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THE CARE OF ART AND ARTIFACTS  
SUBJECTED TO THE LAW ENFORCEMENT PROCESS

by

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and approved by

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ABSTRACT OF THE THESIS

THE CARE OF ART AND ARTIFACTS

SUBJECTED TO THE LAW ENFORCEMENT PROCESS

By JACOB B. ARCHER

Thesis Director

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This thesis is intended to serve as a guide for law enforcement officers on how to care for art and artifacts subjected to the law enforcement process. Law enforcement officers may encounter art and artifacts in various ways, such as through seizure, unexpected finds, and planned recovery operations. Law enforcement officers have a duty to properly care for property, to include cultural property objects such as art and artifacts, while in their custody and control, but art and artifacts often require care beyond the routine handling generally afforded to common property items. This thesis will offer suggestions for the law enforcement officer on how to recognize art and artifacts in the field and how to subsequently handle and care for same. These suggestions are meant to be integrated into existing law enforcement policies and procedures so as to realistically account for the time, skill, and financial resources associated with law enforcement officers and their respective agencies, all the while maintaining adherence to generally accepted evidence collection practices.

## ACKNOWLEDGEMENTS AND DEDICATION

Every academic writing is written with the help of others. This thesis is no different. I am forever indebted to my son Owen and my wife Diana for bearing the brunt of several years of my early mornings and late hours devoted to reading and typing. Even though I was home, I was not *with* them during those times and I apologize. I thank my mother Evelyn and my father Bruce for their enduring love and cogent advice. I thank the balance of my family and friends for all their support, to include my wonderful in-laws Carol and Joe, my fantastic nieces and nephews, and my three beloved God children Sophia, Luke, and Axel. My wife and I have a dear friend, C.J. Mugavero, a gallerist who deserves special mention because of her innate ability to demystify and connect art to the inexperienced but interested person. I was one such person many years ago.

Academically, I must begin by thanking my thesis advisor and cultural heritage preservation compatriot Cynthia Jacob of Rutgers University, Art History - Cultural Heritage and Preservation Studies (CHAPS) program. Her knowledge, inspiration, mentoring, friendship and razor sharp critiques were essential to completing this project. She has been a pragmatic voice in the cultural heritage preservation discussion by focusing attention on the need for all preservationists to learn and appreciate the laws that affect this field. I also wish to thank Archer St. Clair Harvey and Katharine Woodhouse-Beyer of the CHAPS program for their vigilant review process concerning this thesis. Geralyn Colvil, also of the CHAPS program, must be thanked for helping me meet all the administrative preconditions associated with completing a graduate program.

The entire CHAPS program should be lauded for its innovative interdisciplinary approach to teaching this subject matter, which, from my viewpoint, included a keen ability to address prescient cultural heritage and preservation issues. This forward thinking program incorporates ideas from many of the respective cultural heritage stakeholders on both micro and macro levels, which equips the student with a comprehensive understanding and appreciation of the field.

Norman Muller, Princeton University Art Museum's conservator, examined art both historically and forensically like a true detective. His lectures during my internship fostered a deeper and necessary comprehension of a conservator's thought process, which improved my work-related skills in the areas of art crime investigations and evidence collection, which in turn made this thesis better. I also thank Mike Jacobs and Alexia Hughes from PUAM for their assistance during my internship. Stefan Simon and Paul Messier, both of Yale University's Institute for the Preservation of Cultural Heritage were also early believers in this project and provided me with support and guidance to include reviewing and critiquing this work. Richard Leventhal and Brian Daniels of the Penn Cultural Heritage Center supplied salient advice for this thesis for which I am most appreciative. Barbara Buckley, Sara Geelan, Tim Gierschick, and Matt Pruden of The Barnes Foundation have assisted me greatly with expert training and sound counsel and must also be recognized.

