

**Journal of the  
Centre for Heritage Studies**

**Volume One  
2018**

**Centre for Heritage Studies**  
University of Kelaniya  
Sri Lanka

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**CENTRE FOR HERITAGE STUDIES, UNIVERSITY OF KELANIYA**

**Journal of the Centre for Heritage Studies - 2018 Volume 1, by the Centre for Heritage Studies, University of Kelaniya.**

**ISSN 2682-7115**

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**Printed by**

Mega E Cafe, Kandy Road, Dalugama, Kelaniya.

**Published by**

Centre for Heritage Studies, University of Kelaniya, Kelaniya, Sri Lanka.  
chs@kln.ac.lk

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# **Journal of the Centre for Heritage Studies**

**Volume One  
2018**

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## Preface

The Journal of the Centre for Heritage Studies, University of Kelaniya is one of the two annual publications of the Centre. The sister publication is in the Sinhala medium and it is named as “*Yugathara*” which means in between eras. The present journal has not been given a specific name though its main focus is also into studies in between eras. In fact, one may broadly translate it as “In between the past and the present era”.

We would like to reproduce rare manuscripts, documents, indexes and catalogues in our future journals along with critical research papers. In accordance with its themes and the scope of the Centre for Heritage Studies, University of Kelaniya, the journal contains research papers on heritage related topics and can be considered a representation of research studies which explore various issues that characterize the changing cultural and heritage landscape of our times. When we compiled articles for this journal, we were fortunate to read and edit articles on a wide range of topics, which we received from both national and international scholars representing diverse and vibrant academic communities. It is the genuine interest and commitment we witnessed in the scholars that motivated us to overcome the challenges we encountered in publishing this journal. We are grateful to all those who sent in their articles and for the research done. It is our sincere hope that this journal will contribute to develop more interest in cultural studies particularly in the field of heritage, promoting a nuanced understanding of the value of our own heritage.

Editors,  
Journal of the Centre for Heritage Studies.



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## **Traditional Techniques of Gold Jewellery: A Case Study of Devakottai, Tamil Nadu**

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### **Abstract**

Amongst the several metallurgical accomplishments of India, the traditional gold jewellery making techniques and jewellery designs of Tamil Nadu rank as marvelous examples of art and metallurgical excellence. Gold jewellery has been an important and continuing legacy of ancient India. There is rich archaeological and historical evidence for gold jewellery going back to the Harappan period. Devakottai town is located in the Sivagange district of Tamil Nadu (9°56'38.20"N and 78°49'18.84"E). This paper undertakes preliminary documentation of the techniques of gold jewellery making in Devakottai and the socio-cultural aspects of local communities. An attempt is also made observe whether some new designs are being incorporated currently which are not native to the region; perhaps due to the concept of the 'global village' and also probably due to inter-community marriage.

**Keywords:** *Traditional gold jewellery, Manga-malai, Casting, Harappan civilization*

### **Introduction**

There are numerous literary reference to the use of gold in Indian antiquity going back to the Rig Veda and Samhita Veda. In all the sacrificial rites golden vessels were said to have been used. The Arthasatra refers to gold having "the colour of lotus, soft, lustrous and not producing any type of sound" (Krishna 1992). Several gold objects are found at sites of the Harappan civilization such as Mohenjo-Daro. Some analyses reported an admixture of gold with silver which might suggest that this gold originated in Kolar in Karanataka (Srinivasan. 2010, 2016), Silppadikaram, the Tamil Classic by the prince IlangoAdigal, dated to the early Christian era is an epic that follows the twists of fate due the theft of golden anklets belonging to the heroine, Kannagi (Srinivasan 2012).

The traditional jewellery of South India can be divided into two main categories: the so-called sacred "temple jewellery" and secular jewellery used by the rural and urban laity. Temple jewellery can be defined as any jewellery used as an ornament on the image of a

deity installed in a Hindu temple, or as ornament by person who officially participated in the temple rituals. Especially in Tamil Nadu, there is a rich tradition of temple jewellery being use to embellish the icons in the shrine and those taken out in procession. Due to various reasons which may include re-cycling of metal, not many examples of early sacred ornaments survive not for that matter of a significant number of secular ornaments.

In various societies, ornaments also had symbolic value pertaining to the rank status of the wearer, and could also have certain associations of magical power. Thus, the purpose of ornamentation was not only to satisfy an instinctive desire to decorate the body but, it was also invested with symbolic significance. This aspect is clearly expressed in the form of amulets which are often carried by several people in India inscribed with prayers to protect the wearer from evil influences.

### **Choice of Devakottai as Study Area**

Devakottai town is located in the Sivagange district of Tamil Nadu ( $9^{\circ}56'38.20''N$  and  $78^{\circ}49'18.84''E$ ). It is one of the major cities which come under the Chettinadu region, also known for its rich culture with various metal technologies. Tamil Sangam poetry (*c* 3<sup>rd</sup> century BCE to 3<sup>rd</sup> century CE) alludes to the rich jewellery tradition of the Tamil region (Fig. 1).

