REVIEW AND REVISION OF CERAMIC ANALYSIS
Results of the 1991 Maya Ceramic Workshop

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The 1991 Maya Ceramic workshop, held in Belize, was organized by Dr. Anabel Ford of the University of California, Santa Barbara. It provided a dynamic discussion format focused on problems and issues in the analysis of prehistoric Maya ceramics. In reaction to the formality of previous conferences that were centered on the presentation of papers, the 1991 Workshop was designed to promote an atmosphere amenable to interaction and resolution. Through open debate and ceramic collection review sessions, the participants were able to achieve a new level of understanding bridging the diverse analytic strategies and to develop a new comparative standard for Maya ceramic studies.

The main analytical technique employed by many, but not all, ceramic analysts in the Maya area is called "type-variety." The type-variety technique emphasizes characteristics of surface treatment and decorative style on well-preserved vessels. This technique identifies temporal stylistic changes in ceramics, which provide useful chronological time markers for the ancient Maya. Problems in the analysis of the less well-preserved and undecorated wares have been resolved on a project by project basis, making comparative studies difficult. Comparability of collection description and reporting thus became the central theme of the 1991 Workshop. At the culmination of the workshop, participating delegates unanimously agreed to implement minimum reporting standards to enhance intersite comparisons and to promote a better understanding of the ceramic component of the prehistoric Maya.

THE WORKSHOP

The Ceramic Workshop, held in San Ignacio, Belize, ran for five days, June 17-June 22, 1991. The first day opened with a Bienvenida Reception, hosted by the Belize Brewing Company, Ltd. Participating delegates were welcomed by the Government of Belize Minister of State and Cayo representative, the Honorable Daniel Silva; the Minister of Environment and Tourism, the Honorable Glen Godfrey; and the Department of Archaeology Commissioner, John Morris. This gala event set a positive tone for the following three-and-a-half workdays' schedule. The workshop closed with an impressive banquet hosted by the Belize Bank for all participating delegates. A number of other enterprises, in Belize and beyond, also provided essential support that ensured the workshop success (see list at end).

The workshop days were organized to address major research topics in the morning and chronological topics in the afternoon. Each day's work was developed according to feedback from the participants prior to and during the workshop. Morning sessions were devoted to general research themes and issues: type-variety method, terms and definitions, data reporting, as well as formal and functional considerations. Afternoon sessions, by contrast, focused on collections representative of the major chronological periods: (1) Formative-Preclassic, (2) Early and Late Classic, and (3) Postclassic and Contact. The evaluation of chronological periods was structured around hands-on-comparison of collections and follow-up discus-

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sions. The final morning, participants reviewed conclusions and consolidated agreement on the workshop accomplishments.

Belize provided an ideal setting for this landmark workshop. Whereas many similar events hosted in the United States have precluded the involvement of Central American delegates, Belize's central location in the Maya area enabled local researchers from Honduras, Guatemala, Belize, and Mexico, as well as those from Spain, the United Kingdom, Japan, Canada, and the United States to attend. Over 50 Maya scholars brought together research interests and collections from archaeological sites throughout Belize, Mexico, Guatemala, and Honduras. This wide representation provided a stimulating basis for comparison and discussion of the regional issues that are critical to understanding the foundation of ancient Maya civilization.

IDENTIFYING PROBLEMS OF CLASSIFICATION

From the outset, it became apparent that there is a wide variety of classification procedures in use within the region. This immediately led to confusion among participating delegates as to the exact nature of their colleagues' data. Obviously, this uncertainty makes intersite and regional comparisons and interpretations difficult, at best. An essential topic of the workshop, therefore, became the development of a consensus on clear data-reporting standards that should be utilized regardless of the classification system.

One of the most significant problems raised during the workshop concerned consistency and objectivity in classification. One specific area addressed was attribute priorities. For example, some types may have been identified from a recognized similarity in surface treatment and color, whereas other types may have been grouped according to paste or form characteristics. Uneven reporting of typological attribute priorities in descriptions has resulted in the misrepresentation of established types and the perpetuation of errors.

Another problem raised by workshop participants was the importance of information on the context, distribution, and quantity of analyzed ceramics. Participants agreed to the need to explicitly identify the source of analyzed ceramics. Are the ceramics from a burial, midden, presumed activity area, or construction fill? Are they derived from a public or residential setting? The distributional composition of the analyzed collection was also felt to have been insufficiently reported in the past. Are ceramics widespread within the site or concentrated in a particular area? Do the described types make up a large or small percentage of the total collection? It was widely agreed that the omission of these data from reports left other researchers with inadequate information to draw conclusions necessary for examining regional associations and relationships.

Comparability among ceramic collections was also found to have been hampered by differences in naming conventions. Most typological groups of ceramics are formed by examining the internal variation of a collection. Depending on the stress on principal identifying attributes, different typological groups could result. If surface treatment and color were the main criteria for developing ceramic types without regard to other characteristics such as form and paste, one could end up with a type composed solely of body sherds. If, on the other hand, form was considered to be the most distinguishing criterion, a type might end up representing one form but many different paste characteristics. Without explicit descriptions, such important details would be obscured.

