FIGURINES FROM CANCUEN, PETÉN:
THE EMERGENCE OF A REGIONAL PERSPECTIVE

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This publication represents an attempt to provide an answer for some of the questions previously posed in regard to the chemical and stylistic analysis of the figurines that integrate the Cancuen collection. The Cancuen figurines feature a construction and technology similar to the models of figurines found along the Usumacinta and the Pasión rivers. The Cancuen figurines were manufactured in two different ways (Sears 2001):

- The first corresponds to small figurines with a shallow relief and manufactured with molds, characteristic of the sites located along the banks of the Pasión and the Usumacinta rivers.

- The second type is integrated by figurines that stand on their feet like dolls, whose component parts were made with molds and hand-modeled. In Jaina, examples of this type may be found, while figurines manufactured with similar techniques were also observed in Salinas de los Nueve Cerros.

Moreover, and through a visual examination, it would seem that the figurines from both Cancuen and Salinas de los Nueve Cerros have big iron nodules inside the paste. It had not been possible to establish whether the compositional patterns of the figurines reflected similarities between the two sites, or whether they reflected a northern influence of figurine exchange. Now, following three years of laboratory tests and after completing the excavation program in the residential areas that surround the Cancuen palace, it has proved very interesting to evaluate a larger collection of figurines, as well as having had the chance to find a more complex pattern of chemical configuration.

METHODOLOGY

The pottery and figurines from Cancuen present a highly complicated matrix of information, as a result of different and varied non-plastic inclusions such as those of volcanic or carbonate types. The size of the latter may range from thin to very coarse particles. The clay of the area adjacent to Cancuen may have had different amounts or different varieties of tempering materials, which were added to the clay available

in the region. While the adding of temper of volcanic derivates may have enriched some of the concentrations of elements at the expense of others, the addition of pulverized charcoal tended to proportionally reduce the concentration of most of the elements in the ceramic paste.

For this reason, the matrix information statistics that attempt to differentiate the production of the different workshops will only focus on the absolute magnitude of the composition of the elements. A more regional perspective would enable us to find the proportional relationship between the elements and would probably seek a better relationship in terms of the general resources used. To reduce part of the present variation in the Cancuen pottery, the Fine Gray ceramics of the Chablekal group and the Fine Orange ceramics will not be considered at this time, because it is commonly known that they were imported from Cancuen (Sears and Bishop 2002).

The comparison between the Cancuen samples with the more than 18.000 samples from the Maya ceramic composition database has revealed that the constitution of some of the examples from Cancuen is similar to the tested ceramic from Salinas de los Nueve Cerros in Alta Verapaz. The chemical analysis of samples of the latter site was completed as a part of the Maya Ceramic Project in 1980, which was focused on production and exchange in the Maya Lowlands. The information about the pottery of Salinas de los Nueve Cerros was not used until the similarities in the composition among the samples from Salinas de los Nueve Cerros and Cancuen were observed. Given the fact that the composition pointed to "evenness" between the Cancuen figurines and the pottery of Nueve Cerros, a study of the figurines from Salinas de los Nueve Cerros was initiated, taking examples for INAA of figurines that possibly presented stylistic connections with the Cancuen figurines. The information from these samples was incorporated in the Cancuen data matrix.

The analysis of the information about the figurines and pottery from Cancuen has been carried out with two complementary points of view. One Cluster Analysis was conducted with the record of concentrations of 13 elements (Table 1), many of which were determined with a remarkable analytic accuracy (Bishop and Blackman 2002). Some features were removed as a consequence of poor available information, usually with ceramics with carbonates, which present very low detection limits in routine procedures. As of a matrix of Euclidean distances from sample to sample, a Cluster de Wards test was conducted, which involved an adjustment of co-variables among the features. It has been frequently found that this method has "better results" with the information of the Maya ceramic composition than with other more common forms to establish connections. This resulted in several multiple "test" groups, with carbonate ceramics grouped separately from those which did not contain carbonates.

