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Can Underwater Cultural Heritage Stay Afloat?

A Critical Review of Treasure Hunting

in Underwater Archaeology and Proposed Solutions

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Abstract: Underwater treasure hunting is a rampant and concerning problem for marine archaeology and the future of underwater cultural heritage. Professional and small-time operations survey the ocean floors for valuable historical artifacts which they proceed to collect with little to no understanding of archaeological methods or caution for preservation of context. The artifacts they take often end up in a private collection, sold or given to investors, and dispersed throughout the world. In this way information is lost, history is not preserved and our common cultural heritage is destroyed. The archaeological community highly condemns association with underwater treasure hunters and salvage companies and for understandable reasons. However, it is the belief of the author that salvage companies are not just an annoying fly that can be dismissed by the underwater archaeology community. Rather this relationship is an ongoing and pressing issue that must be dealt with by professional archaeologists. This paper looks into ways of dealing with this issue that respects the concerns of both sides. It examines the history of the issue and how it has come to this point. Finally, the author proposes a program, set up and maintained by individual states for persons/organizations who wish to obtain their salvage license. This program would train potential treasure hunters in the ethics and methods of underwater archaeology in the hope of preventing that loss of material and historical culture.

Conceptual schemas are essential for interpreting our world. They are how we know an orange is a fruit, a pine is a tree, that rough skinned, fat, four-legged, horned thing is probably a rhinoceros (Gombrich 1960); how we avoid being mugged by crossing the street when we see a dark forbidding man lumbering toward us, how we know that dark alleys are bad and that vertical structure with rungs will help you access high places. Schemas help the world make sense, however they can also be dangerous in forming false preconceptions when approaching a situation. They can lead to wrong assumptions and decisions and opinions that are ill-informed. The conceptual schemas in maritime archaeology are the web this paper will try to untangle.

Another word for a conceptual schema would be story skeleton (Schank 1995). This can be thought of as a dry, basic model on which a person tries to fit events and experiences, like a model. This doesn't always happen consciously but it does explain why two people will see the same event in two different ways. In marine archaeology the story often told is one where the big bad treasure hunters come in with their machines, and their big money and run over the poor archaeologists, destroy all the cultural context of the site, pack up their treasures and roll out. The skeleton of this story is one where bad guys with no regards for anyone else, out-competing the little guys who are trying to do the right thing. Perhaps this story skeleton is outdated, and the concept each party has of the other is not always based in reality. Scenarios and people are not always what we see them as; often we have just tweaked them a little to fit into our conception of the schema of "fruit" or "bad guys." That dark, forbidding man may actually be a sweet grandfather who is going to meet his grandchildren for dinner; that dark alley may hide a diamond ring; and that ladder may actually lead to the top of a toxic waste bin. In short, schemas order and prioritize the world but they should not confine them; to always be on the lookout for misconceptions and requesting validation from reality is the only way to not be confined by

schemas. Archaeologists and salvage companies may need to re-evaluate their conceptual schemas, remodel their story skeletons, into those that dissolve allegiance lines into a common goal of UCH research.

Since the beginning of human possession there have been looters, thieves, and plunderers. Egyptians put curses on tombs; rituals were performed over burials; and secret caches of valuables were hidden in an attempt to stop such unscrupulous persons. Today curses and protection rituals take the form of international treaties and cultural protection laws. Unfortunately these laws and treaties are most effective on land. When applied to underwater sites they reveal a double standard of protection. The world's, and as it applies to this paper, the United States' underwater cultural heritage is at risk of destruction and loss forever. In a study done by Don Keith and Toni Carrell of the Corpus Christi Museum of Science and History, they applied the Hubbert Model—predicting crude oil supply peak and taper—to the number of shipwrecks that have been discovered for the U.S., England, and East Indian trade routes. Their model showed shipwreck discoveries peaked around the year 1974; says Keith, "We concluded that more than half of the shipwreck sites that will ever be found have already been found. So the resource is being depleted very quickly, and when it's gone, it's gone," (Pringle 2007). The Keith and Carrell study validates the worry that underwater archaeologists have regarding the presence of treasure hunting and professional salvaging occurring in the field. Dr. Della Scott-Ireton, the Associate Director at Florida Public Archaeology Network expressed her concern and dismay in an interview on the topic of underwater treasure hunting. "The one thing that has always struck me is the dichotomy of how sites on land are treated and how sites underwater are treated" (2015). She believes this could be due to lack of understanding the public has about underwater sites, the fact that these sites are not very visible and so out of mind, and the fact that underwater

sites appeal to a small audience, mainly the diving public (2015). All of these explanations are valid but it is probably the lack of understanding of underwater sites by dry-land archaeologists and the comparatively small, but growing, number of marine archaeologists who can make the case for underwater cultural heritage (UCH) preservation.

On the other hand, another more obscure philosophy on archaeology, one that opposes the preservation philosophy and questions professional archaeological ethics, has grounds for discussion; it is one that led this paper to be written. Marine archaeologists claim that treasure hunters have no consideration for the cultural value of historic artifacts, no understanding of the valuable history being lost, and no *modus operandi* except *profit*. The counterargument is, if they could tell us, would those whose buried lives archaeologists dig up say that *archaeologists* have no consideration for the sanctity of those who lie there? No understanding of the value undisturbed peace has for those people and the objects that made up their lives? A new field is emerging in the underwater archaeology community, one that many term “professional looting”; those with no better intentions than a ragged criminal just better funding. Though the concern over quality of work and morality of intentions is an argument not to be discounted (some excavations are done purely for cashing in on the monetary value of a site) it is not the only way of looking at the issue. This paper will explore other perspectives on treasure hunting besides the one that the archaeological community has by-and-large taken; one of disassociation and distance from the problem and the people involved.

PART I: THEORY AND ARGUMENTS

The Problem

Commercial salvage companies, or “treasure hunters” as the archaeological community disaffectionately calls them, have been growing in the underwater sector as technology has become increasingly bigger and better. The phenomenon is unique to underwater archaeology (no one even pretends to consider terrestrial treasure hunters respectable) and it has to do with timing, funding, and the history of regulation. As Fredrik S reid, a professor of archaeology at the Norwegian University of Science and Technology, explains, when marine archaeology was first becoming a discipline “archaeologists were hard pressed to raise not only capital for underwater archaeological research but sufficient interest within the academic framework” (2011). This created time and opportunity for treasure hunting to develop. Little to no regulations, and no existing structure to check their activity coupled with the tantalizing possibility of finding gold, allowed treasure hunters to create a niche of private funding and interest. When marine archaeology started to be practiced (first finds were by divers in the Mediterranean in the early 1900’s (NOAA National Marine Sanctuaries 2013)), “it was difficult for the public to discern between underwater archaeological research and treasure hunting” (S reide 2011). This acceptance of treasure hunting early on has resulted in a deep seated problem that is not easily routed.

An average dive project to recover a lost shipwreck costs in the thousands to millions per day; no rag tag team of thieves is going to undertake such a task; one has to have the resources and one must be deeply devoted. The high cost comes from the amount of people needed to pull

off a successful dive and the expensiveness of the equipment to do so. Only about one percent of the ocean has been explored, and there's a reason; it is very hard to reach the bottom (Marchitto 2014). The technology allowing us to do so, submersibles, remotely operating vehicles and sensors, nitrox, etc. has only been around for a couple of decades, some of it less than that (NOAA 2013). Avid followers of Apple products will tell you that nothing new is cheap but as the technology develops or becomes outdated the price goes down. Marine exploration is in its baby years compared to other sciences, which means that marine archaeology is even younger. There is a lot more capital to be invested in an underwater excavation than a terrestrial excavation. Not many research institutions are willing or even capable of funding such an endeavor, but the emerging commercial field does, or at least that is one of the arguments given by salvage companies and some archaeological researchers. So, salvage companies are here to stay, and for better or for worse, the work they do will continue simply because they are able to. If the archaeological community wishes to have a hand in the preservation and research of UCH then this issue must be addressed.

Many professional archaeologists believe the claim of a salvage company's commitment to "a world-class team of researchers, scientists, technicians, and archaeologists...using advanced robotic technology, while more importantly, applying the highest archaeological standards" (Odyssey Marine Exploration 2015) is just empty words. *Commercial and archaeology* are rarely spoken by academics in a positive relation to each other. Archaeologists' work cannot be sold for the right price on a Walmart shelf; "It is a highly moral, culturally sensitive pursuit that rarely makes compromises" (Bass 2013). While the majority of archaeologists would agree with statement, it is important to evaluate *which* morals and cultural sensitivities are being taken into account in marine archaeology when it is practiced in real

situations with real people and concerns. This paper is not a legal debate or a brash moral stand; it simply examines the current state of the field now and offers a suggestion for how the problem of treasure hunting in the waters of the United States could be thought of in the future.

Treasure Hunting Methods

One of the commercial salvage companies examined in this study, Odyssey Marine Exploration, is a self-described “innovative leader in deep water exploration” (2015). They perform archaeological digs, cargo recovery, and mineral/natural resource discovery. “Utilizing cutting-edge technology and ground-breaking methods, Odyssey employs a world-class team of researchers, scientists and technicians, and is at the forefront of underwater exploration,” (Odyssey Marine Exploration 2015). To the casual internet surfer this description seems extremely positive, even glowing. However, the underwater archaeology community has condemned the work of Odyssey Marine Exploration. James Delgado, Director of Maritime Heritage in NOAA’s Office of National Marine Sanctuaries, explains it this way: “The issue is one where the flash of gold and silver obscure or overwhelm the type of careful work that yields treasures of a different sort. We base our opposition to treasure hunting on the track record of those years of lost opportunities and lost history, and the challenge we issue to Odyssey is to show how they are different” (Colapinto 2008). In the past, Odyssey Marine Exploration, as well as other commercial salvage companies, has not been different. Most treasure hunters survey an area where they think a valuable shipwreck could be by systematically sinking a shaft into the wreck, destroying the ships’ structure and anything that could have been learned from it.

Dave Conlin, Chief of the National Park Service Submerged Resources, explains treasure hunters' methods comparable to looking for a diamond ring your dog buried in the yard. If you start from one corner, moving to the other digging a hole every two feet (or even where you only detect something metal) you will find the ring but more often you will find old tin cans and nails and in the end be left with a once beautiful yard now full of holes. To marine archaeologists having an ocean full of wrecked cultural sites is not worth the millions of dollars in artifacts that may or may not be found. "When you dig a hole in the ocean you are effectively destroying the archaeological evidence. If you don't do that in a systematic way you are destroying important knowledge of past maritime activities," says Lucy Blue of University of South Hampton, commenting on salvage company methods (2012). However, the essence of archaeology is destroying that which you study and love in order to uncover a greater good: knowledge of the past.

