and is used only as a finishing or alternating tying element to hold and reinforce specific vertical (warp) structures in an overall open-plaited basket to prevent the warps from fraying (e.g., as found in some eel traps and chicken nesting baskets).

The linkage of the plaiting technology to Kalinga basketry to wet-rice agriculture and the specialized processing of rice requires certain kinds of baskets, especially baskets woven with a tight twill-plait such as in winnowing baskets, backpacks and holding and container baskets. Since the principal products of plaited baskets are intrinsically light, flexible and durable by virtue of the use of rattan and bamboo, this class of weave is likely to be retained and perhaps intensified among craft specialists as a trade item.

Hypothetically it could also be said that the emergence of pottery may have also increased the popularity of some baskets, serving certain tasks that pottery could not. Pottery may also have replaced many of the functions of twined and coiled containers
among the Kalinga if it indeed it was once part of their industry. Prior to the advent of pottery, in the American Southwest, cooks could stone boil plant foods in baskets, parch it in trays, or roast or steam it in pits. With the introduction of pottery, it permitted direct application of fire to a container holding water and food, increasing the range of food preparation techniques (see Arnold 1985:136).

The availability of local raw material for basketry production is still abundant. Given these conditions, it is not surprising that the Kalinga basketmaker does not waste time mending when new baskets could readily be produced. Rattan and bamboo are known to be very sturdy weaving materials and may last a number of years. Basket containers, mats and the like seen in the household inventory are used until their functional existence was exhausted at which time they were either burned or deposited in the village refuse site.

It is apparent that certain forms and types within the Kalinga basketry assemblage are in the process of being displaced and replaced by imported containers (e.g., enamel plates, plastic buckets, and metal bins etc.). Some forms are totally abandoned as the environment is depleted and polluted (e.g., eel and locust traps). Kalinga basketry is relatively conservative, and the types of baskets found in the household report little change. As some baskets may be displaced or abandoned the overall stylistic pool of Kalinga basketry forms is still traditional and probably ancient. The obvious trade items from the lowland Christian groups were apparent in the inventory and were documented.
The Kalinga collection is representational and provides criteria for comparison in cross-cultural material research within the Cordillera region. Basketry is prolific within the region. In particular, the Kalinga basketry collection is consistent with the other Cordillera groups, with similar subsistence strategies and environment with wet-rice agriculture and a former upland dry-rice agriculture. The use of similar manufacturing technology and the similarity of plaited baskets in other Cordillera groups suggest a deep historical basketry tradition in the region.

With the one major exception of coiling and seems to be aspecific to the Kalingas southern neighbors, the Bontoc (Bacdayan 1998); and the Ifugao (Milgram in 1998), suggesting that coiled baskets among the Bontoc and the Ifugao are made by specialists as well. Given the small number of coiled baskets in the Kalinga basketry inventory, coiled baskets can be perceived as an intrusive trade item with some prestige value attached. This may well be the case for imported containers such as enamel metal plates, plastic buckets, metal cooking pots, which are slowly replacing some basketry items and pottery. Interestingly, metal cooking pots or calderos are now seen as prestige items in Kalinga households.

The origins of variability in different basketry shapes for similar functions are presently unknown (e.g., square vs. round winnowing baskets), but the square-winnowing basket is suggested to be a traditional Kalinga form and is evidenced by the commonality in the Kalinga basketry industry. Round winnowing baskets are most commonly found in lowland Ilocano groups. Though it is certain that specific basket types (e.g., tampipi), or the woven suitcase is an introduced lowland trade item, it has
been adopted by the Kalinga specialist, but instead made of rattan and not the common lowland pandanus leaves. The selection of raw materials (e.g., bamboo and rattan) observed among Kalinga basketmakers is specific to functional type. Bamboo is used because of its pliability and easiness in weaving smaller simple-plaited baskets such as small fish traps, a common learning “template” for younger Kalinga boys to learn the craft. Rattan is predominantly used by weaving specialists in their twill-plaited baskets, for durability and to provide the rigid structure of larger containers.