Once marked according to its test group, the information on composition was subjected to the Q-mode factorial analysis like a "mixing" problem, where two or more different materials were combined to produce a range of finished pottery. A simple two-component system may consist of clays and tempers, each representing 100 percent of a "final member". The composition profile of a finished ceramic would be the proportional mix of the two final members. Carbonates, such as grounded limestone, and volcanic ash derivates, are definitely two very different tempers that

affect the profile of the final composition, in a variety of ways (for example, some of the elements are enriched, while others become diluted). For this reason, the simple "system" of Cancuen would include two basic clays and two temper components. There is an additional complexity, as a consequence of the unknown number of "natural" ceramic groups. This is so because clays and tempers come from different sources, and present, therefore, a varied number of final members which in turn are expressed as linear combinations.

The Q-mode analysis (Jóreskog *et al.* 1976) carried out with ceramics and figurines from Cancuen and Salinas de los Nueve Cerros, determines the co-variability of the elements and expresses the association between the samples as a proportional mix of the final members calculated (Table 1). In order to see in a simpler manner the total structure of the information, three final members were extracted (Q-Factors), which were rotated to several *varimax* positions, thus presenting the structure of the sample with a ternary graphic (Figure 1).
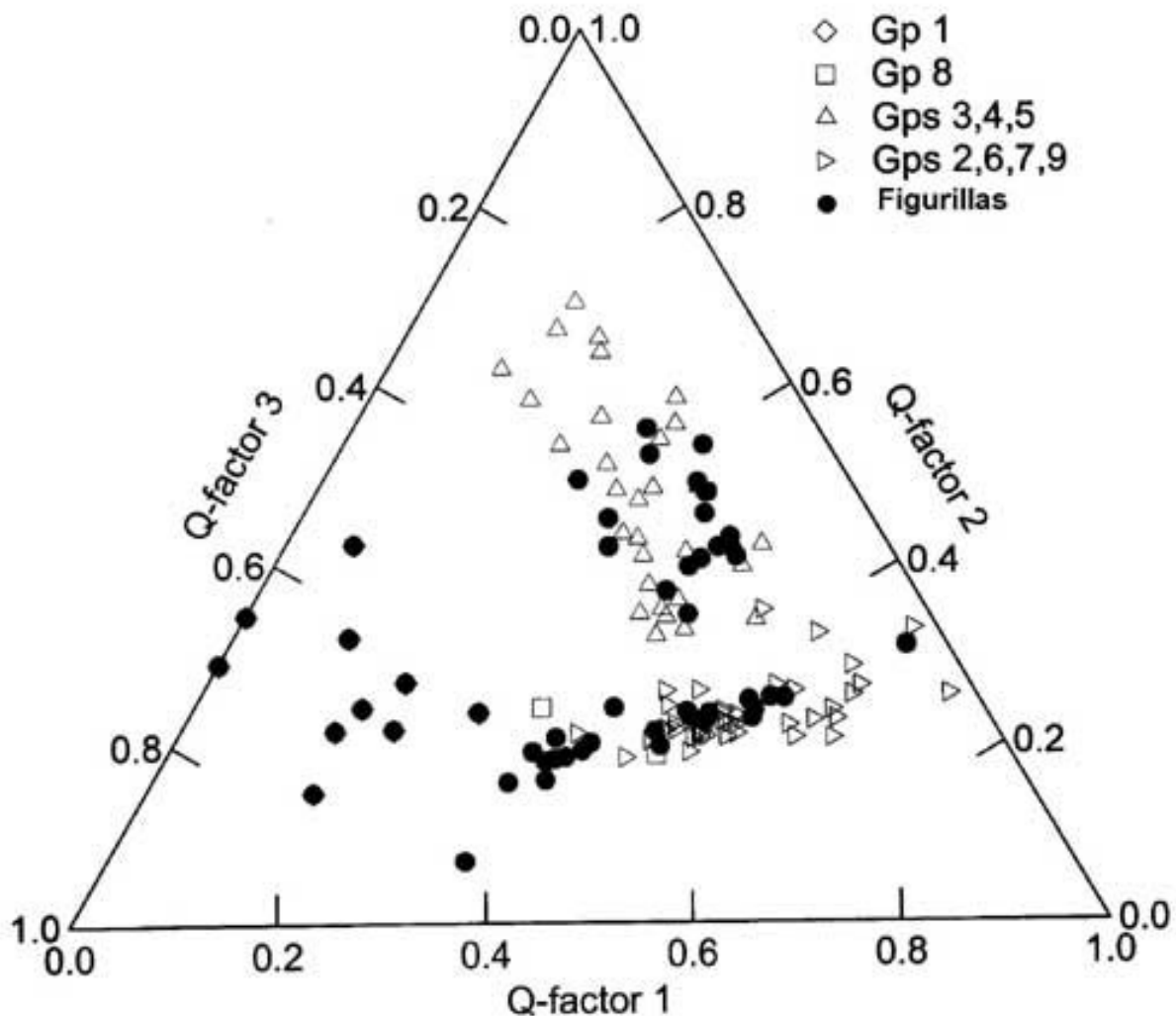

