

Lessons I Have Learned While Developing the Utopia Database

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Presented at the Digital Archaeological Archive of Chesapeake's Slavery Steering Committee Workshop. The International Center for Jefferson Studies, Charlottesville, Virginia. October 6, 2000.

I must admit that I have struggled a bit to prepare something for today. As I looked over the program it seemed that most angles on the database project were going to be covered, and covered by folks much more qualified than I to weigh in with opinions and ideas about its utility. It is clear that we all await with great anticipation the coming of the Digital Archive, and I for one am happy to lend a hand wherever I might be needed. It can and will change the way many of us do our work. I suppose my unique perspective on the archive is that I have grappled with creating my own database for my dissertation work. So, that is what I will spend a few minutes talking about.

Since I was totally unfamiliar with databases when I began trying to assemble my own in 1997, my first decision was probably my most brilliant one-I recruited the help of several people with infinitely more computer skills than me. With my crack staff of computer geniuses, we came up with a database for my dissertation site over about a six-week period. As I believe most everyone here knows, the site is located at Kingsmill near Williamsburg and is known as the Utopia Quarter. So, in honor of the site, we christened our new database Utopiabase.

Basically the steps we took to create Utopiabase were similar to the process so far with the Digital Archive, simply on a much smaller scale. We started by learning about the databases already in operation. So we gathered information about Colonial Williamsburg's database, and Barbara Heath's at Poplar Forest, Bill Kelso's at Jamestown, and several other institutions. We then tried to take the best features from these various databases to create one super database. What we ended up with is far short of super, but for my purposes it has worked well. But it has not been without its flaws and problems.

Probably my biggest mistake during the creation of Utopiabase was that I jumped the gun. I was so fired up to start entering data, that I began filling out data records before the database had been tweaked and tested. getting about 5,000 records into the system I, of course, discovered a whole list of changes I wanted to make to the database. This forced me to backtrack and to re-catalogue several classes of artifacts.

Unfortunately, I did not learn my lesson, because I backtracked again much later in the process when I had about 20,000 records into the database. At that point about two-thirds of my data was in Utopiabase. Sounds crazy, but I decided to go back again and recatalog more classes of artifacts. What changes did I want to make that were so important to re-handle a large portion of the data? Well, some of this stuff may seem pretty unimportant, but here is a short list:

1. I had become obsessed with nails. Instead of being satisfied with placing each nail into one of three size categories-basically what amounted to small, medium, and large-I went back and re-measured every one of them down to the half centimeter. And of course I continued to record the type of head and type of tip of each nail as well. I can vividly remember on several occasions almost abandoning the re-measuring project. There is nothing like plunking down a bag of 600 nails from a single context to put a damper on my enthusiasm for recataloging. The payoff began to seem so miniscule compared to the hours of work involved. And what exactly was the payoff you might ask?

Well, I have been able to break the nails down into pennyweight categories. This has allowed me to closely compare the assemblages of nails for each building at Utopia. Each structure sort of has what might be called a "nail fingerprint." That is, I can tentatively compare a range of nail sizes and types from each building, and begin to reconstruct the methods of construction. Even when it is clear that nails were recycled from some of the structures, each has enough of a range of nails to provide a clear signature, and in turn, I believe the quality of construction methods for various buildings has begun to emerge. Some buildings were better made than others. As Fraser might say, "That is way cool."

Now I bring up this whole nail conundrum somewhat tentatively. I really don't want to be branded by all of you as "the nail guy." One of Barbara's colleagues at Poplar Forest has done some research with their nail collection, and when I contacted him with some questions, he seemed quite happy and relieved to pass the nail torch to me. I accept that torch only with reluctance. I also don't bring up this nail thing because I think it is imperative for the Digital Archive to revamp its policy on nails. Frankly, I think the Archive catalogers can probably better spend their time measuring some other types of artifacts. At Utopia, like just about every other Chesapeake site, nails make up a huge percentage of the collection, and having the Archive catalogers measure hundreds of thousands of nails probably is not a smart way of budgeting their time. On the other hand, if they are going to verify the head and tip treatment of each nail, why not devote a few more seconds to measuring the object? Anyway, I have belabored the point, and this is probably something to talk about later this afternoon.

2. To get back to some of the issues that drove me to recatalog a large portion of the Utopia collection after getting more than 20,000 records into it. By that time I had convinced my company to buy a digital scale, which meant I now had the ability to efficiently weigh all kinds of stuff. Up to that point I had been dinking around with a balance scale, which took far too much time and effort to use. So, one of the sacrifices I had made early on was to forego weighing about a half dozen classes of artifacts and simply count them. Of course counting things like marl, shell, bog iron, charcoal, or slag is pretty useless. So with my newfound technology, I went back and weighed a whole bunch of stuff.

The fact is, I reached a point early on during the re-weighing campaign when I became almost obsessed with weighing everything. I thought to myself, why not just weigh it all, and don't waste anymore time counting. I imagined the excitement I would create among

all of you when I would announce that I had 300 lbs. of bottle glass from Utopia. In fact, bottle glass is another of those artifacts like nails that are so common on our sites, but we seem at a loss to do much of anything with it. I began to think that sherd counts of bottle glass were really quite useless. Instead, by weighing it all I could then do some sort of whiz-bang calculation of the average weight of a wine bottle, and then come up with a minimum wine bottle count by dividing the total weight, possibly earning myself a "way cool" from Fraser.