The fate salvage companies have for historic artifacts after excavation is another point of criticism and contention. Andreas Olsson, the Head of Archaeology at Sweden's Maritime Museums remarked on the problem: "The professional shipwreck discoverers are doing a great effort for cultural heritage management in the long run... what we don't support is the action of actually taking up items and selling them." In order to pay off their investors and not go bankrupt, a common practice of salvage companies is to claim a certain percentage of the first half of any coins, bars or bullion and then a smaller percentage of whatever is left. This has been standard procedure in the excavation of non-military shipwrecks whose ownership is not contested. In 1998 Odyssey Marine Explorations signed a contract with the British government to look for the warship S.S. Sussex. Odyssey Marine Explorations would pay for the salvage operation and in return receive eighty per cent of the first forty-five million dollars' worth of

artifacts recovered, fifty per cent of the next four hundred and fifty-five million in artifacts, and forty per cent of anything above that amount (Colapinto 2008). Unless a salvage company knows exactly what they're dealing with and that the ship they're excavating is exactly the one they are looking for, this arrangement is a huge risk for them and their investors. As mentioned before, expedition dives can take millions of dollars a day; Odyssey Marine Explorations was essentially gambling on finding a valuable shipwreck and so making the investment worthwhile. If the ship turned out to not be the ship they were looking for (S.S. Sussex) or if it was carrying less valuable cargo than the gold coins thought to be on board when it sank, Odyssey Marine Explorations would have to absorb the millions of dollars spent on the excavation with no return. Like any business, its owners cannot pay the bills if this happens, and it kills the company and its employees' livelihoods. This is why the salvage company doing the excavation usually keeps a portion of what valuable artifacts are recovered. The salvage company can then do whatever they wish with the artifacts in their possession and often sell them to private collectors to pay off their investors and make a profit. The archaeological community has a big problem with this because it scatters cultural history, and valuable archaeological information becomes lost.

The last problem associated with commercial salvagers is their lack of publishing on the excavations they do and the artifacts they find. Publication is a responsibility of all scientists. There is no point in discovering knowledge if that knowledge is kept secret (Green 2004). Not only does publishing publicly disseminate research that could be useful for the furthering of other work, it also allows one's peers to critique, modify, and challenge the work. No one person is the sole authority of any subject and one's work can only improve when shared. It is for this reason that the lack of publishing by treasure hunters and commercial salvors is so concerning, and another reason why archaeologists refuse to work with them; none of their work is reaching

the public or even the professional world. “It’s going to be twenty years since they salvaged the first so-called treasure,” Filipe de Castro, an assistant professor of nautical archeology at Texas A. & M says of Odyssey Marine Exploration. “They have not produced one line—one line—of information that is relevant for the history of seafaring...” (Colapinto 2008). (Since then Odyssey has produced several papers and four volumes of their work; on their own however, not through any peer-reviewed journal). It is suspicious that treasure hunters and commercial salvors do not share their methods and results, resulting in even more distrust from the marine archaeology community. If commercial salvors were doing proper scientific work there would be no problem in publishing exactly what they were doing with artifacts and how they are excavating wrecks. If commercial salvors do not disclose how they excavate sites or preserve artifacts, they cannot be critiqued with printed proof and professional archaeologists’ claims remain speculation.

Ethics in Archaeology

No archaeologist worth her/his salt would argue that the profession need not abide by a code of ethics. The Society for American Archaeology (SAA) adopted the Principles of Archaeological Ethics and even has a special committee, the Committee on Ethics, specifically devoted to making sure their principles are upheld. The American Anthropological Association (AAA) also has a Code of Ethics as well as a “Handbook on Ethical Issues in Anthropology.” The Society for Historical Archaeology (SHA) and its affiliate the Advisory Council on Underwater Archaeology (ACUA) both hold ethics statements and codes of conduct. There is a great deal of unity between these four organizations on accepted practices in the field. Though not lengthy or

legally enforceable, the statements are clear and identifiable. All four organizations believe in open, honest archaeological work that adheres to professional standards that other professionals can hold each other accountable to, believe in publically available published work on findings, and in the proper curation of sites by those who have the qualifications to do the least amount of harm while gleaning the most information. SHA, SAA, and ACUA all believe in public outreach and education “with the aim of improving the preservation, protection, and interpretation of the record,” (SAA 1996).

Though AAA is strangely mum on the topic of commercial archaeology, the other three organizations hold explicit statements on the condemnation of such practices that are particularly pertinent to this paper.

...avoid, activities that enhance the commercial value of archaeological objects... -SAA (1996)

Possible financial gain to be made by selling the artifacts at auction is never a consideration. -ACUA (2011)

Items from archaeological contexts shall not be traded, sold, bought or bartered as commercial goods, and it is unethical to take actions for the purpose of establishing the commercial value of objects... -SHA (2003)

Kersel (2012) argues, “Decontextualized artifacts—those illegally excavated with no record of find-spot—result in the discipline’s inability to refute or confirm claims of authenticity.” In other words once an artifact has been removed from its place of origin, it has no archaeological meaning. Obviously, however, archaeological value is not the only value placed on these objects or they would not be taken. Kersel also references Baudrillard (2001) who points out three different values an object can hold: use value, exchange value, and symbolic value. It would appear by the ethics statements of the SAA, ACUA, and SHA that artifacts only hold a symbolic value for archaeologists. For example, the Denver Museum of Nature and Science will no longer take artifacts that have no provenience and cannot be traced throughout

their entire modern existence, no matter the exchange value (DMNS 2008). However, artifacts do hold exchange value; many museums put prices on their pieces for insurance purposes, and gold and silver have inherent value as metals no matter the historic form they take, and for society at large. The collector values the objects treasure hunters sell symbolically not just monetarily. “Looted objects have a symbolic value to the end consumer for their association with distant lands, shared ancestry, and evocations of connectivity to the past,” (Kersel 2012). So the question is which value matters more? Symbolic value or exchange value? To whom? As a professional archaeologist it is expected that one say the academic symbolic value is the most important. What validity, if any does the collectors’ symbolic valuation have? What is the difference between a treasure hunters’ exchange value of an object and a museum’s? These questions must be answered if the marine archaeology community hopes to ever tackle the treasure hunting dilemma.

PART II: CASE STUDIES

Although most marine archaeologists argue that salvage of artifacts from deepwater shipwrecks by treasure hunting companies have nothing to do with archaeology, some of the most interesting shipwreck investigations in deep water have been carried out by salvage companies.

(Søreide 2011(Pickford 1993)

Commercial Activity in Underwater Archaeology

Before we can suggest a way of dealing with treasure hunting in marine archaeology, we must get a sense of how treasure hunting, on a large scale commercial level has affected and been operating in, marine archaeology. What follows are four accounts of four shipwrecks that were excavated by commercial salvage companies, what methods were used, how the recovered artifacts were treated, and then an analysis of what was done according to a good archaeological ethic and what practices were unethical and should be changed. There is much ambiguity and many conflicting stories surrounded treasure hunting activities, partly from commercial secrecy and partly from representation of one story from more than one interest. The summations given below represent an effort to get to the bottom of what actually happened with each excavation.

Nuestra Senora de Atocha. When R. Duncan Mathewson, a young archaeologist, joined a treasure salvage company he was blackballed by the archaeological community, prevented from giving papers at conferences, and discouraged from publishing work on his finds in professional journals. In the 1970's he worked for the treasure hunter Mel Fisher as an archaeologist on the project which discovered and started work on the hull of the ship *Nuestra Senora de Atocha*, a vessel which was part of the 1715 Spanish treasure fleet off the coast of

Florida. At first, Mathewson had to train all the divers in archaeological methods and ethics as well as archaeological mapping, curating and drawing artifacts. Mathewson was the only person with any kind of an archaeology background so most of the work had to be done by him, which meant artifacts were overlooked, detail could not be researched as he wanted and interpretation of finds was a distant dream. As Mathewson continued his work he realized it would require more specialized knowledge than he had to catalogue all the artifacts found, so he started to reach out to other academics. Though it took some time, other researchers started to gravitate toward the project and universities and museums were eventually allowed to do their own studies on the material and improve Mathewson's expertise. The one-person archaeological staff grew to a team of fifteen inside the project with more than twenty outside scholars involved with interpreting and preserving the *Nuestra Senora de Atocha* artifacts. Mathewson says that Mel Fisher made an enormous investment in treating, conserving, curating, and making available for study the artifacts recovered from the *Nuestra Senora de Atocha* (Mathewson 1998). Mathewson felt that he had put in a great effort for archaeology but found that the rest of the professional community did not agree; they told him it was, "not precise enough, not careful enough, not slow enough. It was still a treasure hunt," (Mathewson 1998).

Mathewson concedes that once excavated the site can never be the same but archaeology is a destructive science; the archaeologists destroys that which he loves. "An archaeologist, in excavating a site, assumes a responsibility to the public to proceed carefully, extracting every morsel of data from the site," explains Prof. Andrew Lambert, a British maritime historian. Mathewson also recognizes that treasure hunters can't be bothered with digging slowly or careful mapping or "tagging and conserving every splinter of wood, every shred of pottery" (Mathewson 1998). Mathewson believes that this is not an insurmountable problem, that common interest can

be found and he has lived it. He says that his work “will eventually vindicate [his] conviction that good archaeology is possible during a commercial salvage effort” (Mathewson 1998). From his perspective, the pressure to work quickly is a non-argument because archaeologists successfully excavate land sites staying just one step ahead of land developers, highway contractors, and the natural destructive elements. “No museum has the money to gamble eight million dollars on the chance of finding the ship, but the salvors did” (Mathewson 1998).

It is not doubted that Mel Fisher and crew put a great deal of money and hard work into recovering the *Senora Nuestra de Atocha*, but if a quick search is done online for the *Nuestra Senora de Atocha*, the websites that appear include newworldtreasure.com, eBay, Mel Fisher’s Treasures, and Atocha Treasure Company (Google search 2015). This is the gross commodification of cultural history. What most commercial salvagers do not understand is that cultural heritage does not fall under the “finders keepers” rule. It is the common past of many people and as such belongs to the public. An archaeologist never owns the site they work on or the artifacts they discover, even though they too spend large sums of money and countless hours of hard work and personal risk; and when one does not own something, one treats it with respect and care so that it is preserved for those who do own it, the public. Perhaps the excavation was done with high archaeological standards but the representation to the public and treatment of artifacts was in fact that of a treasure hunt.

Seahawk Deep Ocean Technology: Nuestra Senora de la Merced. This company was founded by Greg Stemm, a marketing consultant, and John Morris, a real-estate developer in 1986 when they bought a research vessel from the University of North Carolina on a whim (Colapinto 2008). Deep Ocean Engineering, a pioneer in Remotely Operated Vehicles and

manufacturer of many top of the line submersibles, asked Stemm and Morris to demonstrate their R.O.V.'s as shipwreck locators (Colapinto 2008). Stemm and Morris agreed, and thus started their work in deep water searching for potentially valuable shipwrecks using advanced robotics. One of their first projects was a wreck near the Dry Tortugas, Key West, Florida where the *Nuestra Senora de Atocha* (the subject of the section before this one) was found. Greg Stemm obtained the approximate coordinates of this “new” shipwreck from a fellow treasure hunter and maritime author, Robert Marx. Seahawk Deep Ocean Technology invested ten million dollars and four years on excavating the wreck, which Stemm believed to be the *Nuestra Senora de la Merced* (Colapinto 2008). The wreck turned out to be not even worth half of the money invested and due to suspicious insider trading that was later investigated by the S.E.C., Seahawk Deep Ocean Technology lost quite a bit of money as well as reputation. Personally, the venture was a loss for Stemm and Morris but of more importance to this paper is what happened to the wreck itself and the fate of the artifacts on board.

