

DATA POST-RECOVERY

The premise

(SLIDE: ARE WE READY) The Coalition for Archaeological Synthesis was formed in 2017 to promote and facilitate archaeological synthesis. While calls for syntheses of archaeological data are not new, this effort came immediately after the celebration, in 2016, of the 50th anniversary of the United States' National Historic Preservation Act (NHPA), the law that ultimately enabled the development of the cultural resource management (or CRM) industry. Reflection about the impact of CRM noted that archaeologists have done a tremendous job of discovering and documenting the past, accumulating data, artifacts, and facts. We have done less well using what we have learned about the past to inform policy, education, or economic development.

(SLIDE: The Premise) One intent of the Coalition is to enable research that uses existing data through a forum that includes a diverse range of practitioners, including those working in CRM, with the goal that synthesis should become a more mainstream part of practice. Data collected by CRM is at the center of this conversation and positions on the nascent Board of Directors for CRM professionals emphasize the intent to include. Is this idealized solution realistic? Is CRM ready to participate in partnerships such as these? What is their role? Where are the barriers, and what are the possibilities?

Voices of CRM

(SLIDE: Google Forms) Because CRM is practiced in such diverse ways across the United States and across the world, I conducted an informal poll by email and Twitter (#crmmarch) to get a sense of how CRM career professionals think about synthesis. Seventeen people responded. (SLIDE: Participants). Some people who responded knew about the Coalition- a link to the website and its resources was provided for those who didn't. Generally, the responses recognized the goals of Coalition as the professional and ethical ideal. Then, they defined what synthesis meant to them, identified the structural challenges to participation, and considered how to tackle the problems most people encounter in achieving synthesis.

Before going further, I want to share some demographic information about the people who responded, both to provide you with a sense of their position in the profession, and to acknowledge that it is their thoughts that I attempt to compile in this paper (SLIDE: Sample population). Their experience in CRM ranged from 4 years to 47, with a median of 24 years (and 437 years of total experience). The seventeen people represented 15 companies; I invited staff from my company, Desert Archaeology, to reply and 3 did. Fourteen people who responded were male and three were female. Fourteen people practiced in the United States, 1 in Australia, 1 in Canada and the United States, and 1 worked internationally out of the United Kingdom.

CRM archaeologists employed in the private or public sector, in the United States and elsewhere, work on individual projects tied to development in polluter-pays regulatory settings. CRM archaeologists work in project areas defined by land managers and developers. As such, research questions are framed around particular sites and places, the impact of which will become apparent in a moment. By contrast, investigator-initiated research may identify the question first, then find the place.

Further differentiating the work of CRM archaeologists is the requirement that their work be legally defensible, as well as scientifically sound. If synthesis is to happen as part of their jobs, research methods will need to be implemented within this framework, or the framework itself will need to change.

What does Synthesis Mean?

To begin, what do we mean by synthesis? The Coalition has summarized its ambitions in this way (SLIDE: ALTSCHUL QUOTE):

“Addressing questions of social justice, social identity, human adaptation, migration, warfare, urbanism, and so forth requires that we both produce relevant knowledge and actively work to have it inform public policy. To better accomplish these objectives, we need to move beyond the who, what, where, and when of the past and improve our ability to answer the how and the why of the past—to transform our extensive and detailed descriptions of the archaeological record into a deeper, explanatory knowledge about the past” (Altschul et al 2018: 20).

A 2014 article in *American Antiquity* by Keith Kintigh and many others identified 5 broad themes and 25 questions titled the “Grand Challenges for Archaeology” and provides one potential source of questions for Coalition synthesis (SLIDE: Grand Challenges).