This paper explores the techniques of gold jewellery making in the study area and also discusses the manufacturing processes used in the making of the head dress, forehead jewellery, nose ring and manga-malai, a distinctive jewellery of this area.

It may be noted that traditional practices of gold jewellery making are rapidly declining in the area due to machine cutting and mechanized industries making it all the more important to document the surviving practices. During the course of field work, we had interviewed and surveyed the gold smith workshop of Mr. Pandi Acharya, Mr. Chandran Acharya and Mr. Balu Acharya. This field work has given a better understanding of the systemic method and materials which they have used for making the jewellery.

### **Overview of traditional jewellery**

Every region in India has a distinct style of jewellery with differences occurring even as one goes from one village to another. Despite the variety in jewellery patterns across different parts of the country, there are nevertheless also striking similarities at times in designs.

### **Head and forehead ornaments**

In many parts of India, *tikka*, a rounded pendent at the end of a long chain which falls on the forehead is worn along the parting of the hair. The *Shringarpatti* which frames the

face and often connects with the *tikkaon* the top along with earrings widely. The ornament worn all over India has variations ranging from the simple *lavanf*, clove, to *phuli*, the elaborately worked stud, or *nath*, the nose-ring worn in the right nostril, and the *bulli*, the nose ring worn in the centre just over the lips. In early times men wore the *Kalgi*, a plumed jewel, on top of the turban.

In Tamil Nadu, a more popular variation is the *tala saamana*, a jewellery piece which frames the face with pendant at the parting of the hair, the *maatal*, and also lining the parting of the hair. This style of head and forehead jewellery is retained by performers of classical South Indian Bharata Natyam dance drawing from the Sadir dance tradition of Tamil Nadu (Fig. 2).

### **Manga-malai (Mango necklace for women)**

A variety of neck ornaments are popularly worn by Indian women. Often, the traditional neck ornaments were made of silver and very heavy in weight. Nowadays these ornaments are more lightweight in gold while modern designs have replaced traditional shapes. The manga-malai is made up of either beads or mango-shaped pieces of gold and is a popular ornament in the Devakottai area. The manga malai necklace is most often worn by women from chettiar (business) and viswakarma (craftspeople) communities (Fig. 3).

### **Ear ornaments**

Ear ornaments form an important constituent of the female attire. An extraordinary range and variety of forms and designs of ear ornaments are found to be worn by the women in the Devakottai area. There are also differences between ornaments worn by elderly women and young girls in this area (Fig. 4). To married women, the ear ornament is auspicious, whereas bare earlobes signaled widowhood (Hari Chauhan 2005).

### **Ornaments for finger (Ring)**

Like the ornaments elsewhere on the body, the finger ornaments are also an equally important part of the attire of women. Women in the Devakottai area are very fond of the finger ornaments and many women sport multiple rings. Apart from more complex shapes, the simple ring is not ignored amidst the vast array of large ornament forms. It is a common ornament worn by both men and women. The rings worn by men are heavier and large than that worn by women. It is either made of simple designs or provided with ornamental designs. Sometimes, the rings are fitted with precious stones and jewels (Fig. 5).

## Traditional Techniques of Gold Jewellery

Jewellery manufacturing is a creative field. After conceiving of the design in the imagination, then a blue print of that design is drawn on a paper. Moreover, it is a skilled and delicate activity involving assembly and joining of various small parts such as gold leaves, small balls, wires and such like etc. The process of manufacturing jewellery passes through various interlinked sub-processes starting from the melting of gold and ending with the polishing of Jewellery. In the present day jewellery industry, two main processes of manufacturing are popular, i.e. traditional method, which is largely handmade and the modern method of manufacturing, whereby the considerable use of machines is made.

In Devakottai the manufacturing of jewellery could be categorized under these major manufacturing terms:

1. Handmade
2. Cast
3. Die Struck
4. Gold Filled and Rolled Gold Plate
5. Gold Electroplate

*1. Handmade:* In this process the jewellery is made by hand, without the aid of mechanical device other than ordinary hand tools. The major components, includes joints, settings, etc., are handmade from plate, bar or wire.

*2. Cast:* This is a method by which metals are poured or forced into molds which have cavities in the shape or form of the articles to be produced. Of the various casting processes, lost-wax casting is the one most commonly used.

*3. Die struck:* This is method by which metals are mechanically hammered onto hardened steel dies to produce definite impressions. This process is used for the production of signet rings.

*4. Gold filled & Rolled-Gold Plate:* In this technique, continuous plates of metal are covered mechanically by means such as soldering, brazing or welding. The purity of gold used is at least 10 carat fine, and this gold covering can be applied to one or more surface of the base metal.

*5. Gold electroplate:* Electroplate is the process of affixing a plate or layer of fine gold on a base of metal by an electrolytic process using electricity and chemical means.

## Jewellery Manufacturing Processes

Jewellery manufacturing processes include most advanced technologies and dedicated research. Jewellery making is a very composite process undergoing a long and slow procedure making it complicated from the initial point to the finishing point. Jewellery manufacturing process may be exhibited with the help the following chart.

