

# METALLURGY IN ANCIENT ECUADOR

A STUDY OF THE COLLECTION OF  
ARCHAEOLOGICAL METALLURGY OF THE  
MINISTRY OF CULTURE, ECUADOR

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## Resumen en español

Este trabajo surgió como respuesta a la necesidad de renovar la Sala de Metales Arqueológicos del Museo Nacional del Ecuador. Para ello se recopilaron y sistematizaron los conocimientos sobre metalurgia precolombina del Ecuador. Paralelamente se estudió la colección de metalurgia del Banco Central (hoy Ministerio de Cultura) de Quito. Este estudio comprendió: a) El examen de todas las piezas; b) La inclusión de estos objetos en una base de datos; c) La sistematización de las informaciones de procedencia y su manejo en mapas georreferenciados; d) La recopilación de los fechados radiocarbónicos asociados con metalurgia y e) La realización de análisis metalúrgicos y metalográficos de muestras seleccionadas.

Los autores anteriores definieron culturas, estilos o tradiciones. En este trabajo se adoptó la clasificación usada por el Museo Nacional que comprende las siguientes categorías: a) La Tolita; b) Jama-Coaque; c) Bahía; d) Milagro-Quevedo; e) Manteño-Huancavilca; f) Puruhá; g) Cañari; h) Negativo del Carchi e i) Inca. Sobre este sistema se realizaron las siguientes modificaciones: a) Se adoptó para la Costa Norte el apelativo La Tolita-Tumaco para incluir la costa del Pacífico sur de Colombia, que fue una misma área cultural con la costa norte del Ecuador, así se incluyeron las piezas del Museo del Oro de Colombia de esta procedencia; b) Lo mismo se hizo para la Sierra Norte que se denominó Carchi-Nariño, ingresando las piezas del departamento de Nariño y sur del departamento del Cauca en Colombia; c) Dada la incertidumbre sobre si las categorías clasificatorias conforman culturas, etnias, estilos, tradiciones, periodos o fases se optó por el uso de una categoría más neutra. Esta categoría se denominó Gran Conjunto Regional y cada uno de ellos fue caracterizado en términos de: a) Su área geográfica de dispersión; b) La definición de su cronología; c) La tecnología; d) La tipología de forma función; e) La iconografía y simbología.

Por tratarse de un estudio basado en objetos de colección, en su mayor parte descontextualizados, hay limitaciones. La información de procedencia está afectada por factores como la imprecisión en la ubicación de los lugares de hallazgo, la omisión de esta información y las mezclas de piezas de diversa procedencia en un mismo lote. La ausencia de contextos arqueológicos limitó nuestra comprensión de la asociación interna de piezas dentro de los ajuares, así como la posibilidad de comparar entre si conjuntos de diversas tumbas de un mismo sitio. La información arqueológica, contenida en la bibliografía, también tiene sus limitaciones. Hay diferencias entre distintas áreas geográficas en cuanto a la cantidad y calidad de las investigaciones arqueológicas que han tratado la metalurgia. Lo que resultó muy productivo fue la combinación de la información de la arqueología de campo con la del estudio de colecciones. Este libro hace un balance actualizado de los conocimientos arqueológicos, tecnológicos, sociopolíticos, estéticos y simbólicos sobre la industria metalúrgica precolombina en

el actual territorio del Ecuador y propone una interpretación global de su simbología e iconografía, así como su probable desarrollo histórico desde sus orígenes hasta la conquista europea en el siglo XVI.



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## Introduction

The research work published in this book started when it became evident that the exhibition and the scientific layout of the *Sala de Metales Arqueologicos* (Room of Archaeological Metals) of the *Museo Nacional* of the *Banco Central del Ecuador* (nowadays *Ministerio de Cultura* (Ministry of Culture)) were in urgent need of renewal. The previous layout, still mounted when this work started in 2005, dated from 1995 and had been changed only slightly; it assembled the research results obtained previously with the classification, museographic layout and scientific analyses of the collection of the *Banco Central*. The archaeological background was based on the general scheme of Ecuadorian archaeology as it is explained, for example, in the classic text “Ecuador” (Meggers, 1966). This synthesis gathers the results and hypothesis of many previous researchers and has been adopted since then with few variations by most specialists of the region.