Grouping and naming conventions based on comparison with established typologies face another set of problems. During the afternoon hands-on collection review sessions, surprise arose as some participants discovered the full range of variability in a particular named type. At the workshop, participants were able to visually compare the same defined type in collections from different sites, and they found some of these types to be so different that they, in fact, should have been assigned different type names. This kind of problem occurs when established type names are assigned on the basis of textual comparisons without actually seeing the original materials first-hand or talking to the analyst who established the type. The afternoon hands-on collection review sessions underscored the weight of textual description and importance of side-by-side collection comparison.

REPORTING STANDARDS

Considering the issues, problems, and concerns that arose during the discussion sessions, it was clear that a new standard for reporting ceramic analyses had to be achieved. A consensus was reached among all participants of the workshop to design some universal minimum recording and reporting requirements for classification systems. Such minimum requirements will promote comparability among the different classification systems and provide appropriate kinds of information that can be of use to all researchers. It was unanimously agreed that all reports should begin with a clear statement of the research objectives. For example, if the objective was to establish a new chronology, then formal descriptions and seriation information was essential. Descriptive data should also be reported so that others can see exactly how the chronology was established. Or, if one's research objective encompassed working with comparative chro-
nologies, then information on relative dating associations and typological comparison would be important to report. Alternatively, if the project goal was to delve further into actual assemblage interpretations, then information on strategies for finding signs of production technology and consumption patterns should be reported, as it would be extremely relevant and useful to other researchers.

Within the scope of research objectives comes the context or source of the described ceramic collection. Participants in the workshop concurred that specific data on excavation strategies need to be reported to give others an appreciation of the contexts of the ceramics. Basic data on context should include collection techniques, stratigraphy, and provenience data. How were artifacts collected? Were the artifacts screened and if so, through what size mesh? Were the artifacts collected from stratified or generalized deposits? As for provenience data, the horizontal location and vertical depth of the artifacts should be regularly noted for chronological studies. Arca data should be reported for comparative studies that rely on established chronologies as well as topical studies focused on production and consumption.

Tied into the call for more specific provenience information was the recognition of the requirement of more thorough description of the collection as a whole. This covers a wide range of problems that affect the utility of reports for comparative studies. Although nothing can match the actual first-hand review of collections, accurate and complete reporting of the analyses can not only improve the comparability of future analyses, but also can ensure the replicability of the analysis process in new contexts. What percentage of the collection was used for the report? Is the collection representative of all areas excavated or only specific zones? In cases of distributional studies, all excavated areas may be important, whereas chronological studies might focus on those excavations with clear, superimposed stratigraphic units. A related issue concerns the archaeological setting. Are collections derived from a variety of settings, including ritual, mundane, public, and residential contexts? Do they concentrate on construction fill, middens, or activity areas? Or, are they from only one kind of setting? Provenience and context of artifacts within a collection are critical to behavioral interpretations.

On the practical side of reporting, it was acknowledged that more complete information on ceramic classification techniques would help other researchers to see the exact manner in which groupings were created. Typological group names should be based on collections with distinct formal characteristics. Explicit reporting of the principal identifying attributes (for example, surface treatment, color, form, paste, or a combination thereof) for each typological group is critical to recognition of the type in other collections. Quantitative data on each typological group is also important and can relate to variations in stylistic change as well as the organization and distribution of specific groups. All quantitative information is well suited to computer application. Total counts, associated vessel form, and metric data are easily compiled as a database and retrieved in relevant subsets of forms, surface treatment, paste, color, and so on.

Reporting quantities can be as simple as raw counts of rim sherd for each type or can be combined with information on weights, ratios of counts to weight, or other more sophisticated estimates for evaluating relative numbers of vessels. In providing quantitative information, there should be reference to the vessel reconstruction efforts, if any, that were applied to the collection. This includes associating related sherd, conjoining sherd, and full vessel reconstruction. Such data will affect estimates of the minimum number of vessels represented within each type.

Quantitative information should be reported on characteristics of vessels within each type, including formal assessments and metric data. For example, how many of each utilitarian vessel form and special vessel form (for example, jars, bowls, and plates, versus vases and incensario) are represented in a typological group? Basic metric data, such as measurements of rim diameter and wall thickness provide vital information on vessel size. Such measurements should report the total distribution range of variation for each form or group and not simply an average. Averages mask variability in the data, often providing a dimension that may not be found in the collection. For example, if the classified group had a bimodal distribution of diameters, with 100 rim sherd of 10 cm in diameter and 100 rim sherd of 20 cm in diameter, the average diameter would be 15 cm, although there was, in actuality, no case of a 15-cm-diameter rim sherd. One helpful technique to display such variation in data is to construct histograms. Histograms provide frequency distributions that display the modality inherent in a metric category.