Figure 1. Q-mode ternary factorial diagram.

INAA

The previous efforts undertaken to establish the elemental model of the Cancuen figurines have never defined the issue of the geographic extension of the local production of these figurines, *versus* their importation. To more deeply explore the patterns of composition, samples of paste were taken from the figurines of the Cancuen region, as well as from other sites like Raxruha Viejo, El Guaraní, and La Caoba, and other more remote areas such as Salinas de los Nueve Cerros and the palace of the Lady of Cancuen at Dos Pilas.

In the previous analysis (Figure 1), the samples of the figurines were separated in different groups. The composition of some of the figurines co-varied with the ceramic material from Cancuen, as indicated at the right side of the table with the Q-mode factorial analysis. The other samples shown in the left lower corner of the chart outline a separate group of figurines (Group 1), which seem to have a reddish orange, or a light brown paste. The samples of Group 1 are separated from the other dots because they reflect, in a way, a high level of iron and chrome. The samples of figurines with a reddish orange paste were recovered at Cancuen, but cannot be compared with none of the chemical compositions of the groups assigned as belonging to the Cancuen ceramic group (Sears and Bishop 2002). It was speculated that this paste group was probably originated in Salinas de los Nueve Cerros or some other region close to Cancuen, like Raxruha Viejo or La Caoba.

