

A Global Shipwreck: Using the Internet for Research, Public Outreach, and Catching up with the Past

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Abstract

Over the past few decades historians and archaeologists have moved away from examining their topics from nationalist perspectives but instead have looked for regional connections, such as the Atlantic world. This approach seeks to understand the relationships and influences between people in geographically distant locations. Even this regional approach, however, can be limiting as researchers now trace out global connections which occurred early on in human history. A global perspective reminds us that if we look deep enough we will see that the past, no matter where it occurred, relates to everyone. Chinese porcelains excavated in the Great Lakes region of North America from the eighteenth century, for instance, show us that shipwrecks in Asian waters can be relevant to First Nations people on the other side of the globe in Canada. It has always been so; we just didn't always know it. The Internet, however, can not only help us teach this fact but can help us find those connections.

Online tools have helped bring underwater cultural heritage into the homes of viewers from around the world. Public outreach websites like the Museum of Underwater Archaeology, for example, attract viewers from over 90 countries. This paper will examine how researchers can not only share their findings with a global audience via the Internet but will also highlight the online tools available to conduct research to tease out those global connections and tap into the collaborative nature of social computing. As we utilize the web to forge new cultural connections around the world, we are reminded that those sailing vessels that crossed the seas transporting their cargos in centuries past were doing the very same thing. The more we utilize the Internet to conduct research and share data about underwater cultural heritage the more we will see that each shipwreck we share with the world is truly a global shipwreck.

Introduction

As a graduate student in underwater archaeology in 1989 I excavated the cove area of a colonial fort located on the Great Lakes in the middle of North America. Thousands of vessels, large and small, had utilized the cove during the seventeenth and eighteenth centuries to unload their cargos of men and materials traveling either west, deeper into the continent, or east, toward ships that would bear them across oceans. During the 1989 field season we discovered the remains of an eighteenth-century shoreline that contained thousands of artifacts dating primarily from the British occupation period of 1759 to 1796 (Knoerl 1994:123). One of the artifacts we discovered that intrigued me the most was a piece of Chinese porcelain (Figure 1). I wondered who had made it. Could that Chinese artisan, as he removed it from the kiln and prepared it for shipping, have imagined the distance it would travel or picture the cultures through which it would pass and eventually be used? It became evident to me that even here, in a relative backwater of the North American colonies in the mid to late eighteenth-century, there were ties between people half a world apart. Shipping made that possible as it connected hinterlands to port facilities such as wharves, shipyards, merchants, shippers, and sailors. At the end of the voyage the vessels landed at similar maritime landscapes and their goods made their way to the consumer. In this way even segments of society that never even saw

a vessel and were separated by great distances were connected by water. The maritime activities of one region, no matter how seemingly localized, became, through global trade networks, a part of the maritime history of another. Shipwrecks are an important part of world history and as unintended time capsules they illustrate not only the global connections of the past, but through the Internet, they actively participate in today's networks as well. This paper will argue that by using a modern electronic global network (i.e. the Internet), with its ocean of data and streams of connectivity, we can aid in their preservation through collaborative research and public education. Such an interconnected approach shows that every vessel that ended up on the bottom of the sea is indeed a global shipwreck.

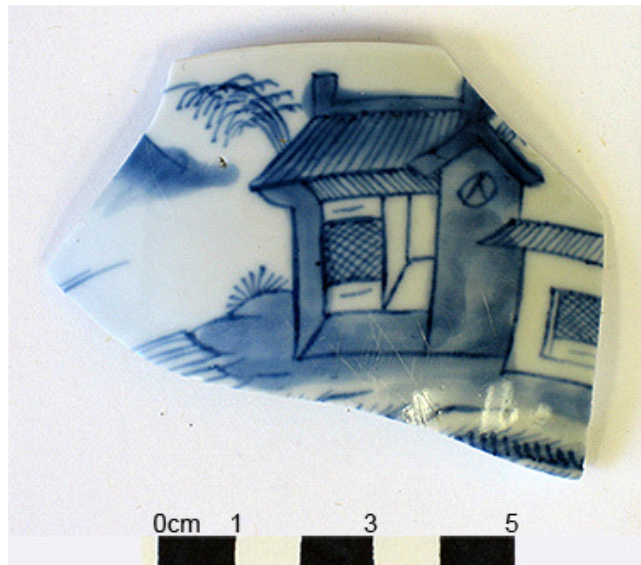


Figure 1. Eighteenth century Chinese porcelain excavated at British colonial Fort Niagara, Youngstown, New York USA in 1989 (Photo by author).