First, Seahawk Deep Ocean Technology surveyed the area of interest by using a technique called “mowing-the-lawn” with a Klein 595 side-scan sonar linked to a Seaquest Seatrac navigation system (Søreide 2011). Second, areas of particular interest or promise were investigated using one of three R.O.V.s: Phantom DHD2, Phantom 300, and Phantom 500. These used scanning sonar, video imaging, and underwater photography to gain a pre-disturbance survey of the shipwreck. Next, an excavation plan was devised and with the wreck being located at 406 meters (Søreide 2011) it was decided that a special R.O.V. was to be used instead of divers. This special R.O.V. was called *Merlin*, weighed three tons, had two manipulator arms, a dredge and lifting limpet, five video cameras, and three photo cameras. *Merlin* did all the physical excavating using an LBL underwater positioning system from Sonardyne to create a

grid of the site and determine artifact provenience (Sóreide 2011). To record all of this information, Seahawk Deep Ocean Technology created an electronic database of the full inventory in a company report for perusal by their archaeologists. This information comes from reports Seahawk Deep Ocean Technology made and from a deep water archaeologist, Fredrik Sóreide, who supported the work Seahawk DOT tried to do. The equipment is certainly state-of-the-art and did provide “precedent and valuable technical experience for future deepwater archaeology projects” (Sóreide 2011), however all the best equipment in the world does no good if not used properly.

When the head archaeologist for the *Nuestra Senora de la Merced* project, David Moore, was interviewed by the *New Yorker*, his opinion of the salvage operation was less technical and forgiving than the one given above by Seahawk Deep Ocean Technology. When asked after the legal battle why he joined Seahawk Deep Ocean Technology David answered, “...And to get an up-close-and-personal view of what all the controversy was about—this treasure-hunting-versus-archeology crap. I said, ‘Rather than sit here in this ivory tower, let’s get out there and get my hands dirty and see if they are the devils incarnate that people claim them to be’ ”(Colapinto 2008). The operators of *Merlin* were technicians with a pay-out in mind, not archaeologists with preservation in mind. They often tried to set the R.O.V. down wherever the ocean floor looked bare, with no thought to the potential artifacts that could lay under the sand. Though survey should have been pre-disturbance and excavation minimal disturbance, Moore sat by helpless as at least a dozen ancient olive jars were smashed (Colapinto 2008). Moore continued research on the *Nuestra Senora de la Merced* and determined that the wreck Seahawk Deep Ocean Technology had found was not the treasure laden vessel they supposed it to be. Greg Stemm and John Morris dismissed Moore’s findings and continued with the project to their and history’s

detriment; Seahawk Deep Ocean Technology lost capital and the world lost culturally valuable artifacts.

Odyssey Marine Exploration: Black Swan/Nuestra Senora de las Mercedes. After Seahawk Deep Ocean Technology went under, Greg Stemm and John Morris founded a new company called Odyssey Marine Exploration in 1994. Learning from their last misadventure, supposedly this new company is “based on the belief that good business and sound archaeological practice can co-exist and thrive together,” (S reide 2011). Whether Odyssey Marine Exploration has accomplished this remains to be seen.

The *Black Swan* was the code name Greg Stemm gave to the ship Odyssey Marine Exploration found in 2007 off the coast of Gibraltar, Spain in order to keep its location secret and deter any claims others might have had on it. Little is known of the methods Odyssey used on *Black Swan* because of this secrecy, but *Black Swan* is included here as an example of international and legal relations in commercial salvage operations.

The way Odyssey Marine Exploration handled the shipwreck turned what should have been an archaeological excavation furthering knowledge of underwater cultural heritage into a political, legal and ethical debate. Once it was reported that Odyssey Marine Exploration had found over 600,000 silver coins and hundreds of gold coins worth up to four billion dollars, Odyssey’s stock value rose dramatically, as intended. This raised suspicion and doubts about Odyssey’s findings; the timing seemed to be too perfect and no one outside of the company had seen what Odyssey Marine Exploration had found. Professionals and hobbyists alike began to challenge and question Odyssey Marine Exploration’s research methods; the company became even more secretive. Spain’s Minister of Culture issued a statement that the Black Swan treasure could be Spanish gold from the military vessel *Nuestra Senora de las Mercedes* and illegally

removed from Spanish waters. There was talk of broken contracts and back alley deals, quarrels over maritime law and potential lawsuits. Two months later, in July, Spain was able to persuade the United Kingdom to release the export documents that Odyssey Marine Exploration had been required to fill out in order to transport artifacts recovered from *Black Swan* to the U.S. It turned out that the artifacts were indeed Spanish gold coins from *Nuestra Senora de las Mercedes*.

Spain sued Odyssey for fraud and theft in U.S. federal court, and Odyssey sued Spain for damages. A U.S. federal judge ruled that the U.S. had no jurisdiction in the matter, and the treasure must be returned to its country of origin. In February of 2012 the *Black Swan* treasure was loaded on two cargo planes and flown back to Spain. Odyssey Marine Exploration spent \$2.5 million dollars salvaging the artifacts from *Black Swan/Nuestra Senora de las Mercedes* monetarily worth an estimated \$500 million, and then lost it all to the Spanish government in addition to an extra \$1 million in fines. Spain's junior cultural minister, Jose Maria Lasalle, commented on this outcome, "The recovery of the goods plundered from the archaeological site is an unprecedented international success in the fight to conserve underwater cultural heritage and the fight against illegal trafficking," (NDTV 2014). The relationships of all parties involved were disastrous and fragmented with no guiding principle of ethics to moderate them.

The Society for American Archaeology takes as its second principle of archaeological ethics, "a commitment to make every reasonable effort, in good faith, to consult actively with affected group(s), with the goal of establishing a working relationship that can be beneficial to all parties involved" (SAA 1996). Professional archaeologists always consult with the nation within whose borders (on land or sea) they are working and obtain necessary permits and permissions. Not only does this ensure the legality of their work but it fosters good relations allowing other

archaeologists to work there again, thus promoting respect for the profession and value in cultural heritage.

When commercial salvage companies do not treat all parties involved with respect, indeed sometimes they do not treat other parties like they are involved at all, those other parties will close their borders preventing the further study of any other sites because they have been burned.

Odyssey Marine Exploration; H.M.S. Sussex and S.S. Republic. These two excavations have been combined in this last case study because they each contain a component, that when put together equal well-executed archaeology. Unfortunately they were not combined and thus archaeology was not done. George Bass, maritime archaeologist at Texas A. & M, and pioneer in underwater archaeology comments, “Finding, raising, and conserving artifacts is no more archeology than my aunt’s careful collecting of Indian arrowheads on her South Carolina farm,” (Colapinto 2008). As argued before in this paper, archaeology is not merely *how* artifacts are recovered but *what* is done with them, how they are studied afterwards. Odyssey Marine Exploration’s work on H.M.S. *Sussex* exemplifies a move toward sound archaeological practice, and their work on S.S. *Republic* exemplifies proper research and public outreach that should be done after excavation.

The H.M.S. *Sussex* was a British warship that was leading a group of allied ships from Gibraltar around 1694 when it sank. Odyssey Marine Exploration made the necessary arrangements with the United Kingdom and with Spain—the waters they would be searching were Spanish—with one condition: if they found anything besides the H.M.S. *Sussex*, they were to notify Spain immediately. In 2001 Odyssey Marine Exploration’s side-scan sonar detected a

ship at the bottom of the ocean near Gibraltar, and began excavation on what they believed was the H.M.S. *Sussex*. Odyssey Marine Exploration contracted with the United Kingdom, drawing up an agreement called the HMS *Sussex* Archaeological Project Plan (Sóreide 2011). This plan consisted of two phases to be executed in stages. Stage 1A was a non-disturbance survey and Stage 1B consisted of a trial excavation limited to ten percent of the site area. Phase Two was to be a “systematic and strategic excavation of the coin cargo and its immediate area,” (Sóreide 2011). According to a preliminary report by Odyssey Marine Exploration (Dobson 2009), phase one with stages 1A and 1B had been completed to the United Kingdom government’s satisfaction. However, because the shipwreck is in Spanish waters, Spain has suspended work on the site until a Spanish archaeologist is appointed to oversee the project, making sure Spain’s interests are represented.

Odyssey Marine Exploration’s contract with the United Kingdom is very controversial. It is the first agreement between a commercial salvage company and a national government. It is highly criticized by the archaeological community as setting a bad precedent for commercial work to be done on commonly held cultural property. Part of the reason Spain is holding the excavation up is exactly because their department of culture is suspicious of the validity of Odyssey Marine Explorations’ methods. However, this contract over the archaeological practice of a commercial salvage company, gives this author hope. If countries like Great Britain and the United States aren’t going to pass legislation that prevents commercial and private salvage of underwater cultural heritage, then perhaps contracts like these (regulating excavation and requiring open communication) are the next best step.

The troubling part of the contract is what the United Kingdom has agreed to give Odyssey Marine Exploration for doing work on the H.M.S. *Sussex*. Odyssey will keep eighty

percent of the proceeds up to \$45 million, fifty percent from \$45 million to \$500 million, and forty percent above \$500 million (Odyssey Marine Exploration Inc. 2002). Dr Francis Pryor, President of the Council for British Archaeology expressed CBA's grief over the agreement in 2002:

This is getting UK heritage policy into some very murky waters. It is Public Private Partnerships gone mad. It contravenes UK commitments to international conventions, as well as basic principles of the Government's own heritage policy. If you applied these principles to on-land archaeology it would drive a coach and horses through hard-won foundations of responsible heritage management. (CBA 2002)

So, while Odyssey Marine Explorations' excavation methods may have taken a step in the right direction, thousands of artifacts will still come to rest in a private collector's sitting room behind spotless glass that imprisons within it a story full of history and revelation that will never be known.

The last shipwreck, the *SS Republic*, is combined here in the same section with the *HMS Sussex*, as it offers a glimpse of possibility for treatment of artifacts after excavation. It is a common criticism that commercial salvage companies sell artifacts to private collectors and never publish anything about the work they do or the artifacts they uncover. Odyssey Marine Explorations has never published anything in a prominent peer-reviewed journal, but they have published six of their own reports on the *SS Republic* (Odyssey Marine Exploration Inc. 2015) as well as four books detailing their excavations on other projects, *Oceans Odyssey* and *Oceans Odyssey 2, 3, and 4* as of July 31, 2014 (Amazon 2015).