As of the new analysis (Figure 2), the information in the ternary diagram began to achieve a more geographic character. The right half of the ternary chart shows the Cancuen local compositional group that includes the figurines and pottery samples. The upper left corner of the plan, where Group 1 was previously recognized, has become Groups 18 and 19. These groups still include the reddish orange figurines, but have now incorporated pottery with a black slip, also found in Cancuen. Groups 18 and 19 also contain examples that were recovered by Karen Pereira, Lucía Morán, Brent Woodfill and his cave team, from places such as Raxruha Viejo and the Cuevas de Candelaria System. Preliminary, it looks highly probable that the reddish orange figurines were originated in the region of Raxruha Viejo. Hopefully, the samples that Arik Ohnstad will retrieve in his excavations at Raxruha Viejo and surrounding areas will help to better outline these groups.
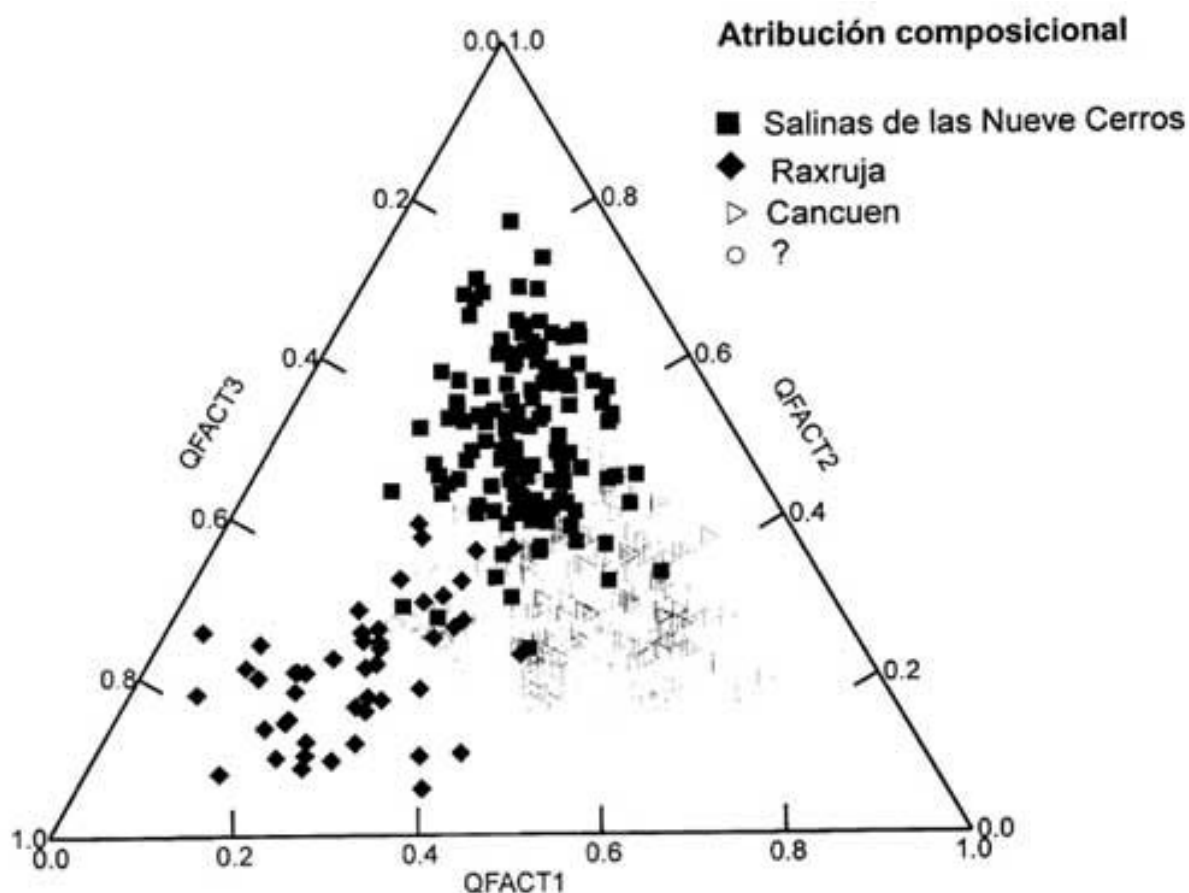
Figure 2. Q-mode ternary factorial diagram.

The upper central portion of the ternary chart reveals the composition of Salinas de los Nueve Cerros. This group incorporates ceramic and figurine samples recovered during the excavations conducted by Brian Dillon, as well as figurines recovered in excavations carried out in residential areas at Cancuen. In addition to the other differences among the elements, these figurine samples feature a higher sodium concentration than the rest of the compositions, and feature a light orange/buff paste. The high sodium concentration is not surprising, because this area is characterized for having salt deposits, something that Brian Dillon considered important for Salinas de los Nueve Cerros, as this resource was used to trade with other sites from both the Highlands and the Lowlands (Dillon 1977).