Luckily I regained my senses about weighing stuff once my love affair with the digital scale began to fade. But again I touch on this as another big issue that we probably want to devote some amount of time to this afternoon: To weigh or not to weigh, what to weigh, and why.

3. The third big reason to backtrack into Utopibase at the 20,000 record mark was because of the issue of measuring size and thickness. Again, taking exact diagnostic measurements of things like beads or buckles, or measuring the wall-thickness of colonoware sherds is no doubt a necessary step, and I have done that with Utopibase, and obviously the Archive is implementing those steps.

But should I take this to the next step and measure the size of every broken artifact at the site? Tricia has done that type of thing in her dissertation research, and it has helped her to pinpoint zones of primary and secondary refuse, the working idea that artifacts tossed into a midden in the yard get trampled over time and redeposited elsewhere. I stupidly decided not to create a size field in Utopibase for every artifact, even though initially Tricia had helped to catalogue a large portion of the Utopia artifacts for me, and she measured that diagnostic attribute. Only at the 20,000 record juncture did I realize that I really needed to address the primary versus secondary refuse question for many of the contexts at Utopia. And I ended up berating myself for not doing it from the start, by following Tricia's lead. And truth be told, I have not yet gone back and measured the size of all the Utopia artifacts-figuring that I need to finish my dissertation before I begin collecting Social Security. But I am really kicking myself about it.

I am also kicking myself about not measuring the thickness of some artifacts other than colonoware. I starting letting some really wacky ideas take hold. What if I measured the thickness of each wine bottle glass fragment? Would that allow me to better determine the minimum bottle count, more than just counting bases and lips? Maybe it could help me mend more fragments together? Perhaps some super genius could then develop a statistical formula to calculate the number of bottles discarded at the site? My mind began to boggle at the possibilities.

And then I turned my boggled mind to other artifact types like iron pots. Since iron pots were such a key component to slave cooking, I thought maybe it was worth my time to try to determine the sizes of the iron pots by measuring the thickness and coming up with some sort of formula. Then I got into this whole Fogel-and-Engerman state of mind, wondering whether the size of the cooking pot helped to determine the amount of nourishment available to the residents, or if the size of the pot could help me

understand how many people could be adequately fed from it. Clearly I was beginning to wander beyond any reasonable possibilities of research.

More realistically, I believe measuring some of the artifacts is useful and worth the time. Take hoes for instance. As far as I can tell, the size and type of hoe determined the type of job it was used for, and thereby as enslaved men and women began to take on different agricultural tasks as the 18th century progressed, men ended up using one type of hoe, women another. So, obviously nuances of issues such as gender can begin to emerge if the Digital Archive is able to spend the time measuring diagnostic attributes of many of the artifacts.

Now all these accounts of the fits and starts I had with Utopiabase, and the many hours of wasted time is not meant to serve here as the standard cautionary tale for the Digital Archive. The lesson is not simply to take months upon months to tweak the system before starting. It is quite evident to me that trying to make the perfect database is like waiting for the perfect wave-you could end up floating out there forever. At some point soon, the Digital Archive catalogers are going to enter that first data record into the system. And probably with that data record, almost like a rush of panic, it will become evident that maybe a few more small changes are needed to make the Digital Archive more efficient or more comprehensive. At some point soon, however, flaws and all, the system will have to be up and running. And with each added data record, the Digital Archive will start to become this living, breathing beast-and it will be harder and harder to control as it grows.

But I have found that you can tame the beast. The database can always be expanded, and I constantly find myself adding new classifications to my Authority Tables in Utopiabase. No doubt the 595 Form classifications in the Digital Database will continue to grow as the catalogers encounter new objects that just don't quite fit into one of those 595 categories. And that is just fine. That is the way a database is supposed to work as far as I am concerned.

What the Digital Database probably wants to avoid are some of the dumb things that I did with Utopiabase. If one of us really wants to try to do something with wine bottle thickness for instance, I guess this afternoon is the time to go to the mat for it. At some point soon I'm sure that Fraser and Jillian don't want to hear any more ways to catalogue various artifacts. I think it is pretty clear from my remarks here, that in my estimation, perhaps the most exciting research possibilities I see for the Digital Archive is that we might just get the chance to capture some of the data from our sites that up to this point always gets overlooked. Things like nails, wine bottle glass, and iron pot fragments-those "blue collar" artifacts that tend to get short shrift from us researchers because we don't have the means to do anything more than count them. Maybe the Digital Archive will lead to the renaissance of a new era in archaeological research, the Era of the Wine Bottle, the Era of the Common Nail. I make a plea for common artifacts here not to create waves, but simply to go to bat for them at this juncture in the development of the Archive before the "beast" starts to come alive. Once the Mulberry Row artifacts start to go into the system, it is easy to add or consolidate Authority Tables, but not so easy to implement

a new diagnostic measurement. And I believe that some of those seemingly silly measurements could truly provide a whole host of compelling avenues of research.