As for public outreach, Odyssey Marine Exploration created an exhibit from the *SS Republic* called "Pirates and Treasure" that tours around the U.S. at museums and science centers. As of the writing of this paper, "Odyssey Pirates and Treasure" is on display at the Museum of Science and Nature in Jacksonville, Florida. While the exhibit name may be a gross

misnomer for marketing purposes (*SS Republic* was a Civil-war era side-wheel passenger steamer [S reide 2011]) it does take Odyssey’s finds public, creating interest in marine archaeology. Just last year Kelly Crawford, museum curator at Greensboro Science Center commented, “This is my fourth exhibit since I’ve been here and this one is by far the most interactive. You get the artifacts and you get the history and the science but then you get the chance to touch and experience a lot of things, and it really pulls you in in a way that our previous exhibits haven’t done” (Kenerly 2014). One of the reasons underwater cultural heritage is at such a risk is because of the lack of understanding and interest in it by the public. Even shallow water sites are only accessible to the diving public, a minority of outdoor enthusiasts or history buffs. It is vital that the marine archaeological community convey the importance of marine archaeology to the public so that when legislation for protecting and funding research of UCH comes up these important proposals will not be pushed aside. A publicly traded company, like Odyssey Marine Exploration has the public relations and public imagination to draw attention to marine archaeology. If Odyssey can also clean up their methods as they did with the HMS *Sussex*, they may be a worthy candidate for representing marine archaeology to the public.

Amateur Divers

The real focus of this paper is the animus relationship between commercial salvage companies and professional underwater archaeologists; however, they are not the only players in the study of underwater cultural heritage (UCH). Amateur divers have had and continue to have a large impact on the fate and management of UCH. As the marine

archaeology field has developed amateurs and professionals have come to see the benefits of working together but the system is not perfect yet.

The community of amateur divers “has the potential to be the archaeologist’s worst enemies or best allies...” (Harris 2002). The state of South Carolina, a state rich in underwater cultural history, has experienced the fact that amateur divers find the majority of these UCH sites because there are so many of them (divers) and they dive so frequently (Harris 2002). If other states in the U.S. experience the same phenomenon, as they no doubt do, this could be an unaddressed problem or untapped potential.

George Bass, head of the Institute for Nautical Archaeology, ran into the problem of uneducated divers early in his work while surveying areas of potential interest.

I have conducted underwater surveys off the Italian coast, and found nothing; shipwreck site after shipwreck site had been stripped bare by amateur souvenir hunters and professional looters. Some of these sites once had held remains of Phoenician ships, so the world has been thwarted in attempts to learn how the most famous of ancient mariners constructed their vessels-and future generations of Italian amateur divers have lost the opportunity of even seeing ancient shipwrecks. I would think American amateur divers, while there is time, would work to protect historic shipwrecks as they have to protect coral reefs and to protect fish from scuba-equipped spearfishers, both out of self-interest. (Bass 1985)

Most amateur, or sport, divers do not collect for the money like commercial salvage companies, but rather for the experience. A souvenir they can take home and remember their trip and feel a part of history that is theirs. I am sure most archaeologists can understand that desire (though not condone it), after all archaeologists are in the profession because they feel that connected special feeling too on discovering a new wreck or making a new insight on an artifact. As a participant at the Ninth Conference on Underwater Archaeology in 1978 said, “What the casual discoverer wants...what he really wants is involvement” (Shiner). Nearly four decades later many state

organizations, clubs, and UCH centers have given the amateur diver involvement in the archaeological process. Sport Diver Archaeology Management program, Diver Awareness Program, Diving with a Purpose Program, the RIMAP project, Heritage Awareness Diving Seminar, Submerged Sites Education and Archaeological Stewardship just to name a few from across the country. These programs are discussed in more detail in following sections so they will not be discussed here. Suffice it to say, UCH ambassadors have turned the problem of looting sport divers into potential assets and future ambassadors for the preservation and study of UCH.

PART III: PROPOSED SOLUTIONS

Commercial Company vs Treasure Hunter

Odyssey Marine Exploration, Seahawk Deep Ocean Technology, Mel Fisher's work as well as others not discussed here such as Sea Hunt Inc, and Whyda Exploration, are all large commercial salvage companies. Hopefully it is apparent that nothing short of strong-arm legislation is going to keep commercial salvage companies from breaking up artifact collections and selling historically valued artifacts. No matter how sophisticated the technology or how archaeologically sound the methods, the end result is the same: destruction and loss of underwater cultural heritage, and the means do not make up for the ends. These companies know exactly what they are doing; they know sound archaeological practices and they are choosing not to use them. There is not a problem of inexperience and ignorance. As Odyssey Marine Exploration has proven in the sites they choose to excavate, they put a lot of research into the sites they work on. They have access to historical records and know how to use them to their advantage. They do not need any more classes on the latest technology, methods, or research tools.

Commercial salvage operations are often large organizations requiring a great amount of funding and organization; a project is not undertaken without it being known in some circle somewhere, whether it is the archaeological, oceanographic, cultural resources management or governmental circle. The outcomes of such excavations become the subjects of court battles, public debates, and international relations. Archaeologists and legislators must work together to control the standards that commercial salvors operate under and to regulate the sale and trade of historical artifacts. It is the small operations—the father and son who buy a boat and some diving

equipment—who slip through the nets, so to speak, and cause damage by chipping away at UCH sites little by little every year. If the archaeological community wishes to curtail the treasure hunting problem, they need to address it as they have the amateur diving problem. It is the proposition of this paper that the U.S. should join the UNESCO Convention on the Protection of Underwater Cultural Heritage and enact legislation that prevents the sale of cultural artifacts in order to take the problem of commercial salvage in hand and that each state develop a training program for potential individual treasure hunters to discourage looting practices and encourage archaeological preservation.

UNESCO Convention on the Protection of Underwater Cultural Heritage

If science and the underlying historic preservation principles are integrated into the decision making process of how UCH is curated, then it may be viewed more as a merger of science and law than a compromise of the professional ethics of archaeologists.

The first big step for encouraging collaborative work would be for more countries to sign on with UNESCO's Underwater Cultural Heritage Convention. The convention was called in 2001 in response to the growing anger in the archaeological community over underwater cultural heritage sites being looted. UNESCO hopes that it will “encourage countries to join the ranks of its States Parties...and serve to raise public awareness of the existence of fragile underwater heritage and of the urgent need to ensure its protection” (UNESCO Convention on UCH 2001).

The conventions by-laws state in Article 19.1 of the 2001 Convention:

States Parties shall cooperate and assist each other in the protection and management of underwater cultural heritage under this Convention, including, where practicable, collaborating in the investigation,

excavation, documentation, conservation, study and presentation of such heritage.

“States parties” refers to different countries who may have an interest in a UCH site. In the case of the ship the Black Swan, Odyssey Marine Explorations was a U.S. company, searching in what may have been Spanish or international waters, excavating what may have been British or Spanish property. Though a contract had been signed with Great Britain and a caveat agreement made with Spain, neither country’s interests were taken into account as soon as the treasure was flown to the United States and the U.S. claimed sovereignty over it. The U.S. is known as playing a strong-arm on the international field, and in matters of territorial waters the U.S. Navy claims jurisdiction in almost all matters (Hohlfelder 2014). The entanglement in U.S. courts that ensued with Spain was largely due to the U.S. not communicating with Spain and not holding Odyssey to the laws that applied in the waters where the Black Swan was purported to be found. When the country of Spain sued Odyssey Marine Explorations for fraud, Odyssey claimed the one exception that the United States’ sovereign immunity rule allows: claiming a lost warship. The Law of the Sea and the blurred lines present in international waters may have led Odyssey Marine Explorations to be able to make such a legal claim, but the ethics of Odyssey’s entire M.O. for the duration of the altercation were way out of line with the ethical oaths professional archaeologists adhere to. Not only was the integrity of the site and preservation of the artifacts not given priority, but the respect with which each party should have treated the others according to Article 19.1 was decidedly non-existent.

The importance of Article 19.1 cannot be discounted for places like the Mediterranean where so much maritime history has been lost to the depths. As determined in the 1982 United Nations Convention on the Law of the Sea, a country’s territorial waters extend 12 nautical miles

from the coast, but the exclusive economic zone (EEZ) can extend up to 200 nautical miles from the coast of that country (UN Law of the Sea 2013). The average width of the Mediterranean is only about 400 miles (Hogan 2013). With countries on three sides, the EEZ's of those countries overlap, and this leads to many problems and confusion over jurisdiction and nation's rights. If more countries would agree to UNESCO's Underwater Cultural Heritage Convention, some of these tangles webs would get sorted out.

The Annex section of the UNESCO Convention on the Protection of Underwater Cultural Heritage, already accepted as best practice by the vast majority of marine archaeologists, lays out in thirty-six rules exactly how an underwater archaeology project is to be done. Several of these rules directly address the problems pointed out in the above case studies.

Regarding *Nuestra de la Atocha*: Mel Fisher undertook that project for the sole reason of adventure and treasure. After the excavation he sold, and is still selling, gold and silver coins, ceramics, jewels, and metalwork from the *Atocha* (melfisher.com 2015). Annex Rules one and two would protect excavation in the first place of stable UCH sites and protect the provenience and integrity of any artifacts found so they could not be sold through websites like Fisher's.

Rule 1. The protection of underwater cultural heritage through in situ preservation shall be considered as the first option. (UNESCO 2001)

Rule 2. The commercial exploitation of underwater cultural heritage for trade or speculation or its irretrievable dispersal is fundamentally incompatible with the protection and proper management of underwater cultural heritage. Underwater cultural heritage shall not be traded, sold, bought or bartered as commercial goods. (UNESCO 2001)

Regarding *Nuestra de la Merced*: Though the excavation done by Seahawk Deep Ocean Exploration was overseen by an archaeologist with a masters in nautical archaeology (Colapinto 2008), David Moore, he did not have direction of the work as he should have and subsequently

preservation of the vessel and its artifacts was botched. Annex Rule nine would ensure that, prior to even getting in the water, an ethical archaeological site excavation plan would be approved by more than one person who is an expert on the site. This would prevent any unnecessary movement and work on artifacts and vessels that could lead to destruction. Rule twenty-two would ensure the those in the position similar to David Moore would have complete jurisdiction as to the archaeological process and ensuring that it is performed properly and carefully.

Rule 9. Prior to any activity directed at underwater cultural heritage, a project design for the activity shall be developed and submitted to the competent authorities for authorization and appropriate peer review. (UNESCO 2001)

Rule 22. Activities directed at underwater cultural heritage shall only be undertaken under the direction and control of, and in the regular presence of, a qualified underwater archaeologist with scientific competence appropriate to the project. (UNESCO 2001)

Regarding the *Black Swan/Nuestra Senora de las Mercedes*: Much of the trouble from and public attention to the *Black Swan/ Mercedes* was due to how Odyssey Marine Explorations treated the interests of the nations involved. When working in international waters or even territorial waters there is pre-existing jurisdiction that must be acknowledged and respected. Annex Rule eight would command international cooperation and respect of all parties interests.

Rule 8. International cooperation in the conduct of activities directed at underwater cultural heritage shall be encouraged in order to further the effective exchange or use of archaeologists and other relevant professionals. (UNESCO 2001)

Regarding the HMS *Sussex* and the SS *Republic*: Private company excavations are a problem because of the nature of their privacy. They are excavating UCH that is the common history of a much larger group of people. So much knowledge can be gleaned from UCH sites

that until recently have been out of our reach. Annex Rules thirty and thirty-six would make reporting and publishing on finds a mandatory part of excavation, so that professional knowledge can grow and public education can be fostered.