INTERPRETATIONS

Now that the general universe of small dots in the statistic space has regional and interregional implications, the interpretative benefits of these analyses will be discussed.
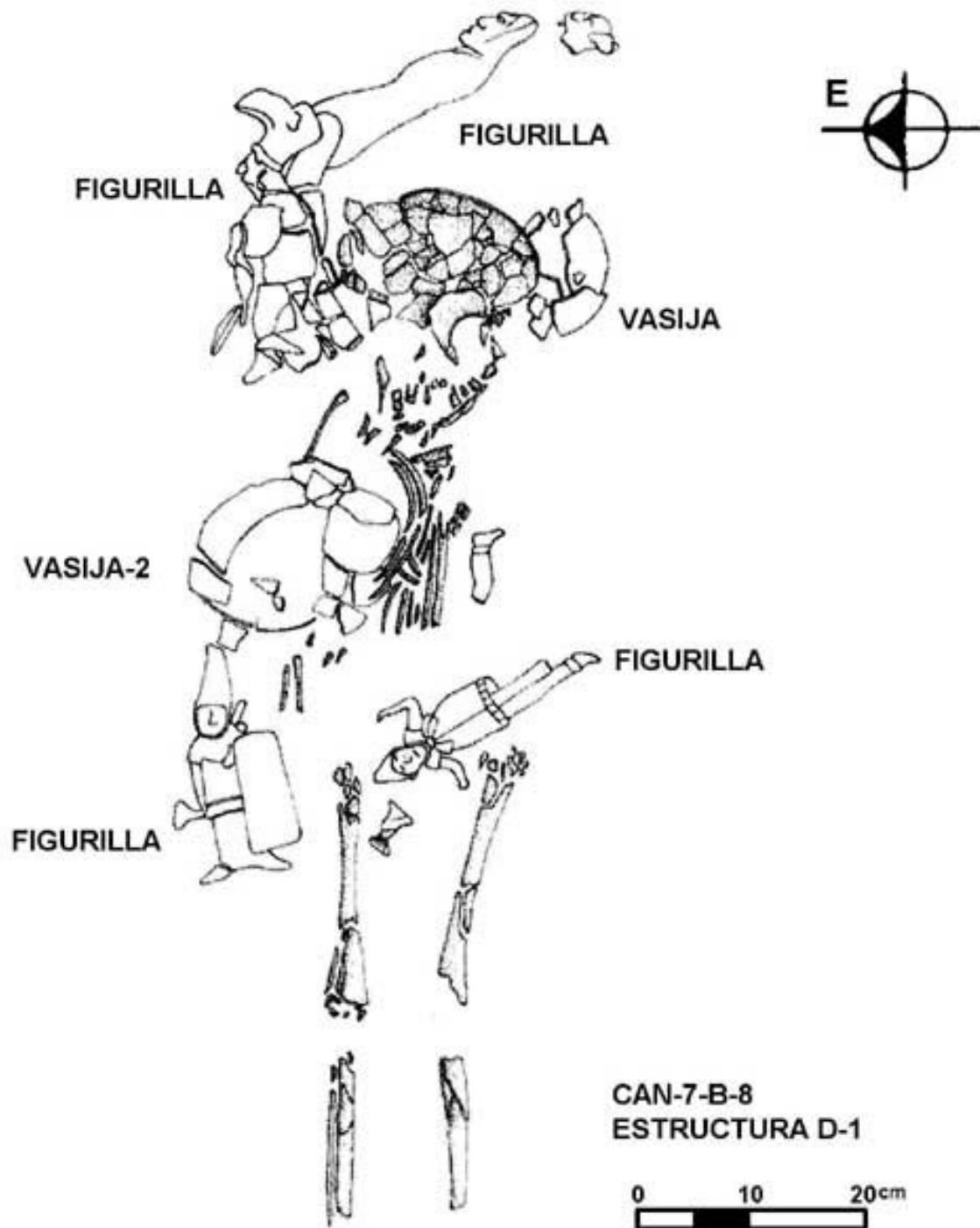
Figure 3. Burial 2/7, Structure D-1 (drawing by L. Luin).

The first contextual example to be discussed is Burial 2/7, discovered in Structure L6-1 by Lucía Morán, at the south of the Palace, and investigated between 1999 and 2002 (Figure 3; Morán 2003). The tomb consisted of four figurines deposited around a child burial and an offering of two round bowls. From the unit's profile, the head of a fifth figurine was recovered, although in further excavations no evidence was found of the rest of the body. The imagery depicted is purely male. There was a warrior with a removable jaguar mask (CANF466; Figure 4), a warrior with a rectangular

