INTRODUCTION

Craft production in the Harappan culture is the focus of this thesis. It is perhaps craft production with the development of specialization of labour which provides one of the means for differentiating the Bronze Age from the preceding Neolithic period (Childe 1952). Therefore, more than just the exploitation of a new material—metal, the Bronze Age is distinguished by the initiation of significant changes in the organization of production and the development of social complexity.

Harappan craft production has been dealt with by various scholars often in relation to a particular site or a particular craft. The early excavations at Mohenjodaro and Harappa did reveal the interest that was taken by the excavators in craft activities. Marshall (1931) and Mackay (1938) working at Mohenjodaro made note of most craft indicators such as raw materials, tools, unfinished objects, debitage, rejects and reused objects and byproducts of manufacture. Vats (1940) working at Harappa too dealt with most unfinished materials and tools, though the poor structural preservation of the site prevented any contextual analysis of craft production indicators. Mackay's particular interest in craft production is also noted by his further articles on bead making (1937) and a study of a modern day bead etching technique practised in
Sind (1933). The relevance of craft production was further realized when excavations at Chanhudaro were undertaken (Mackay 1943). Mackay's absorption with bead making was illustrated by his outline of the technology used to produce long barrel-cylinder beads, smaller stone beads, wafer steatite beads and miniature disc beads. Mackay (1943) also hypothesized about many craft processes from his Chanhudaro data: the use of long slender paste rods for the production of segmented faience beads and the use of copper/bronze bead tools to produce steatite micro beads. Excavations and explorations at other Harappan sites have recorded all evidence for craft production, wherever available (Stein 1929; Majumdar 1934; Rao 1962-63; Lambrick 1964; Joshi 1966; Joshi 1972; Suraj Bhan 1975; Dales & Kenoyer 1977; Dales 1979; Durante 1979; Jarrige 1981; Khan 1981; Fairservis 1982; Chitalwala 1982; Bhan & Kenoyer 1984; Francfort 1984). More recently, exploration projects of unexcavated areas have given much more evidence of craft working loci at Chanhudaro (Vidale 1989) and at Mohenjodaro where an extensive bead making area was discovered (Bondioli et al 1984; Vidale 1987). Exploration and excavations at Harappa (Dales & Kenoyer 1968; 1968) too indicated the promise of a new area-Mound E-as a craft working area.

Work on Harappan metallurgy and that of later periods was undertaken by Agrawal (1970, 1971, 1962, 1990). This
study followed earlier chemical analyses of metal artifacts by Khan Bahadur Mohammad Sana Ullah, Prof. Desch and Dr. Hamid in the 1920s and 1930s (Marshall 1931; Mackay 1938). A discussion of Harappan metal objects and differences with those of post Harappan cultures was undertaken by Bhardwaj (1970).

A complete study of Harappan shell working industries was undertaken by Kenoyer (1984a). Sources of raw materials, tools utilized, the techniques adopted for various artifact categories were dealt with. Information on Harappan shell working was enhanced with the discovery of Balakot and the different techniques used to produce bangles made out of *Tivela daimoides* (Dales & Kenoyer 1977). Excavations at Nageshwar and Balakot assumed importance due to shell cutting, which was carried out as the primary activity at both settlements.

As mentioned earlier, Mackay (1943) proposed that steatite micro beads were manufactured using special metal bead tools. Further work on Harappan micro beads was done (Hegde, Karanth & Sychanthavong 1982; Hegde 1983) suggesting a new technique for the production of these beads.

Very little work on Harappan faience production has been undertaken. Singh (1989) has primarily dealt with faience of a later period but does briefly discuss
Harappan faience. Among other crafts, Halim & Vidale (1984) analyzed the production of stoneware bangles, a study which gave valuable insights into a craft object that had been barely noted till then.

The above is a list of studies undertaken of particular crafts. Clearly, the main focus so far has been on the techniques utilized as deduced from various craft indicators. Very little discussion has ensued on the particular socioeconomic climate within which crafts were practised. The attempt in this thesis will be to explore just such a climate. It is surely social complexities which would permit the development and utilization of sophisticated technologies.

Craft production is here considered to be a significant aspect of an ancient society and one of the more reliable ways to study the development of social complexity. Increase in social stratification will have its repercussions primarily through the division of labour which is archaeologically best detectable in the sphere of non-subsistence production. Craft products comprise our primary archaeological data and any study which aims at understanding the organization of such production and the role that craft products played in the socioeconomic and political lives of ancient peoples must be relevant. Craft products by their nature and in their presence in particular contexts give modern observers a distinct idea
of ancient technological attainments, of the social differences in use patterns and evidence of local and extra-local contacts.

To understand socioeconomic complexities in the Harappan period, it was considered essential to study a number of crafts rather than a single one. More usually, one finds a number of crafts practised in a single settlement. Only by studying a multiplicity of crafts would we be able to weave together the different strands of the ancient economy and judge where crafts and craftsmen stood in relation to each other. Moreover, our interest in how crafts were organized and our use of the concept of specialization to measure occupational differentiation will only have some relevance to the overall economic structure if we study a number of crafts in conjunction.

It must be specified that justice cannot be done to particular crafts which may have had a significance in ancient society. Crafts such as spinning, weaving and wood working, which would leave no archaeological evidence except for inferential indicators such as tools, inlays (where wood working is concerned) and depictions in art, cannot be fruitfully included in our discussion. We must also excuse our neglect of pottery production. Pottery has been considered as too ubiquitous to enable any
correlations to be made between production and distribution. The considerable differences between different wares from separate settlements also are not helpful. That this craft was not unimportant in the ancient period is indicated by its vast output.