Imagine a shipwreck. Consider its surroundings, its condition, and its location. What do you see? For many there is a sense of darkness and isolation and that despite being surrounded by water it is no longer in its natural environment on the surface. It would seem that the vessel's story has come to an end. I would argue, however, that this is a temporary phase and that its story and its travels are not over. There are parallels between a ship's past working life prior to the wrecking event and its role in the modern world after being rediscovered.

After the wrecking event and subsequent discovery the same vessel can, in a sense, travel throughout the world again via the Internet. Its mission has changed, however, from one that was commercial or naval in nature to an educational one. Archaeologists that have recovered information about the web of commercial relationships ships once participated in can use the electronic "ocean" - one comprised of data, routers, high speed bandwidth, and Internet protocols to transport a vessel's new cargo of information around the world. The

shipwreck no longer seeks safe anchorages in coastal ports but instead searches for access to computers ports.

Using the Internet

Although underwater archaeologists were not among the early adopters of the Internet some did recognize its potential in the late 1990s (Hall, *et al.* 1997). The time required to construct websites, the costs incurred, or the expertise needed may have prevented many from moving on to the web. A more fundamental issue was the poor track record underwater archaeology as a field had with regard to setting a high priority on public outreach. Treasure hunting companies were not as reticent and publicized stories about finding gold and riches with a public ensnared by such tales. By 2004 underwater archaeologists began to post their research online through websites like the online Museum of Underwater Archaeology (MUA). Within the last seven years the development of free websites such as Wordpress and the development of social media sites like Facebook have made it much easier to post content online.¹ The range of options now available for utilizing the Internet continues to grow as does the number of individuals who can access it.

As of August 2011 industry experts estimate that there are over 1 billion websites on the Internet (Netcraft 2011). Many of these websites contain multiple pages further increasing the number of pages of content available. A Google search on the term “underwater archaeology” returns over 600,000 websites. The term maritime history returned nearly 4.5 million pages and the term “shipwreck” returned 12.9 million results. There is a veritable ocean of information available online. How then can we as archaeologists and maritime historians best use the Internet to participate and assist in continuing a vessel’s story beyond coming to rest at the bottom of the sea.

The answer depends to some extent on what our goals are. Whether it is publishing or conducting research, one has to consider who the intended audience is. This, to a great degree determines what methods should be used. Some digital humanities researchers like David Staley argue for the increased use of visualizations of data and history as a more appropriate means to convey information over the Internet (Staley 2002:3). Utilizing maps, diagrams, and other images may indeed be a better digital publishing strategy for underwater archaeologists considering the visual and spatial nature of the material culture so central to their work. Conversely, digital history pioneers like Daniel Cohen and the late Roy Rosenzweig have called for adhering to prose and suggest that screens will eventually catch up to the human eye (Cohen and Rosenzweig 2005). Indeed since their prediction six years ago several companies have marketed hand held devices touted to be as comfortable to read as printed text.

¹ Wordpress is a website that provides free web pages where individuals can post articles or comments on a web log, otherwise known as a blog (<http://wordpress.org/>). Facebook is a social website where users can post personal information about themselves for view by other selected Facebook members (<http://www.facebook.com>).

One thing that remains clear, regardless of the presentation style chosen, is the overriding need for researchers to publish something rather than nothing.

This inaugural Asia-Pacific Regional Conference on Underwater Cultural Heritage, encompassing as it does countries of the Indian and Pacific oceans, covers a large and diverse set of cultures. Yet some commonalities exist including that which impacts all nations regardless of location, namely the scarcity of resources and funding available to dedicate to educational outreach and research. In harkening back to the trade networks and connections that existed prior to the advent of steam navigation in the nineteenth century, we can see a model that can aid not only underwater archaeologists working in the Asia-Pacific Region but across the globe. Ships did not operate in a vacuum but rather through cooperative agreements and collaborative projects with other members of the merchant community. Those arrangements allowed vessels to influence the lives of people across the planet. Marine insurance companies, for instance, allowed ship owners to pool their risk and make the most of their resources. While collaborative agreements might sound like an obvious solution to the high costs of online presentations, it is not an option that necessarily comes to mind for some archaeologists. Indeed a small survey conducted by the MUA in 2006 showed that when asked what the best use of the Internet might be, only thirteen percent of underwater archaeologists cited "collaboration" as opposed to the general public who mentioned it forty percent of the time. Also, somewhat surprisingly, the general public was almost twice as likely as professional archaeologists to suggest research as a good use of the Internet. Both groups cited "publishing" most frequently (Knoerl and Watts 2007). I would suggest that these potential uses of publishing, collaboration, and research are not mutually exclusive but that through combining them we can span the distances and differences throughout the Asia-Pacific Region to the mutual benefit of all. While any publishing of research online is desirable and to be commended a collaborative model is particularly useful for making the most of limited resources.