Rule 30. Interim and final reports shall be made available according to the timetable set out in the project design, and deposited in relevant public records. (UNESCO 2001)

Rule 36. A final synthesis of a project shall be made public as soon as possible, having regard to the complexity of the project and the confidential or sensitive nature of the information. (UNESCO 2001)

Training in Archaeology for Underwater Cultural History (TAUCH) Program

The U.S. joining the UNESCO Convention on the Protection of Underwater Cultural Heritage is the best case scenario, but until such legal action can be taken, an education and training program should be installed in each state that issues permits for underwater surveying that potential treasure hunters must go through in order to obtain such a permit.

There is a common analogy in the marine archaeology world that treasure hunters are to archaeology as poachers are to wildlife conservation. Treasure hunters promise the equipment, expertise, and financial ability to “track down” submerged cultural resources that they claim only they have the ability to find. This relationship has been described as similar to a poacher claiming all the knowledge and ability to seek out an endangered species for others to study; when asked how they fund such amazing endeavors, they reply that they kill and skin the animals selling their furs to make money. Now this analogy is rather grotesque and hardly equitable—cultural resources do not have the ability to reproduce so making themselves less scarce and safer if left alone and a pot is hardly comparable to the life of an animal—however it

adequately conveys the feelings of betrayal and lawlessness underwater archaeologists feel when discussing treasure hunting. Still no amount of our disgust, condemnation, and inaction will change this relationship or the collecting environment of marine archaeology.

Wildlife conservationists don't throw up their hands in despair and refuse contact with wildlife poachers. Instead conservationists work on education, public outreach, and retraining. Amara, an organization in Kenya, Africa exists solely to educate native populations about the real and harmful effects of poaching and they have seen great transformations through their outreach. Amara employs reformed poachers who work for them spreading the word against poaching, teaching in other villages, policing wildlife preserves, and gathering wire snares and repurposing them, If Amara can change the behavior of individuals who are breaking the law for the best reason, to feed their families, perhaps UCH managers can change the behavior of treasure hunters who are just supplementing their income. I do not claim that poaching in Africa and treasure hunting in the U.S. are equal, but they do stem from the same problems: lack of concern or care for others and inability of the community to protect valuable resources. I believe if a topic so difficult as poaching and people so dangerous as poachers can be approached, talked to and educated, then treasure hunting and salvage companies can also be engaged in a dialogue that puts the future of UCH in the priority seat.

This paper now proposes that a certification training program be developed by the outstanding underwater archaeology organizations throughout the country that would be a requirement for all treasure hunting/salvage operations before they could obtain a license to operate. The name of the program given here is "Training in Archeology for Underwater Cultural History" or TAUCH (pronounced "touch"). Many states have basic training courses for divers in amateur archaeology (South Carolina, Georgia, Rhode Island, Florida), but this

proposal would take it a step further. Modeled off of the Sport Diver Archaeology Management Program (SDAMP) in South Carolina, the certification would require a series of theory-based classes and excavation method classes culminating in a final project incorporating public outreach. I propose a four course program: Course 1 would be a weekend long theory-based class teaching participants the ethics of underwater archaeology, Course 2 would be a week-long training in underwater archaeological methods, Course 3 would require participants to choose two classes from among many that are more specific to different focuses of underwater archaeology. In the fourth and final course, participants would lead or be contributors in an underwater archaeology excavation overseen by a professional institution or the state, at the end of which students would write up and present on a specific part of the project including what they learned and how they can apply it once they graduate from the course.

To create this Salvage Operations Training the curriculum of five different institutions were studied: what they taught and how they taught it. These institutions ranged from large university graduate programs to local, state cultural resource management organizations and underwater cultural heritage societies. The five main organizations were University of Texas A&M's Underwater Archaeology Program, East Carolina University's Maritime Studies M.A, Flanders University's Marine Archaeology degree, South Carolina Institute of Archaeology and Anthropology's SDAMP, and Florida Public Archaeology Network's SSEAS and HADS programs.

“The answer lies in greater efforts toward public education rather than in enforcement alone,” (Harris 2002). The laws are not in place now to keep treasure hunters from plundering shipwrecks and even if they were the man power and policing efforts enforcement of those laws would require would be immense. TAUCH would allow each state to operate and fund it per

their needs and interest. The TAUCH program is a compromise with calculated loss. Because enforcement on this issue is so difficult, a full ban of all treasure hunting activities is still somewhere in the future. Right now a program like this one could do a lot of good in the meantime, but it will not solve everything; there will be compromises. “Balancing the loss of state artifact ownership with gains in management information and a long-term investment in public education about preservation principles” is a price each state will have to decide if they want to pay. Meanwhile many states are already losing artifacts and maritime history to treasure hunting without management or the chance to educate those treasure hunters.

It is important that the archaeological community give potential treasure hunters a chance to do the right thing before condemning them. Della Scott-Ireton, mentioned earlier in this paper, has not had positive experiences with treasure hunters but is not giving up. “I’m not saying [an education program] *couldn’t* help or would be completely wasted on [treasure hunters] but it is better to get people before they start down that path, which is why [FPAN] does public outreach,” (Scott-Ireton 2015). Still, there is hope for reform. Kim Faulk, the marine archaeologist for Geoscience Earth & Marine Services, once worked with a couple of treasure hunters who had found *Queen Anne’s Revenge*. East Carolina University started to work with them, educating and convincing them to conserve the *Revenge* for research. Faulk saw a transformation in the men from treasure hunters to scientists as they worked together on the project; they became passionate about the history and involved in the conservation process. This is not to be expected of every encounter with treasure hunters, of course, but it shows that compromise and perhaps reform is possible. The following courses would comprise the TAUCH program with this goal in mind.

Course 1: Theory and Principles of Underwater Archaeology.

When talking to professional marine archaeologists, the biggest problem they have with treasure hunters and salvage companies is their lack of understanding or concern for the archaeological process and conservation of underwater cultural heritage. No matter how up to date the technology or how “archeological” the methods, a job cannot be done if the mission and vision is based on a profit margin with no value seen in conservation. The first course focuses on conveying conservation and preservation as important and valuable components of an excavation.

Course 1 – Section 1: History and Theory of Marine Archaeology. This course will focus on the history of the study of marine archaeology, how archaeology moved underwater, the key players in that move and how it all has come to influence the way marine archaeology is practiced today. Key points of instruction will be on the UNESCO Convention on the Protection of the Underwater Cultural Heritage 2001 and the ANNEX Rules of Best Practice that go along with the Convention. Though not officially signed, these rules, and the logic and ethics behind them set out in the UNESCO Convention, are endorsed by many marine archaeological societies in the U.S. such as ACCUA, FPAN, USGS and RA. These are important international standards used and respected by the archaeological community that the U.S. helped write (The original chief of the Submerged Resource Center of the National Park Service, was the U.S. ambassador to the UNESCO 2001 Convention.) Many of the USGS cultural historical protocol was written in to that document (Conlin, March 9)). The history of marine archaeology is a most appropriate place to start because the way in which the past influences the present and the way in which we view that past is important for how we operate in the present. Course participants will study the

history and theory of marine archaeology by reading and evaluating books, journals, refereed work and published excavation reports of the earliest marine archaeology. It is the goal of this course to also contextualize marine archaeology within archaeology in general, anthropology, and the importance and practice of historical study. This section could go so far as to examine and critique early marine archaeological practice, what was wrong with it, and how and why these practices were corrected in the future.

Course 1 – Section 2: Legal and Professional Issues in Maritime Studies. The second section would be taught in two parts; the first would focus on UCH legislation and interpretation, and the second part on management of cultural resources within the public and private sector today. The underwater medium, especially oceanic, is rife with laws and sanctions, “can’s” and “cannot’s” that vary depending on who you are, where you are, and what you are doing. This section would strive to explain the “public laws and policies concerning local, state, national, and international regulations, (RIMAP 2015) and the management theory behind them. Course participants would examine practical case studies and the legality surrounding them; what channels had to be used and why and the appropriate treatment of all parties involved.

The UCH management part would include the study of the components of “underwater cultural heritage surveys, management reports and interpretative plans, from conception to submission,” (Flinders University, 2015). It’s important for potential treasure hunters taking these courses to understand that when professional archaeologists excavate, the end result is not just a fifty page report and archived artifacts; cultural history belongs to all people and it is the responsibility of the discoverers to make the public’s history available to them.

The Rhode Island Marine Archaeology Program holds a class titled “Sharing Shipwrecks.” This class discusses Rhode Islands’ “underwater preserves and other ways to enjoy submerged cultural heritage; why that heritage preservation is important and how it relates to the public.” The tenets of this course would be important and valuable components of TAUCH, showing the vested interest in UCH by the public, not just archaeologists and treasure salvors.

Course 1 – Section 3: Conservation and Preservation. Section three would cover the practice and theory of conservation of material from an underwater environment as well as the role of the museum in the conservation/preservation process. It would be important in this course to distinguish between conservation and preservation as they do not end with the same results, contain different processes and there are bitter arguments over them in the archaeological world. Conservation would be taught as a “little-contact-as-possible” approach, where excavations are done but while keeping intact as much as possible and leaving what artifacts and structures we can for future research. Preservation, however, is a “hands-off-as-much-as-possible” approach that asks the question, “Should this site even be touched in the first place?” Treasure hunters and salvage companies play very different roles in these two approaches. In conservation treasure hunters could have a restricted, highly supervised role, but in preservation they have no role at all. In this section in-situ research would be discussed, with the end goal of making treasure hunters and salvage companies recognize sites that are fragile and would be good cases for in-situ research/preservation instead of excavation. Museum collection practices and the role of the museum in bridging the gap between excavation and the public would also be a covered topic of this section. Museums are a vital and integral role in the representation of human cultural history

and their involvement with marine archaeology is what will raise public interest and fund future research.

Course 2: Underwater Archaeological Methods

Course one was an exercise in theory and scientific mindset that would prepare participants for practical application in course two. The second course is meant to provide those attempting excavation with the proper methodology and technique for doing so in the least disturbing, most scientific way possible. Treasure hunters and salvage companies may know a lot about handling watercraft, diving, and construction-style excavation but it is doubtful that many of them know anything about the more delicate tasks of marine archaeology. If these skills are taught then the least that can be claimed when a UCH site is lost to treasure hunting is that it was not through ignorance but unethical and shoddy work; the hope is, that the most that can be claimed is a scientific and ethical recording of UCH by those parties who we thought least capable.