In describing ceramics, it was felt that more specific and objective information on paste characteristics and surface treatment should be required in reports. An important aspect of paste to describe is the nature of non-plastic inclusions, or temper. Qualities that should be reported regarding tempering agents include the size of inclusions (coarse versus fine), sorting of inclusions (regular versus irregular sizes), percent of inclusions (up to about 40%), and positive reaction to HCL (determining the presence of calcium carbonates). Paste color should also be reported. Using the Munsell soil color chart, both the exact colors (for example, 10YR 6/6) and the general color name (brownish-yellow) can be reported along with
the lighting conditions under which the colors were chosen (natural, fluorescent, incandescent). This will ensure that all descriptions of color are standardized and, therefore, recognizable from descriptions. (If the exact Munsell reference is recorded in a computer data base, Lisa Lucero of the University of California, Los Angeles, has developed a computer program that will convert Munsell references to their descriptive colors. The details of this program are available on request.)

Munsell color reporting should also be used when describing surface color of both slipped and unslipped ceramic groups. Information on surface treatment should be regularly indicated (smooth or textured, striated or corrugated). In addition, information on the specific design elements and the technique used in application (painting, incision, impression, appliqué) should be reported, along with the pattern of the layout, when present.

Recording all of these attributes may appear to be an arduous task; however, the use of computer data base programs can greatly facilitate matters. Data compilation is always time consuming, be it on the computer or by hand, but using the computer allows for ease in data grouping, regrouping, computation, and retrieval. Because computer data base programs can be used to record both quantitative and qualitative information, they are an effective media for recording the kinds of ceramic characteristics necessary to meet the minimum reporting requirements. Moreover, the use of computer data bases can help in standardizing collection methods and in establishing clear attribute priorities in group assignments. Finally, computer files on basic quantitative and descriptive information can be readily shared, increasing access to basic data on analyzed materials.

Descriptions of each ceramic grouping can be further clarified also by the use of a standardized illustration format. Design elements and stylistic patterns discussed in the text, in particular, are clarified through illustration. Participants at the workshop endorsed the concept of organizing illustrated presentations of ceramic types by vessel form. Organization by vessel form will facilitate analytical comparisons. Whenever possible, use of a consistent illustration scale (50% or 33%) will enable a better visualization of variation in vessel sizes reported in collections. Information on the scale of illustrations is best reported both in the text (1:2, 1:3), and if possible, as a bar measurement on each illustration page. Also one should be explicit as to how form reconstructions were made. Was the form ascertained from a whole vessel, rim diameter measurements combined with sherd profile, or an interpretation of what the vessel would have looked like?

Finally, the storage location of the collection should be indicated in the report itself. This will aid in future comparative studies that require collection review. Related to this, everyone was in accord that more complete reporting of cross-references for typologies would be helpful in understanding regional relationships. In considering the value of more hands-on collection review, along the lines of the afternoon sessions of the workshop, participants proposed the development of a centralized Ceramoteca that would serve as a repository for ceramic type collections from all over the region. Currently, there is a basis for a Ceramoteca housed in Mexico City's Instituto Nacional de Antropología e Historia facilities. By housing collections from all countries of the Maya area, including Mexico, Belize, Guatemala, and Honduras, a Ceramoteca could facilitate direct visual cross-referencing of ceramic collections. Problems in acquisition agreements, however, will undoubtedly figure into this proposal. It may be more feasible, therefore, to develop national Ceramotecas that would be accessible to research visitors in each country. National museums and research centers would be logical locations for such Ceramotecas.

The minimum reporting requirements presented here were endorsed by all the participants of the 1991 Maya Ceramic Workshop. Although analytic strategies and methods may be unique and dependent on specific research goals for each project, data reporting promises to be standardized. Adherence to the minimum reporting requirements will ensure that data have a general comparability among collections, will enhance our understanding of assemblage variation, and will aid in the identification of chronological changes on both a local and a regional scale. Additionally, the specific nature of the minimum reporting standards provides a fundamental basis for the interpretation of behavioral and functional associations of ceramics.

**SUMMARY AND CONCLUSIONS**

The 1991 Maya Ceramic Workshop concluded on a positive note. There was a general consensus on the reporting requirements and standards designed to eliminate past problems that have inhibited effective comparisons. The new standards ensure that data will be described at a level of specificity that will allow analyses to go far beyond the mere description of the types and forms of ceramics and their variation over space and time. Excitement was stimulated at the end of the workshop by the thought that we will now be better able to approach the important considerations of issues of the production, consumption and use of ceramic forms. The ability to make such behavioral associations will lead to a more comprehensive appreciation of ancient Maya life.
Overall, everyone felt that the workshop met with decisive success. We now await the implementation of the recording requirements and the emergence of the better understanding that will result. The achievements of the workshop will be evaluated at the next Maya Ceramic Workshop, which Dr. Sonia Torres of the Instituto Nacional de Antropología e Historia has volunteered to host in Mexico City four years hence.

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