2014

The Levantine Ceramics Project

In the CSA Newsletter for September of 2012 (XXV, 2; "Artifacts and Applications: Computational Thinking for Archaeologists"), I discussed the first steps in the production of a new approach to online data about Levantine pottery. As I said in that article, I had become frustrated by the fragmentation of information and the limitations of the available sources. Therefore, with the aid of gratefully-received funding from the Hariri Institute and the help of an experienced software developer, Raoul Alwani, who is based in Cambridge, MA, I set out to try to create a better, more sophisticated, and more flexible resource. I am here reporting back on the development of this resource: a website and a linked series of workshops, called The Levantine Ceramics Project (LCP: www.levantineceramics.org).

When we think about digital resources and innovations, we tend to focus on the technical aspects: software, programming, the digital interface. But with the LCP, the most important aspect underlying development has been the workshops, where colleagues have gathered to discuss what they really want to see on-line, how they want an interface to work, what is useful and what is just confusing. With assistance from John Lund of the National Museum of Denmark; Jeroen Poblome of KU Leuven, Belgium; and Paul Reynolds of the University of Barcelona, Spain, we organzed the First Workshop on Levantine Ceramic Production and Distribution, at the Danish Institute of Archaeology in Athens, Greece, on February 4th-5th, 2012 (workshops.levantineceramics.org/workshop-2012/). This occasion marked the first time that Levantine archaeologists, ceramic specialists, and ceramic scientists working across multiple periods and regions came together in a single meeting. It was a heady experience — so much so that it led naturally to the Second Workshop on Levantine Ceramic Production and Distribution, again in Athens (http://workshops.levantineceramics.org/workshop-2013/). By the time of this second workshop, I had succeeded in creating a usable version of the LCP website. We asked workshop participants to practice submitting data to the website and to come prepared with suggestions for improvement. Enthusiasm and suggestions abounded, leading to another round of web development funded in part by another generous grant from the Hariri Foundation and in part by a private donor. I organized two more day-long workshops (March 30th and April 8th, 2013) devoted to database functionality and user interface improvements, and formed a initial project editorial board to assist with guiding further development: Joanna Smith (Princeton University), Matt Spigelman (New York University), and Peter Stone (Virginia Commonwealth University).

These last workshops fostered a substantial expansion in our thinking about site usability and design. Members of the editorial board urged incorporating a range of new data fields into submission forms so that more robust and creative search possibilities could be provided. One example was a field for type of archaeological site, information that would eventually allow comparison of the different types of

vessels found in homes, graves, and sanctuaries. At the workshop devoted to platform interfaces, invitees Stan Ruecker (Institute of Design at the Illinois Institute of Technology) and Milena Radzikowska (Communication Studies, Mount Royal University, Calgary) demonstrated several interactive web applications and interfaces that they had developed over the prior decade. All of their designs allow users to visualize quickly the entire range of items available for analysis, to organize those items as desired, to understand the logic of the visual organization, to link every item or image to additional data, and to mark those items or images so as to permit collecting or returning to them as needed. Their presentation encouraged us to think more creatively about developing an LCP interface that would make the full range of possible research investigations visible to the site's users.

From August to October of 2013 we developed a third version of the site, which we think of as LCP 1.0. The current version provides a range of improvements:

- Newly designed pages for submitting, editing, and searching for data. Substantial revisions to the original relational database design allow users to submit more types of archaeological data via more entry points, while also expanding the linkages behind the scenes. The idea was to make it easier for people of various expertise levels to contribute information, from students to specialists to excavators.
- A reconceived submission format for petrographic data. The new setup will make it easier to separate descriptive data from interpretation.
- A new page for a new concept and term: petro-fabric. This idea was generated at the 2013 Athens workshop in a session devoted to ceramic petrographic analysis and description, led by Workshop Advisory Board member Patrick Degryse of KU Leuven, Belgium. Participating were ceramic petrographers who work who work in Turkey, Cyprus, Lebanon, and Israel. All felt the time was right to develop a concept and term for ceramic paste groups made from the same parent soil, as identified via thin-section analysis. They developed the term petro-fabric. A group of petrographers will meet at an LCP workshop in Leuven in March of 2014 to begin defining and naming specific petro-fabric groups found throughout the Levant. This promises to be a real advance in turning raw petrographic descriptions into useful ceramic terms.
- A dating algorithm effective when somebody searches. The algorithm understands historical dates as a function of time and place, and has been designed to fill in period names and/or years, if at least one of these pieces of information is supplied along with the country and region. The algorithm has been supplied with the specific data years and centuries for every period according to country and region. This both simplifies and expands search possibilities; for example, if a user searches for items by period name – for

example, Hellenistic – returned information will also list items that had been entered only with dates according to centuries or years – for example, third century BCE.

- A fully redesigned user-interface. All the entry points for data submission are listed along the left side of the screen; clicking on any one of them opens an expanded page to enter or search for information.
- A navigation bar with pull-down menus that offer an explanation of the site, instructions for use, maps indicating countries and regions, period names and dates by country, and a glossary to explain ceramic terminology. The LCP editorial board developed the entries in concert.
- Tool tips: brief explanations that appear when a user places a cursor over a term.
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- New fields in the submission pages for related information such as site type and archaeological context within site.
- A newly incorporated distinction between site users and site contributors. Site users can submit data. Site contributors are people who have studied, analyzed, and/or published data. Every item on the LCP can be linked to a site contributor; contributors' names are part of an item's record. The two categories of users and contributors allow different sorts of people to enter data, and different sorts of data to be entered. For example, a student might want to enter information published long ago by somebody else, perhaps even somebody deceased. The student would register as a user, and would also register the name of the original scholar as a contributor. The student could then enter the data and also enter the original scholar's name as the contributor. At the moment the site is completely open; anybody can register to become a user or contributor.
- Privacy settings. Three levels of privacy can be attached to every item of submitted data. It can be made fully public, meaning anybody searching the site will see it; it can be made visible only to other site contributors or to specific collaborating individuals; or it can be private, meaning that only the person who submitted it is able to view it. This allows the LCP to accommodate both already published, public domain information as well as new, as yet unpublished data. This system facilitates small working groups who would like to share unpublished material between themselves for preliminary discussions. The settings can be changed at any time to make previously private data public, though at present there is no time limit on data that has been designated as private.
- A contributor profile page. Active contributors are linked to their submitted data, and can be contacted by anybody interested in learning more and sharing information. In this way the LCP provides a ready means to facilitate research exchanges.

In just two years the LCP has become a viable, growing resource that is catalyzing the scholarly community and scholarship. We are just beginning to establish research and technical partnerships with two other projects: the University of Lyon's POMEDOR (People, Pottery, and Food in the Medieval Eastern Mediterranean) and the University of Toronto's CRANE (Computational Research in the Ancient Near East). In the spring of 2014 we will hold four day-long LCP workshops in Jerusalem, Leuven, Lyon, and Toronto; the latter two workshops will be held in conjunction with POMEDOR and CRANE, respectively (http://workshops.levantineceramics.org/workshops-2014/).

The LCP represents the scholarly community in action: together we are working our way toward common modes and standards. This is a project that demonstrates not only the potential for using digital technology but the increased utility derived from intense cooperation to take a good idea to the next level.