The winnowing baskets collected from two separate weavers who are kin-related is a discovery that proves that basketry weaving is an excellent measure in isolating individual “techno-manipulative” attributes, a unique cluster of “microtraditions” from two specialists. Specialist weavers Banig and Sanganab are both known for their skill in making winnowing baskets. What is unique between these two weavers is, even if they do use the same twill-plaited elements in a 2/2 construction, the rim finishes they employ are uniquely their own. The duplication of twill weaves is similar except for a variation in the combination, length and direction of the finishing elements, the final whip stitch found in the coiled rims of their winnowing baskets. These disparities are not unique to the winnowing basket assemblage, as the comparative analyses of backpack burden baskets made by specialist pasiking weavers reveal similar individual “signatures”. The analysis of the selvage treatments and rim finishes among pasiking weavers, are uniquely idiosyncratic elements that allow the identification of individual Kalinga weaving specialists.
When compared, the observable rim finishes and selvages reveal that specialist made baskets differ from one another, yet are standardized within each class of basket form (e.g., winnowing baskets or the hunters backpack). Though the duplication of twill plaited weaves are common to specialists, individual finishing elements or “signatures” can be identified. Further reflecting the mastery in the twill plaiting technique through the repetitive movement and routinization of a motor skill he employs, is what makes him an expert maglalaga.

Though there is a commonality in plaiting as a technique among Kalinga weavers and paralleled by its use by other Cordillera groups, there is a significant amount of regional differentiation in forms and shapes. The regional similarities in basketry production and the roots in the specialization of twill plaiting and its preference as a manufacturing technique suggests that plaiting technology used in basketry production is probably of great antiquity. The regional popularity of twill plaiting identifies it as an ancient technique among the Kalinga and in the Cordillera region.

In short, the Kalinga basket collection is recognizable as typically Kalinga. This is not to say that the Kalinga basketmakers were individually or collectively deviant from any prevailing Cordillera norm or standard, but they are unique and perceived as distinctively Kalinga. Specific basket forms are likewise, specific to both the Ifugao, and the Bontoc and can readily be identified as such.

Therefore, a Cordillera regional basket analysis is, a possible future exercise in determining regional technological distribution and stylistic differences. The high
frequency of plaiting and correspondingly the low incidence of coiling and the non-
existence of pure twining is generally true in the Cordillera region.

Kalinga Weaving Specialization and Standardization

If indeed craft specialization emerged from complex hunter-gatherers as part of
elite prerogatives such as the giving of labor-intensive craft items, such as finely woven
basketry and fabrics (see Clark and Pary: 1990). Were Cordillera baskets produced in
the past products of specialist weavers for specific clientele, such as headhunters and
village priests? Kalingas along with other Cordillera groups like the Bontoc have been
documented for specific utilitarian baskets used in ritual headhunting (Bacdayan 1998).
The Ifugao have preferred forms such as coiled heirloom pieces and plaited ceremonial
type baskets that may have been produced for a number of “elite” Cordillera individuals
or families as evidenced in the trade items found among older Kalinga households and
the Ifugao.

Popularized in the past as headhunters, where these “head baskets”, or woven
backpacks made especially for headhunting raids? It is most likely that the Kalingas had
similar special items such as the sakolang, a “head basket” used as a container after a
successful headhunt (Dozier 1966:200). Ceremonial type baskets had been produced
only for Ifugao village priests, covered in beeswax for rice deities during harvest (Jenks
1905). Today during Ifugao curing and mortuary rites the clothes of the deceased are
placed in a food basket and village priests leading the ceremony directs all incantations
and prayers to the container and its contents (Milgram 1998:63, Fig.3.10). It is probable
that weaving specialists produced these items among the Ifugao. If indeed this discovery of a specific weaving technique among the Kalinga is also ascribable to weaving specialists in the method of coiling in other Cordillera groups.