Professionally, I begin by recognizing the FBI's Art Crime Team as a whole. The team is comprised of only a handful of agents who dedicate their working lives to preserving

cultural heritage. I am in constant awe of the investigative acuity and operational capabilities of my fellow Art Crime Team agents and I am equally proud and humbled to work among them. I thank Bonnie Magness-Gardiner for taking the time to review and comment on this thesis. On a local level, I would be remiss if I did not recognize the great lineage of art crime investigators in my home office of Philadelphia. From my current partner Don Asper to Bob Wittman to Bob Bazin, art crime has been successfully investigated and prosecuted in the Philadelphia area for decades. Eugene Lanzillo, my Evidence Response Team Senior Team Leader, was the first law enforcement officer to agree with my assessment that law enforcement needed to afford art and artifacts specialized care. He has been a tireless supporter of this project since that moment; thank you Gene. The Philadelphia Division Evidence Response Team is an incredibly efficient group of evidence collecting professionals who have assisted the Art Crime Team on numerous missions. To my current and previous squad mates and fellow police officers, thank you for always being there to assist me; I owe you. Without question, I have to thank my former supervisor Jeffrey Walker because he allowed me to start working art crime. For that matter, I thank all of those individuals that have granted me permission to work these matters, to include Mike Breslin, who took time to review early drafts of this thesis. Finally, I would never have made it a day past Quantico without the stewardship of a great training agent who I consider the backbone of our organization, Ron Manning.

I dedicate this thesis to my son, Owen.

## TABLE OF CONTENTS

ABSTRACT	ii
ACKNOWLEDGEMENTS AND DEDICATION	iii
CHAPTER 1: INTRODUCTION	1
CHAPTER 2: “TERMS OF ART”	7
CHAPTER 3: DEVELOPING A CARE PLAN	12
Ten Critical Steps to Caring for Art and Artifacts	16
STEP 1: Recognition	17
STEP 2: Photography and Documentation	26
STEP 3: Determining Material Composition	29
STEP 4: Determining Size, Shape and Weight	33
STEP 5: Assessing Condition	35
STEP 6: Handling	38
STEP 7: Field Expedient Packaging	40
STEP 8: Transportation	46
STEP 9: Storage	52
STEP 10: Documentation	57
CHAPTER 4: OTHER CARE CONSIDERATIONS	58
CHAPTER 5: CREATING AN ART RECOVERY KIT	62
CHAPTER 6: ART RECOVERY SUGGESTIONS	67
Packaging Strategies for More Commonly Encountered Objects	73
Framed Works of Art	74
Unframed Works of Art (on canvas)	77
Three Dimensional Objects	85
Small Artifacts Recovered from Archaeological Sites	91

Books and Unbound Paper Documents	95
Photographs	98
Oversized Maps and Works on Paper	98
Tapestries, Rugs, and Other Textiles	101
Five Methods to Create a Field Expedient Outer Shell	103
 CHAPTER 7: CONCLUSION	 111
 BIBLIOGRAPHY	 114
 LEGAL DISCLAIMER	 130



## CHAPTER 1: INTRODUCTION

Art and artifacts are humanity's physical records of ideas and expressions. Each generation determines what ideas and expressions serve a meaningful contribution to society and to what resources will be allocated to the preservation of such objects. At times, such objects are subjected to the law enforcement process, generally by recovery or seizure and sometimes via forensic analysis. In these cases, a law enforcement agency becomes the object's temporary steward until the legal process determines a final disposition for the object. During this time, law enforcement has a duty to protect and serve the object. Depending on the type of art or artifact, the care may be complex and challenging. Nonetheless, failure to properly care for the object while in the agency's custody can result in catastrophe: legal liability, public humiliation and outrage, and potentially the destruction of irreplaceable cultural heritage.

Until now, there has been no comprehensive standard for the care of art and artifacts subjected to the law enforcement process in America. This thesis was written to fill that void. Moreover, it is a contribution to the field of cultural heritage preservation.

It should be noted that there are other publications involving the collection and care of art and cultural property. For example, there are disaster and emergency management publications such as those published by the Smithsonian<sup>1</sup> and the Library of Congress,<sup>2</sup>

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<sup>1</sup> The Smithsonian Institution, Museum Conservation Institute. "Disaster Guidance." 2013. Accessed October 9, 2015. [http://www.si.edu/mci/english/learn\\_more/taking\\_care/disaster.html](http://www.si.edu/mci/english/learn_more/taking_care/disaster.html).