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shield (CANF465), a warrior-shaman with a removable headdress (CANF464), a ball player with a bird headdress (CANF468), and a ball player with a deer headdress (CANF467). From the point of view of decoration, some attributes of the figurines could be connected with the figurines that come from the region along the banks of the Pasión and Usumacinta rivers. For example, in Jonuta and Jaina there are figurines that represent ball players (Corson 1976), and there is an additional specimen of a warrior figurine wearing a jaguar mask in the National Museum of Anthropology, in Mexico, D.F. (Gallenkamp and Johnson 1985:77). Thus, decorative imagery may suggest a northern influence in the representation of the Cancuen figurines. However, from an analytical point of view, these pieces tell a different story. For example, the three figurines with the reddish orange paste are a part of Group 18, preliminarily assigned to the region of Raxruha Viejo. The figurine that represents the ball player with a bird headdress (CANF468) falls in the general group of Cancuen.
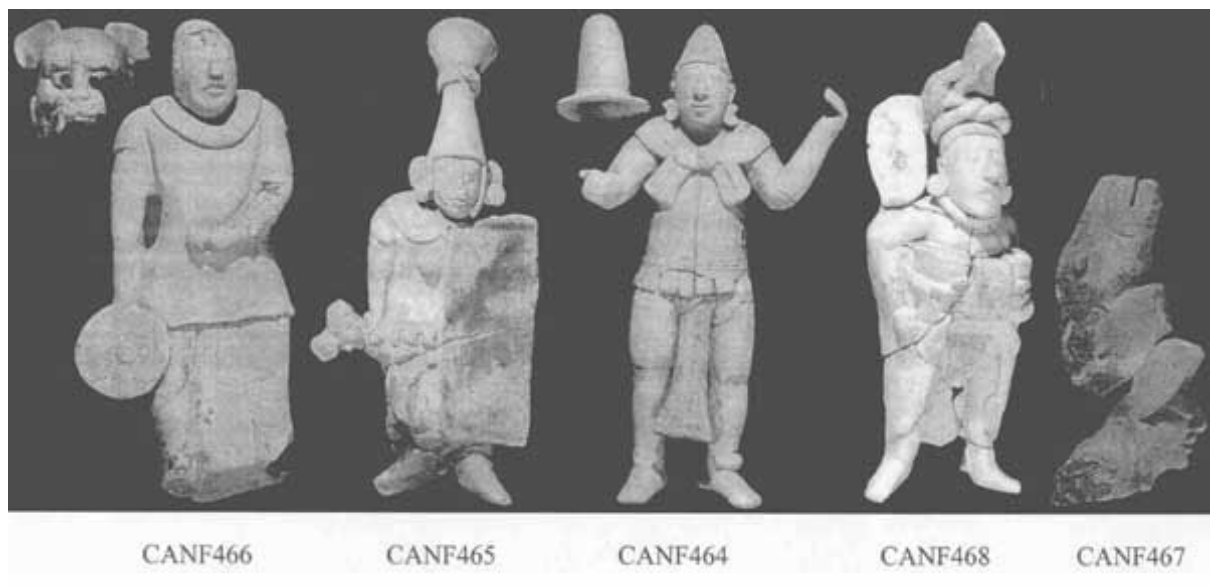

CANF466   CANF465   CANF464   CANF468   CANF467

Figure 4. The figurines of Burial 2/7.

Gutiérrez, quoted by Dorie Reents-Budet (1994), describes the role of ball players as of the imagery represented in the painted polychromatic Maya pottery. Gutiérrez suggests that the different headdresses of the ball players played a significant role in this ritual in the form of idealized representations of life and death (Gutiérrez 1990). The warrior with the bird headdress becomes the winner at the end of the Ballgame, thus completing the cycle of life by opening the portal to the underworld. On the other hand, the warrior with the deer headdress becomes the looser, and for this reasons he offers his life at the end of the game. With the contextual information of Burial 2/7, it is of interest to establish certain parallelisms with Gutiérrez's pictorial interpretations. The ball player with the bird headdress is closer to the burial than the figurine wearing a deer headdress. Around the child's burial rest the other figurines of male warriors in a possible act of transformation. The warrior is transformed in his animal-soul when he puts the jaguar mask on his head, while the shaman/warrior is also in a transition, as observed by the jaguar tail that comes out of his costume. One may imagine the final exhibition of the burial process when the door to the

underworld is correctly opened and the figurine of the ball player with the deer headdress is sacrificed and thrown into the burial pit.