We have begun this thesis with an overview of the Harappan economy. Various subsistence strategies possibly employed by the Harappans have been discussed as also the role of the manufacturing sector and the mechanisms existing for distribution and exchange of the output. The aim in this thesis is not to reduce the significance of subsistence production. In fact, increased agricultural production would have been necessary in this period due to population expansion. Dense nucleated populations in particular loci would also have dramatically increased requirements of subsistence products. Moreover, the division of labour and increased specialization will place more burdens on the capacities of the cultivators. Though agricultural and non-subsistence production are conducted in different spheres, they are directly related. It will be the economic capacities of society to support non-food producers that will have a direct impact on the development of craft activities. Thus, we can hardly begin to discuss Harappan craft production without first situating such production within the economy as a whole.

It was next considered necessary to undertake a study
of craft production in ethnographic contexts. This is one of the means by which the organization of production in simple economies could be clarified. A perusal of the ethnographic literature to obtain an idea of the various aspects of craft production in simple and market economies is necessary for us to explicate the variations in human behavioral patterns. However, we must first accept that we can make no assumptions about the correspondence between past lifeways and the ethnographic present. The aim has been to deduce aspects of craft production that are likely to leave archaeological indicators in particular contexts. The type of indicators and the contexts in which they are found can be tested in relation to the archaeological record. Ethnographic data will give us valuable insights into the way we approach our archaeological data and hence must be undertaken at an early stage of study.

In examining the Harappan evidence for craft production, we must first deal with the technological aspect. The techniques and tools required to produce Harappan artifacts, an idea of the raw materials concerned and of basic inputs in production are essential aspects within a study of craft production. We will study the production processes for metallurgy, bead making, shell cutting, faience production, seal carving and weight making. These will give us an idea of the degree of skill required for
different processes, the inventory of craft tools, the role of other inputs such as fuel as well as the variations in possible artifact categories. This study should give us an indication of the quantity and quality of labour required for Harappan craft production. Each craft would require a separate set of skills while some processes may be done with no particular skills involved.

In the context of craft technologies, it would be fruitful to also compare Harappan capacities, with those of the Early and the post Harappans. This evidence will give weightage to an already preconceived notion of the abilities of the Harappan craftsmen in view of the richness of the archaeological record. A comparison of craft activities within the different cultures will illuminate the societies behind the cultures. The structure of society which would enable such technological advances could then be understood.

In the analysis of our archaeological material, the distribution of craft activities across the entire Harappan region is significant if we are to decipher any patterns in production, consumption and distribution. It is assumed that not all Harappan settlements will reveal evidence of craft production in the absence of a market economy and a measurable "demand". The concept "demand" is here used to denote simply requirement rather than a
desire which is adjustable to prices.

We will be dealing with crafts that have resulted in objects that are particularly Harappan, such as the production of steatite seals and cubical weights, with shell cutting, production of etched carnelian beads and long barrel-cylinder beads; as also with other crafts such as metallurgy, bead making and faience production. In our analysis, we will use some of the variables we had discussed in relation to the ethnographic evidence such as the location of production and the procurement of raw material. For each craft, an analysis of raw material sources and of other inputs, the possible values embedded in certain products as reflected in their consumption, and the pattern of production for separate crafts will be undertaken. Chapter IV will hence help us to relate production centres to findspots of finished goods within particular crafts.

The distribution of craft activities and findspots of finished artifacts give us significant information on a macro-level. However, direct correlations between production centres and findspots of finished goods can obviously not be made. The scale of manufacture at craft centres is to be understood if we are to avoid making any simplistic correlations. Thus, to study craft production at a micro-level, intra-site analyses of craft centres must be necessary. Hence, after a survey of the entire
Harappan region, we will fine-tune our analysis in the fifth chapter by concentrating on three specific craft centres. Only then would we be able to explicate the role of craft production in the economy of each production centre, the particular products manufactured at these centres, the location of each centre in relation to input sources and the distribution and consumption points. This would be essential to realize why crafts were engaged in at certain centres and not at others.

Finally in Chapter VI, we will take up the phenomenon of urbanism. Production at centres catering to a large and diverse local population must take account of the urban character of the settlements. It is considered that craft production as also most other activities will differ considerably in urban situations from that in non-urban settlements, due to the social and economic stratification arising out of a dense agglomeration of people. The enlarged production of craftsmen, the focus of their activities and the means of their livelihood are invaluable from the point of view of specialization. Harappan cities as centres of consumption and distribution, as loci of increased production, as centres of political power consuming elite goods and using them for exchange purposes are essential for our understanding of Harappan craft production. It is finally urbanism that will explain the quantum change occurring in the economy.
Harappan subsistence production will be expanded to cope with the increased demands of the nucleated population, but will not differ in its nature. It is, however, the non-subsistence economy that will reveal vital differences in the urban situation, as opposed to the non-urban.

It must be emphasized that this thesis is a specific study on Harappan craft production, so no attempt will be made to go into other aspects such as chronology. Suffice it to say that the Harappans lived in the period roughly from 2600 to 1750 B.C.

Moreover, no explicit reference to the political organization of the Harappans has been made. In the context of various inferred indicators such as the size of the Harappan occupied area, the physical segregation within settlements, the presence of large, public architecture, the uniformity of the archaeological assemblage over a considerable area, the prevalence of a uniform system of mensuration, the presence of seals and a widespread control over resources, we can say that we are dealing with some form of an early state.