In order to achieve the goal of renewing the scientific layout it was considered of fundamental importance to collect and systematise the existing general knowledge about pre-Hispanic metallurgy of Ecuador and the specific data concerning the collection of the *Banco Central*; something that had not been done before. The first stage implied accessing and revising over a hundred related bibliographical references. These references are to be found in books, articles, catalogues, manuscripts, excavation reports, laboratory reports, projects, exhibition layouts and travel chronicles. Only a fraction of these documents is entirely dedicated to the pre-Hispanic metallurgy of Ecuador; even though most of them have only isolated remarks or theoretical considerations about metallurgy they are extremely valuable. Specialists in Ecuadorian archaeology might notice that certain books that we decided not to include in this revision might contain marginal references to metallurgy; though this is right, it is true also that these exclusions do not affect seriously the general panorama and that most of those books are cited in one or other of the texts consulted.

Concurrently we carried out the study of the metallurgy collection in the deposits of the *Banco Central* and in the exhibition of the Room of Archaeological Metals of the *Museo Nacional* in Quito. This study was structured according to the following methodology: a) Visual examination, sometimes restricted, of all the available objects; b) Inclusion of those objects in a database that included as much information as could be gathered for each record; c) Organisation of the provenance information in geo-referenced maps so as to allow us to define and clearly show the distribution patterns; d) Compilation and organisation of radiocarbon dates associated to metallurgy, either obtained from collection objects or in archaeological digs and e) Processing of metallurgical and metallographic analyses of samples selected according to their importance or the absence of specific knowledge.

When dealing with a field of study that has not been subjected previously to an integrated analysis we cannot take anything for granted. In the case of Ecuadorian pre-Hispanic metallurgy, despite the fact that many topics had been already examined, the basic axes of archaeological work were still ill-defined. We thought that this research should aim at solving four basic questions: 1) Where? That meant defining as precisely as possible the spatial axis of metallurgy; 2) When? That meant establishing the general and the regional chronologies; 3) How? That meant describing the technology of manufacture; 4) What? That meant defining the formal and functional repertoire and the iconography. Obviously there are many other very important aspects that are not included in these aims, but it will be easier now to approach those topics with a solid backup of organised archaeo-metallurgical information.

Those authors that, at different moments, have published on the topic of pre-Hispanic metallurgy of Ecuador have proposed the existence of diverse cultures, styles or traditions. Due to the nature of our work we decided to adopt the classificatory system used by the *Museo Nacional* in its archaeological deposits and in the Gold Room of the museum. It is important to stress that no major changes were introduced in this system because it was not considered feasible to do so at the time. This classification system includes the following major cultures: 1) La Tolita; 2) Jama-Coaque; 3) Bahía; 4) Milagro-Quevedo; 5) Manteño-Huancavilca; 6) Puruha; 7) Cañari; 8) Negativo del Carchi and 9) Inca. Some cultures that appear occasionally but are not systematically and coherently used were assimilated to the major ones; that is the case with Guangala, Tacalshapa and Narrio.

The classificatory system was supplemented with the following additions that do not alter its basic principles: a) We changed the term used for the northern coast to La Tolita - Tumaco so as to include in the distribution area the southern Pacific coast of Colombia, taking into account that in pre-Hispanic times both were just one cultural area. Then we included in the database the objects from the collection of the *Museo del Oro* found in the south Pacific coast of Colombia; b) A similar operation, based on the same considerations, was performed for the northern Sierra that was then re-named as Carchi-Nariño. In the database we then included the objects found in the Andean region of the department of Nariño and the southern portion of the Cauca department in Colombia; c) In order to overcome the uncertainty caused by the fact that it was very difficult to define whether the classificatory categories (cultures) really corresponded to cultures or to ethnic groups, styles, traditions, periods or phases or if those criteria were intermingled, we adopted a neutral category that does not force the study within any particular theoretical approach and leaves the door open for alternative interpretations. In this study the classificatory categories are termed as Great Regional Groups and they do not imply any notion of ethnic identity; nevertheless when a safe correlation can be established between a known Indian group and a metallurgical group, that link is clearly expressed.