CRM archaeologists noted that they have a hard time relating to these questions: the bigger the question “...the farther they move from the actual messy reality of human variation the more superficial their platitudes become and the less grounded they are” (Emerson). Instead, CRM archaeologists want to summarize the foundational data (Emerson) and update ‘Context Studies’ (SLIDE: Context studies) Funded by State Historic Preservation Offices, context studies are syntheses of regions, time periods, and topics that provide CRM practitioners with (ideally) up to date, data rich summaries, and identify existing knowledge, gaps in knowledge, and the types of information needed to answer future questions. They are the record against which “which new hypotheses are tested; and against which significance assessments are based” (Anonymous G). Dan Garcia has suggested the creation of context wikis that allow information to be gathered collaboratively and continually updated.

Although this seems more mundane than the synthetic ideals, what Context Studies have that the Grand Challenges lack is a clear path to operationalizing the questions. Context Studies clearly relate sites and artifacts to research priorities. What we can do, is use Grand Challenges as a reference to shape our research designs and the context studies that provide guidance (Anonymous H) (SLIDE: CRM Research Strengths). As the profession’s main source of information, CRM wants data collection to be purposeful. Refinements to data collection practice might allow those who currently take a “collect everything” approach to focus their sampling of features and artifacts. The Grand Challenge, if CRM is to be integrated in a large synthetic initiative, is how to get these top-down and bottom-up approaches to archaeological research to talk to each other (Torp). Can we create a middle-range theory bridge that allows the aggregation of regional data sets, strong and weak, to feed into the bigger questions (Miller)?

Are CRM data analysis-ready?

A key goal of the Coalition is to fund analysis-ready collaborative projects. With the caveat that CRM archaeologists need to be attentive to restrictions placed on their data by clients; CRM archaeologists are, generally, willing to share the data they have collected and created. But, is their contribution to the deluge of data ready for synthesis? In many ways this answer is “no.”

CRM is typically, and increasingly, conducted project by project, with each delivering a particular product. Organizational infrastructure is set up to create project specific final products in cost-effective ways. So, even though many CRM organizations have become local institutions of knowledge with decades of experience, many firms do not have a research infrastructure, as the value of centralized research databases in a business setting are arguable. Two companies in this sample have relational databases that unify research data (Desert; Anonymous D) and one company has a centralized project management database (Anonymous M). Otherwise, data analysis tools tend to be bespoke, with archaeologists in all companies creating project specific spreadsheets or databases. Even when shared, non-corporate databases with a common core best serve the original developer and tend to evolve. CRM professionals see their final reports as the place in which data is shared. The spreadsheets and databases are interim products that are a means to this end. State Historic Preservation Offices in the United States, and agency offices, not company databases, are the places where data is stored. The operational subtext to this is that data, most likely, will need to be gathered from pdf or hard copy reports for comparative analysis.

Archaeological data, including that created in CRM, is often highly interpreted. Whereas instrumental date, from AMS dating, x-ray fluorescence, and instrumental neutron activation analysis, may be easily aggregated into larger databases for statistical analyses, information about ceramic types, flaked stone tools, or architectural forms, rarely conform to rigorous data classification standards. To illustrate his point, Doug Harro, a lithic analyst, commented: “Many archaeology studies still use tool classes like “edge modified piece” that carry an ambiguous cultural association. They don’t want to go out on a limb call it *used*. Basically, they are admitting that they don’t know whether a particular object is an artifact, a tool, or a bovisfact.” From the outset the comparability of data sets is subject to differences in field and laboratory sampling protocols. If, in addition, the basic information collected relies on who taught the analyst, expertise, and company or individualized classificatory systems to interpret, how do we build large-scale databases that allow more than the lowest common denominator types of analyses? These concerns are not unique to CRM, but CRM archaeologists are keenly aware of the time, money, and ingenuity that will be required to create synthetic data sets.