The spatial arrangements of the figurines inside the burial, together with the analytical information, may also suggest that the pieces have an importance of a distant ritual. Demarest suggests that the cave system of La Caoba may have been a ceremonial site for Cancuen (Demarest and Barrientos 2002:5); however, and following the chemical tests, we now know that the figurines with a reddish orange paste were originated in the Raxruha area. This suggests a different connection or a pilgrimage route towards a different cave region, or more probably, that the exchange of figurines took place in an area that was in control of the access to the cave systems of La Candelaria. Nevertheless, the proximity to the head of the child of the ball player with the bird headdress made in Cancuen may have functioned as a representative link with the Cancuen local authorities. Both the Ballgame markers and Panel 2 show the Cancuen leader *Taj Chan Ahk* with a ball player costume and wearing a bird headdress (Fahsen *et al.* 2003), and this stylistic elite sign may have had a connection with the figurine wearing a similar headdress and found in the burial.

The discovery made by Arik Ohnstad was the first case of figurines used in a domestic ritual in Cancuen (Ohnstad 2003). While the habitational areas of Structure L9-8 were being defined, a circular group of stones appeared, in the center of which the lower portion of a bird figurine was discovered. Only the body was recovered, while the head was never to be found, neither in that excavation nor in other areas of the structure. The role played by the figurine possibly was one of a sacrifice as a part of the ancient rituals conducted in this circular area. From an analytical point of view, this bird comes from Salinas de los Nueve Cerros. Given the fact that the residential complex L9-8 was occupied at a late stage in the Cancuen chronology, and because of the increase in warfare and political upheavals that unfolded in that period (780-830 AD), it is possible that people from other regions may have arrived in Cancuen. Could it be possible that the local inhabitants had given a welcome party to the newcomers that settled in the northwest residential area and that they sacrificed the molded bird figurine they brought when they emigrated to Cancuen? Or was it simply that it was too costly to sacrifice a living bird for the occasion?

At a residential scale, it is known that Structures MIO-7, M10-4 and MIO-3, northwest of the Cancuen palace, had established exchange connections, as indicated by the analysis of the jade pieces found in residential patios and garbage pits. Because of their chemical characterization, these jade pieces have been defined as originated in the Motagua region (Kovacevich *et al.* 2003a). Being domestic objects, the context suggests a contact with other distant regions at north and south. However, the figurine samples recovered in these structures would point to a different interpretation. Of the 14 artifacts sampled to undergo chemical composition tests, eight were originated in Cancuen, one was manufactured in the region of Raxruha, four do not present any specific category, and one comes from Salinas de los Nueve Cerros. In regard to these residential units in particular, it is possible to state that the chemical patterns of the figurines reflect interaction at an intraregional level of commerce and exchange.

CONCLUSIONS

For the time being, the observation of the different sources of information obtained as of the Cancuen figurine collection has been extremely interesting. In contrast with other analysis of materials discovered in Cancuen (for example the Fine Gray pottery originated in the Palenque region, and the jade, originated in the Motagua region; Sears and Bishop 2001; Kovacevich 2003b). For now, the figurines represent a small compositional overview of the exchange in the region. Future works will attempt to incorporate a proof of the chronological models of the Cancuen ceramic collection compared with the collection of figurines. Work will continue with the Petexbatun collection, so as to compare the differences among the figurines of the sites located along the Pasion River.

REFERENCES

Bishop, Ronald L., and M. James Blackman
    1976   *Maya Anthropomorphic Figurines from Jaina Island, Campeche.* Ballena Press, California.

    2002   Instrumental Neutron Activation Analysis of Archaeological Ceramics: Scale and Interpretation. In *Accounts of Chemical Research* 35 (8): 603-610.

Corson, Christopher
    1976   *Maya Anthropological Figurines from Jaina Island, Campeche.* Ballena Press Studies in Mesoamerican Art, Archaeology and Ethnohistory, No. 1, Ballena Press, Ramona, California.

Demarest, Arthur, and Tomás Barrientos
    2002   Proyecto Arqueológico Cancuen, Temporada 2001: Antecedentes y Resumen de Actividades. In *Proyecto Arqueológico Cancuen Informe Temporada 2001* (edited by Arthur Demarest and Tomás Barrientos), pp. 1-8. Vanderbilt University, Nashville.