Course 2 – Section 1: Introduction to Professional Archaeology. This first section of course two aims to provide participants with the archaeological recording tools of least disturbance. Participants will learn the use of surveying, site stabilization, excavation and dredge operation, using a grid system, and how to fill out state UCH record forms. (For example in Florida, divers fill out the Florida Master Site File (FPAN 2015) and in South Carolina divers fill out the South Carolina Institute of Archaeology and Anthropology Report (Harris 2002)). This is a very hands-on course with work done in a classroom and pool. Classwork includes pre-disturbance surveying technique, scientific measuring and recording, using a grid and site stabilization. These skills are then all put to practice in the pool with a replica UCH site complete

with shipwreck and scattered artifacts. By the end of this session, participants will be able to properly interact with a UCH site from start to finish. They will: pre-survey and map the site, develop an action plan *before* anything is touched in order to cause the least amount of damage, create an accurate three dimensional map of the site and all the artifacts, and learn how to close a site excavation without causing further erosion or future disturbance.

Course 2 – Section 2: Records and Artifacts. The most disturbing aspect of treasure hunting is the treatment of artifacts found during an excavation. Pieces that appear to have no monetary value are trashed; those that do, such as coins and jewels, are split up to various investors and markets. One of the growing tenets in archaeology in general is that a collection is never split up. It erodes the historical value and makes it harder to study, however some of this collecting and distributing is legal (Abandoned Shipwreck Act 1988). Therefore, it is important for the archaeological community to do what it can to encourage artifact recording and preservation. The aim of this section is for participants to become familiar with describing, cataloguing, analyzing, and dating various types of historic artifacts. This section can be tailored by region, and taught more specifically according to what artifacts are most likely to be found in the area treasure hunters are trying to acquire a permit in. The focus will be primarily on maritime artifacts including watercraft and the kind of information needed from a maritime site. Participants will practice artifact identification, artifact labeling and cataloguing, recording watercraft, and how to take lines from watercraft.

Course 3: Special Workshops

The third course is comprised of several special classes that are not *all* mandatory, but participants must choose one of them to complete the requirement. The idea with course three is to provide more expert knowledge in certain areas of marine archaeology, hopefully piquing a more personal interest in the treasure hunter and opening a pathway of concern for UCH. The sections range in topic from more advanced versions of previously covered topics to extra historical information for budding history buffs. These classes have been put third in the series instead of first, 1.) Because some sections of course three are advanced versions of sections taught before and participants would need the basic introduction first and, 2.) Hopefully courses one and two would have opened the eyes of participants and ignited a mindset of historical conservation.

Course 3 – Section 1: Advanced Artifact Management. Artifact conservation is an extremely important and contentious aspect of current treasure hunting operations as discussed above and as such, offering an extra course on artifact management is recommended. Participants in this section will continue with historical artifact interpretation, artifact conservation and preservation as well as the added component of studying ship construction: What marine archaeologists need to know about how boats are built to interpret historic shipwreck sites (RIMAP 2015). If potential treasure hunters understand how the construction of a ship is so important to archaeologists for cultural history, the hope is that they will take more care and consideration, instead of partaking in a smash-and-grab operation. By the end of this section participants will be able to structure a report on an artifact that is laboratory-worthy, classify a range of archaeological material, and understand the importance of artifact analysis and how it contributes to the understanding of past human activity (Flinders University 2015).

Course 3 – Section 2: Archaeological Photography. While this course may seem extraneous, underwater photography can be another important tool in the fight for artifact preservation. While the ideal would be scientific recording of artifacts in-situ or under professional archaeological excavation, it is known that this does not happen every time. Photography can be a very useful tool in recording archaeological information. While not all treasure hunters will take the time to measure, inspect, and fill out forms for every artifact, they probably will be taking pictures for their own work. If a person can be trained on how to properly photograph for archaeology, those snapshots can easily be included in the final report on the project.

Course 3 – Section 3: Deep-Submergence Archaeology. George Bass demonstrated that even in deep water (over fifty meters) archaeology can be done properly (Søreide 2011). The founder of the Institute for Nautical Archaeology, pioneered technical archaeological standards applied underwater in the 1960's (Babits and Tilburg 1998). Kim Faulk, the marine archaeologist for Geoscience Earth & Marine Services, practices professional archaeology using state-of-the-art technology every day. Many treasure hunters work in deep water because it is far from shore and thus not subject to any country's maritime laws. It is the hope that this course would clear up the misconceptions that the haphazard use of side-scan sonar and destructive drilling are the only way to find and excavate UCH in deep water. This section would feature experts in the field who will share their experiences and work on better ways of doing archaeology below fifty meters.

Course 3 – Section 4: Maritime History. This section of course three focuses less on archaeology and more on history and culture. Most treasure hunters become treasure hunters, not

because they have a boat and time to kill, but because of an original interest in maritime culture (though many would not phrase it that way). Section four would give a general overview of the maritime history and people from three main areas of the world: the Atlantic, the South Pacific, and the Gulf of Mexico. This section could be tailored to where the class is taking place and where the participants involved will be surveying. It is harder to discard and discount monetarily “worthless” artifacts when one knows something about the people who used them and can imagine their lives. The areas proposed are decidedly North American centric; the author made a conscious decision to exclude such important maritime areas like the Mediterranean because of the wish to make the course as relevant and impactful as possible.

Course 3 Note: This is not an exhaustive list of possible topics for Course Three by any means; merely some examples and a starting point from which more classes or different topics could be added, tailored by region, community interest, and resources.

Course 4: Final Project

The fourth and final course of this program is a project/presentation. Participants from a single salvage company or treasure hunting team work on an underwater archaeology project together and then present it in a public-history-friendly way. Grouping people together instead of individually assigning them excavations reduces the amount of resources needed by the course sponsors. This also allows the group/company participating in the course to find what each of their archaeological strengths are and how they will work together on one of their own projects while still meeting learned archaeological standards. Groups will be given a UCH site (real or set-up) to excavate using the techniques and values they learned in courses one through three. As an added component, participants will be asked to reflect on how a treasure hunter would have

handled the excavation before training and how that method has/should be changed to match the archaeological standards learned.

Implementation

The reality of TAUCH is that it is never going to work unless there is an outside entity enforcing it and an incentive for salvage operators to act in preservation or conservation of UCH. The archaeological community can't expect a private company to act altruistically when dealing with artifacts that the world has forgotten about, society hasn't put great effort into finding, and technically belong to no one (or a large ambiguous entity like federal and state governments). Ole Varmer, a big proponent of in-situ management of UCH over the salvage of it by private companies concedes, "one solution [to the problem of salvage operations] would be to establish a system whereby the discoverers are paid fees for access to the site..." This plan would give treasure hunters the recognition for discovery and be in proportion to the amount of resources poured into discovering the site. (The problem is that this is a defensive strategy not a proactive move and not many local or national governments have the money to work that strategy; just to ask a company to give up salvage rights to a site that may be in international waters and come under their right to free navigation.) The fact is that rewarding of salvors to protect UCH sites would only work with individual discoverers and small operations. The amount of money needed to compensate a large salvage company for the potential profit of performing excavation would be huge; again another economic problem. But it is a start and it may save more UCH sites if not a larger volume of artifacts. License registration fees would pay for it.

Other Considerations

The big question is, at what point should it be said, “Enough! There will be no more compromises, no more cuts in the pillar of ethics; there can be no compromises on what is right”? A frequent traitor in my thoughts was that no cuts, no compromises, no backtracking was tolerated in the women’s suffrage movement or American civil rights fight. If it had, the legitimacy of their fight would have been questioned, justice would not have prevailed. How would society be now if women were only allowed half a vote or if black Americans had accepted it when told, “Be patient, things will change eventually.” Is the fight for the preservation of underwater cultural heritage so different? We are not dealing with the equality of human life in this question, but rather the access and possession of knowledge. However, I don’t believe in the defeatist attitude either; as one marine archaeologist put it, “in the end...divers are going to access sites anyway,” we have to have some moral ground to stand on, some rules to live and guide by! But I also agree when this same archaeologist went on to say, “the provision of education and information is crucial...” (Green 2004 pg. 382). Critics of this edict would say that the success of all this grand, florid talk hinges on the assumption of, and trust in, the fair mindedness of good hearted people; it assumes that ignorance is the only thing preventing treasure hunters and amateur divers from picking over sites and causing destruction (intended or not). Given the Murphy’s-law-nature of the world and the natural inconsistencies of human beings, I am aware this is not a fix-it-all plan but I believe whenever coming to the table with any group over any topic the benefit of the doubt must be given. “Humility is the most important thing to bring to collaboration,” says Kim Faulk, a marine archaeologist at Geoscience Earth & Marine Services and the president of the Advisory Council on Underwater Archaeology. “Know

what you know but also know what you don't know. It will buy you miles of room." When you give the other party the benefit of the doubt, it opens doors for a more respectful relationship, for them to ask you questions and agree that neither party holds all the answers.

When I first came to this project a year ago, I felt that professional archaeologists were on a high horse and had been sticking their noses in the air and ignoring a potentially very valuable resource in treasure salvors. A quote by Peter Throckmorton sums up my previous point of view: "Extremist archaeologists say that compromise between business and science [salvors and academics] is impossible and seem to want to hide in their ivory towers while the salvors smash what they like." While this is a somewhat harsh judgment, it does point to the source of my initial aversion to the current UCH policies held by such organizations as the Society for American Archaeology (SAA) and the American Anthropological Association (AAA). My next suggestion for solving this problem was that of museum economics. But, if a collection is largely viewed monetarily, what protects it if and when its monetary value is lost due to proliferation, new research, etc.? Jeremy Green discusses this problem in his book *Maritime Archaeology: A Technical Handbook*. Green examines the fickleness of marine treasure hunting companies and their investors, who he claims get fooled into backing a risky venture. "...The investor who has a coin worth £100,000, because there are only four in world, is faced with the danger of a hitherto unknown wreck site which is found to have 10,000 of these coins" (2004, pg. 7). The coins are no less archaeologically or historically important, but an investor-funded project would lose interest in such a numismatic endeavor. The fact that the threat of such a possibility would discourage further excavations or encourage fraud in order to hold the monetary value of an investment and degrade the historic-cultural knowledge base.

Conclusion

There is a quote that came up during research that near perfectly describes this paper's approach to this controversial and complex issue. The quote is by Adrian Praetzelis, a professor of anthropology at Sonoma State University, in a paper on cultural resource management (CRM) archaeology. In the article Praetzelis is taking on the controversial subject of industry's place in archaeology, balancing advances in field methodology and public engagement with questionable ethics and "production line" research. He quotes from "Ethics of the Father's" in *The Complete Artscroll Suddur*.... "You don't have to finish the task yourself, but you must not refrain from working on it altogether." (pg. 330) This wise saying is reminiscent of the more popular, "Don't let the fear of striking out keep you from playing the game." This paper certainly has not finished the task of solving the problem with treasure hunting and salvage operations in underwater archaeology, but it also has not shied away from approaching the topic and working through possible solutions. It is the goal of this paper to add ideas expressed here to existing knowledge and not act as an absolute authority. The issue of private interests, salvage companies, museum collection policy, international maritime law, etc. is too complicated and diverse to be properly explored in one paper alone, but these issues are addressed here to provide a basic understanding of the background for this paper and allow informed judgment on the proposed solutions to treasure hunting in marine archaeology.