<sup>2</sup> Library of Congress. "Collection Emergencies/Preservation/Frequently Asked Questions: Collection Emergencies." Accessed October 12, 2015. <http://www.loc.gov/preservation/about/faqs/disaster.html>.

respectively. Caroline Keck has written extensively on the care and safeguarding of works of art, specifically in the museum setting.<sup>3</sup> The National Park Service, through the Bureau of Indian Affairs, has a field procedure for investigating violations of the Archaeological Resource Protection Act.<sup>4</sup> The kindred work of the Monuments Men of World War II<sup>5</sup> and the members of the United States Committee for the Blue Shield<sup>6</sup> are of great importance in this area of field expedient conservation. Their conduct serves as a sound basis for comparison, however, operating in areas of armed conflict is quite different than in a peacetime setting dominated by the rule of law. Rules of evidence, civil liability, agency protocols, public expectations, and other obligations create a different forum in which to collect and preserve.

The author recognizes that this thesis is constructed on the prior research and writings of those based in the fields of conservation, archaeology, art handling and packing, historic preservation, art history, law, and evidence. The author makes no claim of expertise in any of these fields. The novel thought process here is how law enforcement officers and their agencies can adapt operations to implement certain aspects of the aforementioned fields of study to preserve art and artifacts while in their custody.

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<sup>3</sup> Keck, Caroline K. *Safeguarding Your Collection In Travel*. Nashville: American Association for State and Local History, 1970. See Bibliography for more works by Caroline Keck.

<sup>4</sup> Bureau of Indian Affairs. "Field Procedures for Investigating Violations of the Archaeological Resources Protection Act (ARPA)." National Park Service. 2010.

<sup>5</sup> War Department Pamphlet No. 31-103 *Civil Affairs Information Guide: Field Protection of Objects of Art and Archives* (14 May 1944). Record Group 498 Entry (UD) 578 *Records of Headquarters, European Theater of Operations, United States Army (World War II). Historical Division. Administrative History Files, 1942-1946, Box 3793 File "75: Civil Affairs: Field Protection of Objects of Art and Archives, 12 May 1944."*

<sup>6</sup> U.S. Committee of the Blue Shield. "USCBS Mission." Accessed October 9, 2015. [www.uscbs.org](http://www.uscbs.org).

This thesis is designed to efficiently guide a law enforcement officer in caring for art and artifacts while in the custody of the respective law enforcement agency. It has been separated into chapters and will provide suggestions on how the law enforcement officer can recognize art and cultural property in the field and subsequently develop a plan of care for the object or objects in the law enforcement officer's custody. This thesis will also present the law enforcement officer with a model art recovery kit and discuss art recovery strategies for selected types of art and cultural property. Finally, a bibliography has been included, which contains useful information and links from which the law enforcement officer can gain additional knowledge.

This thesis was written by a law enforcement officer for the law enforcement officer. As a result, it will present practical information directly and requires no prior specialized knowledge of art or artifacts. Moreover, this thesis considers the limitations and constraints of care associated with law enforcement budgets, time, personnel, and resources. As a result, professionals and experts in the fields related to the care of art and cultural property should be consulted whenever possible. Regardless, there are times when the law enforcement officer must act because no outside expertise is available or the scene is unsafe, unsecured, or otherwise impermissible for civilians. It is at these moments that a concise reference like this thesis can provide basic guidance that will serve the law enforcement officer and the object.

A few words of encouragement: One of the basic tenets of our profession is temporarily meeting and treating the emergent needs of the public until such time when other, more

suitable personnel, can provide more directed care. Our greatest asset is our ability to adapt and overcome challenging situations. We serve. We protect. Nothing is different with art and cultural property when it is subjected to the law enforcement process. We are not doctors yet we are given basic first aid lessons to care for the injured. We are not attorneys, *per se*, but we are given legal lessons during the academy, which allow us to sufficiently comprehend and enforce the law. We are not expert marksmen in the Olympic sense, but we are trained to fire our weapons with accuracy and accountability. Therefore, we too can care for art, when necessary.

The author hopes that the suggestions expressed in this thesis can be improved upon by others in coming generations. This writing will undoubtedly require updates as discoveries in science and technology promote greater understanding of this subject matter area. Moreover, as much valuable information as there is compiled in this thesis, there is always more that could have been written and what has been written could have been written better. It is a baseline; a platform from which this intersection of professions will hopefully develop and expand.