One implication of this research is that Kalinga basketweavers product specialization at the onset was rather the result of fewer, highly skilled basketweavers producing more difficult basket forms as part-time specialists. Specific specialist baskets still serve as holding containers, for winnowing rice and are still geared towards local village or inter village use, consumption and trade. When one Kalinga weaver specializes, it is predictable he will pick a form that is traditionally viewed by the Kalingas themselves as the product of a specialist basketweaver. Today, the decision to specialize and intensify production is heavily dependent upon economic reasons.

Examining the initial investigation of basketry standardization as the outgrowth of specialized production by the Kalinga basket weaving specialists, is a dimension of research common in archaeological ceramic production research (e.g., Hagstrum 1985, Hegmon et al 1991, Longacre et al 1999, Mills and Crown 1995; Rathje 1975; Rice 1981), but rarely investigated in basketry production nor applied specific to the measurement of basketry weaving technology.

The successful results of the analysis demonstrate that there are strong isomorphisms that can be perceived between similar Kalinga baskets. The technical attributes by which apparently similar baskets specimens can be distinguished that may seem minor and inconsequential are important, because it is precisely these details that tend to be most localized in occurrence, most conservative, identified easily, isolated
and standardized. A high degree of uniformity, observable in Kalinga basketry products is related to technological, functional, individual and social factors.

With this understanding of the probable behavioral meaning of these clusters of attributes and of the techno-manipulative morphological variations in Kalinga basketry as the delimiters between weavers, it has become possible to ask more interesting questions. These specialist basket types were chosen for these reasons: winnowing baskets; rice holding or carrying baskets; and backpacks are all recognized in Kalinga as common Kalinga specialist forms, used in almost all Kalinga households, well represented and made by a number of known weaving specialists or maglalaga

Standardization research specific to basketwork is rare, and is limited to decorative and stylistic components in the interpretation and topical issues on “style”. Basketry standardization has not been investigated ethnoarchaeologically, specific to techno-manipulative attributes and its potential correlation with technical specialists skill and standardized products. Basic assumptions regarding variability in basketry and the relationship to production technology have been tested and examined here, through morphological standardization in the basketry types produced by the Kalinga weaving specialists.

Implicit in studies of morphological variability is the assumption that differences in certain attributes reflect differences in the production levels and the degree of skill involved. The analysis of the correlates of specialization to the measurement of standardization in Kalinga baskets was successful. The mechanical skills of craft makers specifically Kalinga specialist basket weavers, has proven to be a reliable
measure of craft specialization and standardization. This is based upon measurable standardized attributes among specialist weaver's products and the variation of these attributes between specialist weavers.

Although there is no fixed scale for evaluating standardization in basketry production, the analysis of basketry in contrast to pottery assemblages is based on manufacturing technology (weaving technique), and is more specific, fixed and measurable as numbered elements. The attributes of technological and logical choices of these weaves are physically evident – never lost in the manufacturing process.

Identifying part-time specialization and associated exchange networks in the small-scale societies like the Kalinga may be equally informative in understanding the prehistory of basketry production. This research hope to provide archaeologists with a key for understanding the transition from simple weavers to complex weaving specialist technology and its probable links to socio-economic and political complexity.

The specific results of this study on the ethnoarchaeology of Kalinga basketry have made a beginning in the identification of the appearance of specialized production founded upon a specific weaving technology. The implications of such a production mode for understanding the rise of complex basketry forms that reflect changes in subsistence practices from “simple” to “complex” in the microcosm of Kalinga subsistence strategies. Thus there are probable linkages in Kalinga basketry production technology and the complex changes to their socio-economic and political organization, as it is evidenced here for this particular time and space. If only to provide a modest understanding of a misunderstood artifact class, the ethnoarchaeology of Kalinga...
basketry has accomplished its goal - to gain a more precise understanding about the ways in which organizational and behavioral aspects of small-scale societies are reflected in material culture.
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