Collaborative Models

When I speak of collaboration there are numerous groups and means by which to accomplish such projects. First off, by collaboration I mean the sharing of data, resources, and ideas not just with the immediate partners involved but the general public as well. Two organizations may work together but through joint online projects they open their work at nearly all stages to public view and comment so that taken together there can be an almost emergent quality to the outcome. Unintended and unlooked for outcomes can take projects in new directions or result in new research projects previously unimagined. Indeed, although the MUA was conceived of as a collaborative project from the outset its development has been driven to a great degree by the suggestions and happenstance that has come from the three part collaboration of the museum staff, the participant underwater archaeologists, and the viewers. This occurs sometimes by brainstorming ideas directly with the MUA staff but also from an offhand comment, a cited example of some other work, or the unintended end

result of a particular experiment. While not all projects succeed, each effort that does encourages other groups to either participate directly with the MUA or to engage in their own online publishing activity - either way, the amount of ethical underwater archaeological project information that potentially reaches the public-eye increases and counters the romanticized and destructive message of treasure hunters. What follows are a few examples of collaborative projects that sought not only to accomplish that goal but to simultaneously forward underwater archaeology as a field.

Perhaps the MUA's simplest form of collaboration is its publication research by numerous underwater archaeologists. Although this is described in more detail by Michelle Damian's paper, I will cite one example of the potential benefit of one group working with another.² In August 2011 the MUA invited Peruvian underwater archaeologist Carlos E. Ausejo to write a guest blog on the website in order to introduce Mr. Ausejo and the present state of Peruvian underwater archaeology to the MUA's audience (Ausejo 2011). Shortly thereafter a member of the Government Maritime Managers Forum, who had read Mr. Ausejo's post invited him to join their group.³ Indeed upon learning of the Asia-Pacific Regional Conference on Underwater Cultural Heritage through the guest blog I was requested to extend a similar invitation to other government managers in attendance at this conference (Mastone pers. comm. 2011). From one publication intended to educate the public and professional underwater archaeologists about Peru, it's possible that archaeologists from the Indian and Pacific Oceans may, more frequently, share ideas with their colleagues in North America.

In most cases collaborative projects hosted by the MUA are directed primarily at bringing together outside parties with the MUA acting primarily as facilitator. A recent example is the Gray Literature Bibliography Database (The MUA 2011). This project seeks to encourage underwater archaeologists working in local government to share bibliographic information about the numerous site reports that have been generated over the years in response to mitigation and research work required by state or federal laws. Site reports like this contain sensitive location information that is not routinely distributed to the public in order to protect sites from looting yet can be made available to researchers with legitimate research projects. By not making the reports easily available online they become difficult to find, often requiring researchers to travel to the various state libraries to review offline catalogs for each state they are interested in. The Gray Literature Bibliography Database contains the titles, dates, and authors of site reports for several states in one repository along with information on how researchers can gain access to specific documents they wish to read (The MUA 2011). The site contains hundreds of report titles, is searchable across all participating states included in the database, and brings to light the vast resources previously unknown to the public. It will reduce the cost of future work

² See "Bringing Asia to the World: Public Outreach via the Museum of Underwater Archaeology" by Michelle Damian this volume.

³ The Government Maritime Managers Forum is a network of government managers of underwater cultural heritage at the national, provincial and local levels based in the USA.

by eliminating lost time spent trying to track down what work has already been conducted in the past. This project in particular highlights the power of joining data sets previously kept separate. By allowing for queries across several groups at the same time previously unknown relationships may come to light. Each query then is an act of creation as it generates new information (Manovich 2002:227).

Joint online projects between institutions such as museums can also make the most of scarce resources. *Birchbark Canoes: A Collaborative Gallery* combines images and information about a specific type of indigenous small craft housed in different museums and institutions around the Great Lakes.⁴ The project apprises both canoe enthusiasts and professional researchers of the number and variety of craft that can be compared for regional variations in construction techniques and design. While the project was not instigated by the various museums involved it has proved to be a cost effective way for them to publicize an aspect of their collection that might otherwise have remained in obscurity. Collaborative projects such as this allow institutions to participate in a larger exhibit of canoes brought together on the Internet that might otherwise be too costly to gather together in one place. In doing so, they increase awareness of their institutions and collections at a fraction of the price.