**CHART SHOWING THE JEWELLERY MANUFACTURING PROCESS** 

Following is a brief description of all the processes involved in the manufacturing chain. *Design Making:* In order to produce a unique piece, the very initial step is to create a design. This is a point from where the imagination plays a role. Each piece of jewellery starts off with a concept. A concept is basically a rough design in the mind of the designer.

*Molding:* Once the master pieces of jewellery are complete, they are used to make a high technology mold, which in turn is used to make wax reproductions of the jewellery.

*Casting:* Casting is very complex process and requires utmost skill and experienced casters for the desired final product.

*Polishing:* Every part must be polished while the mount is being made. The entire mount is carefully made clean and polished to the highest degree of smoothness so that each and every part looks attractive (Fig. 6).

### **Tools for Making Gold Jewellery**

A tool is any instrument or simple piece of equipment that is held in the hand and used to do a particular kind of work. Tools played a very important role from the prehistory to the present day. Without the tools nothing is possible for every activity, creativity and art etc., It was found that in the Devakottai area there were more than 300 tools available for use traditionally (Personal Communication with Mr. Pandi (Gold smith). Here author has given major tools in gold jewellery making.

*Hammer:* Hammers are the most basic of the metal smith's tools. Most hammers have two faces that are differently sized or shaped; whereas mallets have identical faces. Most hammers have straight shafts; the exception of which is the chasing hammer. Most hammers can be used for several functions; while others are more specialized. The fundamental differences are that there are hammers for striking metal and separate hammers for striking tools for refining their shapes (Fig. 7).

*Anvils:* The bench block anvils are common in jewellery making, most often a 3-4" square, circular and rectangle by 1" thick block of stainless steel for striking, hammering and forming. Mandrels are specialized jewellery anvils. They are usually tapered, but may have flat surface that are stepped down along the length of the taper. They may have different cross-sectional shapes, depending on the use (round, oval, square, hexagonal, etc). They are usually made of steel or cast iron and also; may be made of wood to prevent damage to metal surface. The sizes and shapes are specialized for rings, bracelets neckpieces, or bezels (Fig. 8).

*Dapping Block:* Dapping block is a polished steel cube with up to five depressions of various sizes per size, used to form domes or half rounds. It is also available as a plate with depressions all on one side. It is used with dapping punches. It may be made of hardwood or bull horn, with only one depression per side (Fig. 9).

*Dapping Punches:* These are cylindrical tools with one nearly round edge matching the depressions in a dapping block. A metal disk is placed over the depression in the block with, an appropriately sized punch placed over the disk, and then the punch is struck with a hammer to form a dome (Fig. 10).

*Drawplate:* This is a steel plate with graduate, tapering holes, used to reduce the diameter of precious metal wire by drawing through the plate from the larger side to the smaller one. Holes in the drawplate may contain tungsten carbide inserts for less friction and wear. It allows you to keep fewer gauges of wore stock on hand, or to use up short pieces of heavy gauge wire (Fig. 11).

### **Some observations**

This is a preliminary study to understand the technology of ancient gold jewellery making techniques in the area of Devakottai study area. The definition of crafts specialization given by (Ottaway 2001) seems most appropriate to understand this present research: as ‘the consistent production of things by some people for other (Ottaway 2001). There are several components in this definition. First, production involves acquired skill. Secondly, the aspects of production, apart from having their own role or function, may also carry their own message for instance, as part of the operational chain. Thirdly, the commodities exchanged by others to obtain the produce may be of social or economic value (Ottaway 2001). The production of jewellery is a very tough and lengthy process and demands expertise and skill. As in gold and diamond jewellery, manufacturing at high cost is involved, so that no experimental risk can be taken at any level.

This paper has focused on tools and techniques of the goldsmith. Firstly, tools play very important role in all craft production. Concerning gold smithy techniques, most of the tools are made up of wood. Such wooden tools would not be expected to be found in an archaeological assemblage related to gold smith techniques. It is interesting that here were more than 300 tools found in the Devakottai in the workshop of Mr. Pandi (gold smith) related to traditional gold smithy. However, and at present only a few tools are being using to make gold jewellery, the reason behind for this is that machinery has become common in gold smithy.

During fieldwork it was observed that the traditional gold smithing techniques were going into decline, with the main reason being the machine cutting of gold jewellery, the entry of corporate and companies. The present generations of gold smith are shifting into other professions due to less salary and lack of work. It is indeed, saddening that at

present day the gold smiths say that are doing only repair work, which is final statement indicated that gold smith has declined. Ways have to be found to help this traditional craft to revive. In future research attempts would be further made to fully document the tool types and to understand their traditional functions.

### **Acknowledgment**

The fieldwork for the research has been supported by the NIAS-TCS Heritage Initiative. Special thanks are due to the gold smiths from Devakottai village and Mr. Pandi, Mr. Thriuthani and Mr. Balu.

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