Dillon, Brian D.
    1977   *Salinas de los Nueve Cerros, Guatemala: Preliminary Archaeological Investigations.* Ballena Press, New Mexico.

Fahsen, Federico, Arthur Demarest, and Luis Luin
    2002   Sesenta años de historia en la escalinata jeroglífica de Cancuen. In *Proyecto Arqueológico Cancuen, Informe Temporada 2002* (edited by Arthur Demarest and Tomás Barrientos), pp. 27-42. Vanderbilt University, Nashville.

Gallenkamp, Charles, and Regina Elise Johnson (ed)
    1985 *Maya: Treasures of an Ancient Civilization.* Albuquerque Museum, Harry N. Abrams, New York.

Gutiérrez, Mary E.
    1990 Maya Ballgame as a Metaphor for Warfare. *Mexicon* 12 (6): 105-108. Berlin.

Jóreskog, K.G., John Klovan and Richard Reynient
    1976 *Geological Factor Analysis.* Elsevier, Amsterdam.

Kovacevich, Brigitte, and Karen Pereira
    2003a Operación 24: Excavaciones en los Grupos M9 y M10. In *Proyecto Arqueológico Cancuen, Informe Temporada 2002* (edited by Arthur Demarest and Tomás Barrientos), pp. 189-212. Vanderbilt University, Nashville.

Kovacevich, Brigitte, Ronald Bishop, Hector Neff, and Karen Pereira
    2003b Sistemas económicos y de producción Maya: Nuevos datos y retos en Cancuen. In *XVI Simposio de Investigaciones Arqueológicas en Guatemala, 2002* (edited by Juan Pedro Laporte, Bárbara Arroyo, Héctor L. Escobedo, and Héctor E. Mejía), pp. 143-158. Museo Nacional de Arqueología y Etnología, Guatemala.

Morán, Lucía
    2003 *Evidencia de actividad ceremonial en el Grupo L6 de Cancuen, Petén.* Bachelor's Dissertation, Departamento de Arqueología, Universidad del Valle de Guatemala.

Ohnstad, Arik, Molly Morgan, Jenny Guerra and Carrie Anne Berryman
    2003 Operaciones en L9. In *Proyecto Arqueológico Cancuen, Informe Temporada 2002* (edited by Arthur Demarest and Tomás Barrientos), pp. 301-334. Vanderbilt University, Nashville.

Reents-Budet, Dorie
    1994 *Painting the Maya Universe: Royal Ceramics of the Classic Period.* Duke University Press, Durham.

Sears, Erin L.
    2001 Análisis preliminary de las figurillas de Cancuen. In *Proyecto Arqueológico Cancuen, Informe Temporada 2000* (edited by Arthur Demarest and Tomás Barrientos), pp. 233-274. Vanderbilt University, Nashville.

Sears, Erin L., and Ronald L. Bishop
    2002 Variabilidad en la composición de las pastas en el área de Cancuen, Guatemala: Figurillas y pastas finas. In *XV Simposio de Investigaciones Arqueológicas en Guatemala, 2001* (edited by Juan Pedro Laporte, Héctor Escobedo and Bárbara Arroyo), pp. 569-580. Museo Nacional de Arqueología y Etnología, Guatemala.

COMPOSITIONAL MATRIX OF THE Q-MODE FACTORS

	QFactor 1	QFactor 2	QFactor 3
Sc	.724	-.130	2.405
Cr	-.422	-.131	1.580
Fe	-.024	.142	2.080
Sb	.646	1.185	-.142
Ba	-.664	3.174	.102
La	.788	.456	-.244
Ce	.543	.269	-.145
Sm	1.060	.212	-.185
Eu	1.004	.149	-.030
Yb	1.632	.051	-.195
Lu	2.162	-.120	-.214
Hf	1.004	.469	.396
Th	.233	.940	.062
Variation	**35.7**	**34.3**	**22.8**

Table 1. Final compositional matrix of the Q-mode factors.