One of the MUA's most promising collaborative projects involves not only underwater archaeologists but the very general public we wish to engage. In a role reversal of sorts underwater archaeologists can use crowd sourcing to gather data from the general public. Crowd sourcing occurs when large groups of people participate in quickly accomplishing a task that would take individuals or small groups a far longer period. Google used a similar concept developed by computer scientist Dr. Luis von Ahn which used the enormous number of hours people spend online playing games to help accomplish tasks such as labeling images for online searches. The MUA's *Shipwrecks Over Time Project* is an experiment in this area by hosting an image gallery of a particular shipwreck and posting a few images online for the public to view.⁵ The public is then invited to contribute their diving photos of that wreck to the collection. Each participant is credited for their contribution. Images are sorted by the date they are photographed. In this way as the collection grows it becomes a tool for researchers to use to evaluate how shipwrecks change over time. The project taps into a potentially huge volume of images that might otherwise remain hidden. Should the project prove successful it can be used to gather images for other wrecks around the world.

Perhaps one of the most unusual collaborative projects facilitated by the MUA involves coordinating the efforts of researchers from different disciplines. In 2009 members of the research team, Bateaux Below, approached the MUA about an art – science initiative that combined the efforts of a cellular biologist, an underwater archaeologist, and a scientific artist. Researchers from the three

⁴ The Birchbark Canoes: A Collaborative Gallery is under construction as of this writing. Upon completion viewers may reach the site via a link on the MUA homepage: <http://www.themua.org>.

⁵ The Shipwrecks Over Time project is under construction as of this writing. Upon completion viewers may reach the site via a link on the MUA homepage <http://www.themua.org>.

disciplines worked together to study single celled organisms called testate ameba and eighteenth century bateaux both of which can be found at the bottom of Lake George in New York State in the United States⁶. The artist then recorded her impressions and produced works of art that were displayed in a showing held simultaneously at the Lake George Arts Project gallery in the town of Lake George and on easels at the bottom of the lake from August 25th through September 10th 2009. A permanent digital version of the exhibit was posted online on the MUA. The online launch was one of the most heavily visited exhibits ever posted on the website. Many of the viewers went on to examine other projects on the website as well. In response to the project's success the MUA recently invited two professional artists to review the hundreds of images posted on the MUA over the last seven years. They evaluated the images in artistic terms to see which ones went beyond pure academic value. They selected three images each, of which they identified as having artistic merit and published their comments along with their selections. Their comments helped the public see underwater archaeologist's work in a new light that would not have been available without this cross disciplinary project.

Conclusion

The projects described above all benefit from the fact they all create and expand networks of support for their participants. Often there are unexpected results that branch-out into additional opportunities for learning, which in turn inspire even more projects. The Internet is an especially powerful tool for doing this because of its exponential growth and deep penetration into nearly every corner of the world. As researchers share the stories they recover from shipwreck data it makes projects seem far less remote. Frequent updates to project journals, public participation through data contributions, and increased ease of access to previously unobtainable data have brought sites closer to millions of viewers. These projects teach the public that the sea connects us all today just as it connected manufacturers and artisans from one continent with consumers on another. As we continue to show the public that all maritime history is connected and is part of the story of human life on this watery planet, hopefully we will nurture a preservation ethic that recognizes that each shipwreck is not strictly part of one nation's story but of all nations. In being of value to people across cultures and professions they are in fact everyone's responsibility to protect, study, and share. If each underwater archaeological site is viewed in this way we have the potential to encourage research and assist each other whenever we can regardless of where we live on the planet. The MUA was founded to promote that idea (Knoerl 2006). The reason behind our success over the past seven years can best be summed up by a quote from the late nineteenth and early twentieth century writer on human achievement: Napoleon Hill wrote, "It is literally true that you can succeed best and quickest by helping others to succeed" (Hill 2003:65). I hope that everyone who has come together for this

⁶ The testate amebas live in the lake's bottom sediments surrounding the bateaux. The bateaux were purposefully sunk by the British Army during the French and Indian War to avoid capture by the French.

historic inaugural conference will take that idea with them as they return to their home waters to continue their work on the global shipwreck.

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