There were several questions posed throughout this paper including: Is it right to excavate UCH sites at all when they are not in any danger? From the perspective of those whose lives are uncovered through archaeology, does one group have more right to that uncovering than

another? When speaking of preservation and marketing of artifacts which value, symbolic or exchange matters more? And finally, through all the discussion here of treasure hunters and archaeologists working together, is there an inexcusable compromise of morals here?

All of these questions come down to finite details and distinctions. It is the conclusion of this study that it is not so very important *who* is doing the research but rather *how* that research is being done and *where* the information and artifacts come to rest in the end. Salvage companies could have just as much right to excavate an underwater site as a professional archaeologist *if* that salvage company had professional training, followed UCH conservation practices, and incorporated public outreach and education into the final product. Admittedly this is not the current state of affairs when it comes to treasure hunting underwater. In order to produce such conduct, constructive legislation and dynamic interaction will be required between professional archaeologists and the treasure hunting community.

This research paper was begun with the intention of finding a way to prove that artifact preservation policies held fallacies and archeological method ethics statements were dated and not contextual. These weaknesses were sought out to be exposed and exploited. This would lead to the conclusion that there were flaws in the system proving current modes of underwater archaeology were outdated, that museums didn't need all the artifacts they collected, that pragmatically it made more sense to sell multiples of artifacts to fund further research. This conclusion was not reached, however. Perhaps with time and resources, a more thorough investigation into this matter *would* be able to prove the value of a dispersed collection and private investment in underwater archaeology. The dominant ideology, the integrity of the nature of archaeology itself, prevented such a conclusion. Over and over again sources (books, interviews, journals) told the same story: an artifact collection must not be

broken up, a piece is never valued monetarily, and no one person owns the past. This means making decisions with the public majority in mind. The UNESCO Convention on the Protection of Underwater Cultural Heritage was designed to accomplish four broad goals: preserve underwater cultural heritage, consider *in situ* preservation as first option, allow no commercial exploitation, and promote training and information sharing (UNESCO 2014). The United Nations efforts on the Law of the Sea started with “the hope for a more stable order, promoting greater use and better management of ocean resources and generating harmony and goodwill among States that would no longer have to eye each other suspiciously over conflicting claims” (United Nations 1998). This UNESCO CPUCH is an idealist view of how to solve the issue of treasure hunting; UNESCO has neither the jurisdiction nor the manpower to enforce such a code. A more realistic approach is the Archaeology for Underwater Cultural History (TAUCH) Program which will coach and educate potential treasure hunters on correct archaeological methods and promote an open dialogue for change between the marine salvage world and the underwater archaeology profession.

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References Cited

AAA

2012 Principles of Professional Responsibility 2012 Statement on Ethics, *American Anthropological Association Ethics Blog*. Electronic document, <http://ethics.aaanet.org/ethics-statement-0-preamble/>, accessed November 1, 2014.

Abandoned Shipwreck Act of 1987

1987 Electronic document, http://www.nps.gov/history/local-law/FHPL_AbndShipwreck.pdf, accessed January 20, 2015.

ACUA

2015 UCH Laws, Issues & Ethics, *Advisory Council on Underwater Archaeology*. Electronic document, <http://www.acuaonline.org/uch-laws-issues-ethics/>, accessed January 28, 2015.

Agence France-Presse.

2014. *Spain Displays Old Sunken Treasure Won in Court Battle From US*. NDTV. <http://www.ndtv.com/world-news/spain-displays-old-sunken-treasure-won-in-court-battle-from-us-564604>, accessed November 13, 2014.

Allen, Frederick E.

2014 That Sinking Feeling. *Forbes*. Electronic Document, <http://www.forbes.com/sites/frederickallen/2014/07/02/the-sinking-feeling/>, accessed March 23, 2014.

Amazon

2015 Amazon.com: Oceans Odyssey: Books. Electronic document, http://www.amazon.com/s/ref=nb_sb_noss?url=search-alias%3Dstripbooks&field-keywords=Oceans%20Odyssey, accessed December 3, 2014.

ARM Training

2015 Division of Historical Resources - Florida Department of State. Electronic document <http://dos.myflorida.com/historical/archaeology/education/arm-training-courses/>, accessed January 28, 2015.

Arnold III, J. Barto, and Mark A. Feulner

2005 Maritime Archaeology. In *Handbook of Archaeological Methods Volume I*, edited by Herbert D.G. Maschner and Christopher Chippindale, pp. 270-305. Lanham: AltaMira Press.

Bass, George

1985 Archaeologists, Sport Divers, and Treasure Hunters. *Journal of Field Archaeology Perspectives*, 12 (2):256-260.

Bautista, Lowell B.

2005 Gaps, Issues, and Prospects: International Law And The Protection of Underwater Cultural Heritage. *Dalhousie Journal of Legal Studies*. Underwater Heritage: 57-89.

British Museum

2013. *Acquisitions of Objects for the Collection*. The British Museum. Electronic document, <http://www.britishmuseum.org/pdf/Acquisitions%20policy%20July%202013%20FINAL.pdf>, Accessed February 5, 2015.

Broad, William J.

2014 X Still Marks the Spot, and Gold Awaits. *The New York Times*. 4 May

Bryant, Christopher R.

2002 The Archaeological Duty of Care: The Legal, Professional, and Cultural Struggle over Salvaging Historic Shipwrecks. *Albany Law Review* no. 65. 97 (2001-2002): 97-125.

Bowens, Amanda

2011 Underwater Archaeology: the NAS Guide to Principles and Practice. 2nd ed. Hoboken: John Wiley & Sons.

Bowman, Brooke.

2012 Shipwreck hunters stumble across mysterious find, *CNN*. Electronic document, <http://edition.cnn.com/2012/01/28/world/europe/swedish-shipwreck-hunters/index.html>, accessed May 7, 2014

Burns, Christine Nicole

2012 Finders Weepers, Losers Keepers: The Eleventh Circuit Denies Salvage Company's Claims to a Sunken Military Vessel Found in International Waters in Odyssey Marine Exploration, Inc. v Unidentified Shipwrecked Vessel, *Tulane Maritime Law Journal*. (36):803-815.

Caple, Chris

2000 Museums. Conservation skills: judgement, method, and decision making. London: Routledge. pg. 247. Print.

Carducci, Guido

2002 New Developments In The Law Of The Sea: The UNESCO Convention On The Protection Of Underwater Cultural Heritage. *The American Journal of International Law*. 96(419):419-434.

Cassell, Joan, and Sue-Ellen Jacob

2006 Handbook on Ethical Issues in Anthropology - Introduction. *AAA Ethics Committee*. Electronic document, <http://www.aaanet.org/committees/ethics/intro.htm>, accessed June 4, 2014.

Catsambis, Alexis, Ben Ford, and Donny Leon Hamilton

2011 *The Oxford handbook of maritime archaeology*. Oxford: Oxford University Press.

Colapinto, John

2008 A Reporter at Large: Secrets of the Deep, *The New Yorker*. (New York, NY), April 7

Cottrell, Anne M

1993 The Law of the Sea and International Marine Archaeology: Abandoning Admiralty Law to Protect Historic Shipwrecks, *Fordham International Law Journal* 17(3): 667-725.

Council for British Archaeology (CBA)

2002 Council For British Archaeology Slams Government Treasure Hunt, *CBA Press Release October 8*. Electronic document, <http://old.britarch.ac.uk/conserv/sussexpr.html>, accessed February 15, 2015.

DMNS

2008 The Manual of Collection Policies for the Denver Museum of Nature & Science. Electronic document, <https://www.dmns.org/media/6901/DMNS-Manual-of-Collection-Policies.pdf>, accessed December 22, 2014.

DMNS

2008 Denver Museum of Nature & Science. Electronic document, <https://www.dmns.org/media/6902/DMNS-Ethics-Policy-Statement.pdf>, accessed December 22, 2014.

Dobson, Neil Cunningham, Hawk Tolson, Anthony Martin, Brian Lavery, Richard Bates, Fernando Tempora, and Jacqui Pearce.

2009 The HMS Sussex Shipwreck Project (SiteE-82): Preliminary Report. *Odyssey Papers 1*. Odyssey Marine Exploration Inc.

Doran, Kevin

2011 Adrift On The High Seas: The Application Of Maritime Salvage Law To Historic Shipwrecks In International Waters. *Southwestern Journal of International Law*. 18:647- 666.

Dredging Today

2014 Update Released on Oceanica Resources EIA, *Dredging Today July 30*. Electronic document, <http://www.dredgingtoday.com/2014/07/30/update-released-on-oceanica-resources-eia/>, accessed August 1, 2014.

Elliot, Sir G.

1998 *Museums & Galleries in Does the past have a future?: the political economy of heritage*. London: *Institute of Economic Affairs*.

Faulk Kimberly L

2010 Deepwater Archaeology in Oil and Gas, *The Underwater Blogger*. Electronic document, <https://muablog.wordpress.com/2010/12/14/deepwater-archaeology-in-oil-and-gas-by-kimberly-l-faulk-nee-eslinger/>, accessed January 7, 2015.

Faulk, Kim and Daniel Warren

2012 Technology, Outreach, and Marine Archaeology in the Deep Sea, *SHA Blog*. Electronic document, <http://www.sha.org/blog/index.php/author/dan-warren/>, accessed February 22, 2015.

Fisher, Mel

2015 Mel Fisher's Treasures - Authentic Shipwreck Treasure, Atocha Coins. Electronic document, <http://store.melfisher.com/>, accessed March 1, 2015.

Fix, Peter.

2012 The Reconstruction and Conservation of Belle, *SHA Blog*. Electronic document, <http://www.sha.org/blog/?p=2228>, accessed February 22, 2015.

Flinders University.

2015. "Master of Maritime Archaeology, *Courses and Programs*. Electronic document, <http://www.flinders.edu.au/>, accessed February 24, 2015.

FPAN.

2015 Heritage Awareness Diving Seminar, *Florida Public Archaeology Network*. Electronic document, <http://www.flpublicarchaeology.org/workshops/HADS.php>, accessed March 7, 2015.

FPAN.

2015 Submerged Sites Education and Archaeological Stewardship, *Florida Public Archaeology Network*. Electronic document, <http://www.flpublicarchaeology.org/workshops/SSEAS.php>, accessed March 7, 2015.

Gray, Kathy Lynn.

2014 Recovery of Shipwreck Gold 'beyond Expectations, *The Columbus Dispatch*. Electronic document, <http://www.norwalkreflector.com/article/4569576>, accessed June 20, 2014.

Gombrich, E.H.

1960. *Art and Illusion: A Study in the Psychology of Pictorial Representation*. Pantheon Books.

Green, Jeremy.

2004 *Maritime Archaeology: A Technical Handbook*, 2nd Edition. Elsevier Academic Press, San Diego.

Guta, Marin.

2014 Odyssey Marine Exploration Finds Gold from Recovery Site, *Tampa Bay Business Journal*. Electronic document, <http://listings.findthecompany.com/w/2XXgoNwwAUB>, accessed December 3, 2014.

Hardy, Jessie Moniz.

2014 Recovering Vast Treasures from beneath the Waves, *The Royal Gazette*, July 2. Electronic document, <http://www.royalgazette.com/article/20140702/NEWS/140709932>, accessed September 6, 2014.