Each Great Regional Group was defined in terms of its constitutive characteristics, those that make it unique and different from the other groups. The set of characteristics include: a) The definition of its geographical area of distribution, that is the region where the objects were made and used; b) The definition of its chronology, the period during which the tradition was in vigour; c) The technology, the repertoire of manufacturing and finishing techniques used to make the objects; d) The form and function typology, that is the range of types and shapes of objects produced; e) The iconography and symbology, individual decorative motifs and their combinations used to articulate a particular symbolic system.

This characterisation does not exhaust the field of study. It would be important to go more in depth into each of the aspects considered here and it would also be vital to take into account other topics that we were not able to include at this stage, such as the definition of the relations between the regional groups of metallurgy and the pottery types and styles as well as the compilation of information concerning the archaeological contexts of metal finds.

Our formal, functional, technological and iconographic classification followed closely the criteria established by the *Banco Central*, especially the inventory made by researcher Patricia Estévez that contains almost all the objects of the collection. This inventory, together with the visual examination and the photographic record allowed feeding the database. It is important to note that the shortage of time prevented the direct comparison of each and every object against the records.

Due to the fact that this study dealt with objects belonging to a museum collection, most of them lacking context, there are restrictions which must be acknowledged. The provenance information, indispensable to draw distribution areas and to understand the extension and magnitude of exchanges, is seriously affected by facts such as the imprecise location of find sites, the absence of such information, the mixing up of objects from different provenances in one acquisition batch reported as coming from only one site, etc. This means that the distribution zones should be seen as indicative but not as sharply defined territories.

From another point of view the absence of archaeological contexts severely limited our understanding of the internal association of objects within funerary assemblages and ritual attires, as well as the possibility of comparing sets coming from different graves within the same site. Those and several other problems are usually found by archaeologists studying museum collections. There are, however, advantages that offset these problems and render viable and productive the study of collections without contexts. The mere accumulation of objects is, per se, a positive factor. The examination of large quantities of objects is the nearest way to reach the ideal of a complete vision of the technological, formal, functional decorative, iconographic and symbolic repertoire.

The study of technology is not generally affected by the fact that objects belong to collections. It is important to say that we should not avoid the responsibility of studying collections just because they do not offer the ideal conditions that the archaeologist is trained to recover in the field.

The archaeological information contained in the revised references is also restricted. There are noticeable differences between the regions with respect to the quantity and quality of the archaeological projects that have dealt with metallurgy. Whereas the La Tolita-Tumaco area has been visited by many research expeditions, the region of Chimborazo (Puruha) has been left mostly untouched. The authors do not always give the metal objects found in the course of their digs all the attention they deserve, mainly because they are not the objective of their investigations. Ultimately what proved to be most productive was to combine the information coming from field archaeology with the study of collections. However, not even this combination managed to answer all of our queries, but it does improve the general perspective.

This balance of our present knowledge of the archaeological, technological, socio-political, aesthetic and symbolic aspects of pre-Hispanic metallurgy of Ecuador is aimed also at establishing the origins of this industry and its relations with neighbouring areas, especially southern Colombia. We also intended to throw some light upon the survival of metal working after the Spanish conquest.

The database "Pre-Hispanic Metallurgy of Ecuador" (Microsoft Access software) is an integral part of this document. This database has a total of 7786 records of objects in a main table with 5179 records of objects from the *Banco Central del Ecuador* (Quito) and a secondary table with 2607 objects from southern Colombia presently in the *Museo del Oro*, Colombia. Another component of the document is a series of nine geo-referenced maps (an IGME document modified with ESRI ArcGis software) that show the general distribution of provenances and the particular distribution of each Great Regional Group.