Hearing the Voices of CRM

The typical perception is that CRM generates data and the academy is positioned to synthesize it. Stephen Wagner comments ‘The amount of data and sites found are often held up as an example of how we’re benefiting archaeology and the Academy as a whole. This is rarely ever backed up with any impact statistics that show any actual use of that data.’ As CRM and investigator-initiated projects approach archaeology differently, those gathering much of the data do not know if what they are collecting and documenting is usable to others. Myles Miller comments that for synthesis to be

successful we need “a dedicated two-way consultation on the origin, nature, and structure of the data.” (SLIDE: MILLER QUOTE)

That consultation needs to be first step towards changing structural relationships of academic and applied practice. To move the profession towards a synthesis of the data collected over the past 50 years, we need recognition and acknowledgment of what CRM archaeologists – as individuals and in the profession -- *do* and *can* contribute. Investigator-initiated research is often, and necessarily, targeted. CRM provides the messy, variable, rare, and small everything else. Over the career of an individual archaeologists, that “everything else” is a tremendous amount of foundational information. Those CRM archaeologists interested in more than just data collection (and that is, admittedly, a small subset) need to be engaged.

As CRM has evolved in the United States, workplace practice is focused on process and related issues of efficiency and streamlining; the ideal of “in the public interest” that was part of the originating legislation often seems an afterthought in today’s archaeology (SLIDE: NHPA). Process is funded; public interest is more ambiguous. If public interest is defined as documenting archaeology in service to public and private land developers, CRM is doing well. If public interest is contributing to a “comprehensive story that is meaningful to a broad and diverse audience,” (Anonymous M) that is faring less well. Public interest is not a goal easily supported by contract budgets. Only rarely are government agencies willing to use or require funds or timetables that allow for more than compliance. Currently, the creative and synthetic aspects of research are treated as, at best, an ethical responsibility or value-added aspect of archaeology. At worse, this type of work is seen as unnecessary.

CRM-employed archaeologists who do take their responsibility to the science and the public seriously often do that work as individual scholars – not employees- on nights and weekends. When treated as a drone, unacknowledged in the research power structure, what is their incentive to engage further? Is professional reliance on the good will of interested individuals sustainable? Furthermore, strong research contributions to the profession will be as eclectic as the individual interests of the practitioners.

Integrating CRM into Synthesis

In conclusion, my original question – Is CRM ready for synthesis? -- needs to be reframed. CRM is willing, but are we, as a profession ready to recognize and integrate the data and research questions developed in applied settings into our priorities (SLIDE: COMMUNICATION)? Can we enable a model of practice that encourages, rather than dismisses, big-picture thinking, and encourages those who want to think beyond the project? Despite the pragmatic hurdles of method and practice described here, the 17 people who responded to this survey – most in leadership positions within their organizations -- provide a sense of what is needed. They consider how we operationalize the professional ideal of synthesis and how we translate academic and CRM practices. In this, we can begin to see that the synthetic ideal is obtainable, if not immediate. But, substantive changes need to be made.

Those changes need to consider the role of CRM contributions not as data output at the end of the project (despite 50 years of this) but long before projects are planned. (SLIDE: INTEGRATING). If we

want to create data ready made for big picture analyses, CRM archaeologists and others interested in synthesis need to talk about how to integrate our different, but compatible, methods of scientific practice. We need to identify which research questions are of interest and what can be obtained with project-based data. How is data collected and what standards of documentation can we agree on? If these conversations begin now, when projects come, CRM can be ready to integrate new research designs into the treatment plans that, through consultation and contracting, become the guiding documents for our project, and those projects will better inform the broader science.

To change the structure of CRM in ways that maximize the potential of funded work, we need the government, which is responsible for preservation legislation, to stop enabling low-budgeted projects that communicate from the highest levels that only process has value, leaving developers and taxpayers questioning what they got for their money. The government needs to promote research that enables a fact-based understanding of the past that can inform political decision making and to allow CRM archaeologists to contribute to these questions *as a part of their jobs*. The Coalition is well positioned to take a leadership role by identifying a professional goal for synthesis and recognizing the changes in values and structures that will be needed to integrate CRM archaeologists into the grander aspirations of the profession.