Harris, Lynn

2002 Underwater Heritage and the Diving Community. In *Public Benefits of Archaeology*. Edited by Barbara J. Little, pp. 59-73. University Press of Florida, Gainesville.

Hogan, C.

2013 Mediterranean Sea, *The Encyclopedia of Earth*. Electronic document, <http://www.eoearth.org/view/article/154548>, accessed March 30, 2014.

Hutter, Michael, and I Rizzo

1997 Economic perspectives on cultural heritage. New York: St. Martin's Press.

Kenerly, Whitney

2014 SHIPWRECK!, *Yes Weekly*, July 9. Electronic document, http://yesweekly.com/article-18466-shipwreck_.html, accessed October 16, 2014.

Kersel, Morag M.

2012 The Value of a Looted Object: Stakeholder Perceptions in the Antiquities Trade, In *The Oxford Handbook of Public Archaeology*, edited by Robin Skeates, Carol McDavid, and John Carman, pp.253-272. Oxford University Press: , Oxford.

Knoerl, Kurt

2012 Sharing the Global Shipwreck, *SHA Blog*. Electronic document, <http://www.sha.org/blog/index.php/2012/09/sharing-the-global-shipwreck/>, accessed February 22, 2015.

Kruse, Michael

2014 What Tampa's Odyssey Marine Exploration Is Finding in the Wreckage of the Sunken S.S. Central America, *Tampa Bay Times*, July 29. Electronic document, <http://www.tampabay.com/blogs/state/what-tampas-odyssey-marine-exploration-is-finding-in-the-wreckage-of-the/2190505>, accessed October 23, 2014.

Lorenzi, Rossella

2012 Black Swan Shipwreck Ordeal Comes to an End." *Discovery News*. Electronic document, <http://news.discovery.com/history/archaeology/black-swan-treasure-122402.htm>, accessed February 26, 2014.

MAHS

2014 Underwater Archaeology Class, *Maritime Archaeological and Historical Society*.
Electronic document, <http://mahsnet.org/schedule.php>, accessed February 18, 2015.

Macguire, Eoghan

2012 Why scouring sea for sunken treasures is big business, *CNN*. Electronic document,
<http://edition.cnn.com/2012/03/13/business/sunken-treasure-business/>, accessed April 4, 2014.

Mather, Ian Roderick and Gordan P. Watts Jr.

2002 Ethics and Underwater Archaeology, In *International Handbook of Underwater Archaeology* edited by Carol V. Ruppe and Janet F. Barstad. Pp. 593-607. The Springer Series in Underwater Archaeology.

Mathewson III, R. Duncan

1998 Archaeology on Trial, In *Maritime Archaeology: A Reader of Substantive and Theoretical Contributions*, edited by Lawrence E. Babits and Hans Van Tilburg pp. 97-104. Springer Series in Underwater Archaeology.

McManamon, Francis P., and S Morton

2000 Reducing the Illegal Trafficking in Antiquities, *Cultural resource management in contemporary society perspectives on managing and presenting the past*. London: Routledge, Print.

McQuownt, Terence P.

2000 An Archaeological Argument for the Inapplicability of Admiralty Law in the Disposition of Historic Shipwrecks. *William Mitchell Law Review* 26(2):289-326.

Natley, D.M.

2007 Three Tenures of Underwater Cultural Heritage Interpretation, in *Out of the Blue: Public Interpretation of Maritime Cultural Resources*, edited by John H. Jameson, Jr. and Della A. Scott-Ireton, 33. New York: Springer.

Morgan, Charles, and Hubert Walker.

2014 Odyssey Marine Releases Preliminary List of Numismatic Items Recovered from SS Central America, *CoinWeek*. August 28. Electronic document,
<http://www.coinweek.com/featured-news/odyssey-marine-releases-preliminary-list-numismatic-items-recovered-ss-central-america/>, accessed September 1, 2014.

Morphogenesis Inc.

2014 Odyssey Marine Exploration and Morphogenesis Discover Biotech ‘Treasures’ in the Deep, *PR Newswire September 11*. Electronic document, <http://www.prnewswire.com/news-releases/odyssey-marine-exploration-and-morphogenesis-discover-biotech-treasures-in-the-deep-274818251.html>, accessed September 15, 2014.

National Heart, Lung, and Blood Institute, MD, USA.

2014 Collaboration and team science: from theory to practice, *Journal of Investigative Medicine*. June 60 no. 5 (2012):768-75.

NOAA National Marine Sanctuaries

2013 Maritime Heritage: Maritime Archaeology. Electronic document, <http://sanctuaries.noaa.gov/maritime/arch.html>, accessed March 14, 2015.

NPS

1991 Archeology Program: Abandoned Shipwreck Act Guidelines, *National Park Service*. Electronic document, <http://www.nps.gov/archeology/submerged/intro.htm>, accessed February 21, 2015.

Odyssey Marine Exploration

1998 Deep-Ocean Shipwreck Experts, *Shipwreck.net*. Electronic document, <http://www.shipwreck.net/>, accessed August 18, 2014.

Odyssey Marine Exploration Inc.

2002 Partnering Agreement Memorandum Concerning the Shipwreck of HMS Sussex, *Shipwreck Exploration*. Electronic Document, <http://shipwreck.net/pam/>, accessed March 6, 2015.

Odyssey Marine Exploration Inc.

2015 SS Republic - Archaeological Papers, *Shipwreck Exploration*. Electronic document, <http://www.shipwreck.net/republicpapers.php>, accessed March 6, 2015.

Pappas, Stephanie

2014 Salvagers Tally Up Treasures From Sunken ‘Ship of Gold’, *NBC News*. Electronic document, <http://www.nbcnews.com/science/science-news/salvagers-tally-treasures-sunken-ship-gold-n207481>, accessed September 20, 2015.

Peacock, Alan T.

1998 Public Choice, Cost-Benefit Analysis, in Does the past have a future?: the political economy of heritage. *London: Institute of Economic Affairs*.

Pringle, Heather.

2007 Insider - Profiteers on the High Seas - Archaeology Magazine Archive, *Archaeology Magazine*, August. Electronic document, <http://archive.archaeology.org/0707/etc/insider.html>, accessed January 20, 2015.

RIMAP

2015 Rhode Island Marine Archaeology Project – Home. Electronic document, <http://www.rimap.org/SitePages/Home.aspx>, accessed February 20, 2015.

SAA

1996 Principles of Archaeological Ethics, *Society for American Archaeology*. Electronic document, <http://www.saa.org/AbouttheSociety/PrinciplesofArchaeologicalEthics/tabid/203/Default.aspx>, accessed April 10, 2014.

Satchell, Julie, and P. Palma.

2007 Managing the marine cultural heritage: defining, accessing and managing the resource. York: Council for British Archeology, *Shipwreck Exploration: Odyssey Marine Exploration*. Electronic document, <http://www.shipwreck.net/>, accessed January 24, 2015.

Schank, Roger, and Gary Saul Morson.

1995. *Tell Me a Story: Narrative and Intelligence*. Evanston, Ill: Northwestern University Press.

Shiner, Joel L.

1998. "Underwater Archaeology, European versus American." In *Maritime Archaeology: A Reader of Substantive and Theoretical Contributions*, 57–63. The Plenum Series in Underwater Archaeology. New York: Plenum Press.

Spirek, James D., and Della A. Ireton

2003 Submerged cultural resource management: preserving and interpreting our maritime heritage. New York: Kluwer Academic/Plenum Publishers.

Søreide, Fredrik

2011 Ships from the depths deepwater archaeology, College Station: Texas A & M University Press.

Sowers, Lloyd.

2014 Treasure, with a Side of History, *myFOX Tampa Bay*. Electronic document, <http://www.myfoxtampabay.com/story/26403790/treasure-with-a-side-of-history> accessed October 25, 2014.

StreetInsider.com

2014 Odyssey Marine Exploration (OMEX) Completes, Updates on Current Phase of SS Central America Recovery, *StreetInsider.com*. Electronic document, <http://www.streetinsider.com/Corporate+News/Odyssey+Marine+Exploration+%28OMEX%29+>

[Completes%2C+Updates+on+Current+Phase+of+SS+Central+America+Recovery/9835487.html](http://www.noaa.gov/technology/technology.html), accessed October 13, 2014.

NOAA

2013 Technology, *NOAA.gov*. Electronic document, <http://oceanexplorer.noaa.gov/technology/technology.html>, accessed March 13, 2014.

Texas A&M University.

2007 Research and Reconstruction of Ships, *Institute of Nautical Archaeology*. Electronic document, <http://nautarch.tamu.edu/class/anth616/index.htm>, accessed February 5, 2015.

Texas A&M University.

2010 Conservation of Cultural Resources II, *Institute of Nautical Archaeology*. Electronic document, <http://nautarch.tamu.edu/class/606/606syl.htm>, accessed February 3, 2015.

Hamilton, Donny

2015 Archaeological Artifact Conservation, *Institute of Nautical Archaeology*. Texas A&M University. Electronic document, <http://nautarch.tamu.edu/class/606/606syl.htm>, accessed February 3, 2015.

UNESCO

2001 The Protection of the Underwater Cultural Heritage: Text of the 2001 Convention. Electronic document, <http://www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/2001-convention/official-text/#Annex>, accessed March 22, 2014.

UNESCO

2013 Overview - Convention & Related Agreements, *UN-Division for Ocean Affairs and the Law of the Sea*. Electronic document, http://www.un.org/depts/los/convention_agreements/convention_overview_convention.htm, accessed March 22, 2014.

UNESCO

2014 Public Access, Museums and Tourism. Electronic document, <http://www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/museums-and-tourism/>, accessed August 22, 2014.

UNESCO

2014 What is Underwater Cultural Heritage?, *United Nations Educational, Scientific and Cultural Organization*. Powerpoint presentation, <http://www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/2001-convention/learn-about-the-convention/>, accessed January 21, 2015.

United Nations

1998 The United Nations Convention on the Law of the Sea (A Historical Perspective, *United Nations Oceans & Law of the Sea*. Electronic document,

http://www.un.org/depts/los/convention_agreements/convention_historical_perspective.htm, accessed November 20, 2014.

United Nations

2013 Overview - Convention & Related Agreements, *UN News Center*. Electronic document, http://www.un.org/depts/los/convention_agreements/convention_overview_convention.htm, accessed April 5, 2014.

Varmer, Ole

1999 The Case Against the Salvage of the Cultural Heritage, *Journal of Maritime Law and Commerce*, 30(2): 279-302.

Whitfield, John

2008 Collaboration: Group Theory, *Nature*. 455: 720-723.

Wilde-Ramsing, Mark U. and Lauren S. Hermley

2007 Diver Awareness Program—QAR Dive Down, in *Out of the Blue: Public Interpretation of Maritime Cultural Resources*, edited by John H. Jameson, Jr. and Della A. Scott-Ireton. New York: Springer.

Whydah Pirate Museum

2015 Expedition Whydah - Real Pirates, Pirate Treasure Shipwreck Museum. Electronic document, <http://whydah.com/>, accessed November 21, 2014.