### *Sample Scenario*

It's a cold and rainy Sunday night when the local police dispatch receives a domestic violence complaint. Officers arrive on scene and arrest the aggressor. As a result of the arrest, officers must seize all weapons in the residence. The residents own many collectibles, including, what appears to be, antique firearms from various American wars. Since the weapons appear to be operable they must be seized in accordance with law until

there is a final legal disposition regarding the domestic violence matter. The law enforcement officer now faces an important decision. How should the “antique” firearms be cared for by the police? Should these weapons be treated like the other firearms? Although everyone is innocent until proven guilty in a court of law and each case turns on its unique set of facts, the redundant and mundane ancillary duties associated with conducting these types of investigations, such as seizing a firearm, often leads law enforcement officers to treat property all the same for the sake of procedure and timely efficiencies.

What if one of the firearms was Sergeant York’s M1917 Enfield rifle from World War I? Does that make a difference in how this firearm should be treated? [Remember, Sgt. York was one of the most highly celebrated United States service members in WWI. His single-handed capture of 132 enemy soldiers was legendary and he holds a special place in American and military history.] To the ordinary person, the answer is, yes.

Now what happens if the law enforcement officer failed to adequately care for the weapon while it was in police custody and it was damaged? How easily could this have been avoided? Such causes of harm to an object can range from simple to complex. However, many oversights can be quickly remedied. Here are examples of a just a few disastrous scenarios:

The law enforcement officer failed to cover the weapon when exiting the residence. As a result, the barrel was exposed to the rain and rusted. The weapon may have been kept by the owner in a room with a steady temperature around 70 degrees Fahrenheit so failure to

cover the weapon led to the direct exposure of the old wood stock to a very cold temperature outside the residence, which caused it to crack. Failing to adequately secure the weapon during transport resulted in it banging against hard objects that created scratches and dents and even caused the weapon to break into pieces. Similarly, the storage of the weapon at the police department in a manner that was insecure caused the weapon to fall and break.

Adding insult to injury is when the case against the aggressor is dismissed or otherwise disposed of in a manner that allows the subject to lawfully retain possession of his or her firearms. Now, because of the law enforcement officer's direct and careless actions during the seizure and storage of the firearm, the law enforcement officer must return a broken weapon to a person not found guilty of a crime. What's more, the law enforcement officer, albeit unintentionally, has damaged a piece of history.

In this day and age, it won't take long for that subject to document the damage and broadcast to the world the ineptitude and careless conduct of the officer and the police agency. The news headline almost writes itself: SGT. YORK'S RIFLE SURVIVES THE WAR TO END ALL WARS BUT NOT A QUICK TRIP TO THE *[insert police agency here]*. Ultimately, the public humiliation and shame is, in most part, deserved. The officer may not have had any expertise in antique rifles but an officer does possess common sense. If the item subjected to the law enforcement process looks old, or expensive, or artistic, then the officer should deploy sufficient investigative skills and resources to determine if the item requires additional care beyond routine handling and storage.

## CHAPTER 2: “TERMS OF ART”

*What is Art? What is an Artifact? What is Cultural Property?*

The terms *art*, *artifact*, and *cultural property* can be interpreted broadly. They have been selected for use in this thesis because the author feels that their broadness combined with their brevity is most appropriate. The author understands that more definitional exactitude is necessary when discussing artistic items and cultural property in other settings.

*Art* is something that is created with imagination and skill and that is beautiful or that expresses important ideas or feelings. Art is the work created by artists: paintings, sculptures, etc.<sup>7</sup>

An *artifact* is something created by humans usually for a practical purpose.<sup>8</sup> In the United States, the Archaeological Resource Protection Act of 1979 (ARPA), is a federal statute that protects artifacts from their unauthorized excavation, removal, or damage on federal or tribal lands. ARPA provides a legal definition of an artifact, termed an “archaeological resource,” which can serve as a useful guidepost here. Specifically, ARPA states that an “archaeological resource is any material remains of past human life or activity, of archaeological interest, and at least 100 years of age.”<sup>9</sup> Examples include tools, pottery, and weapons.

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<sup>7</sup> Merriam-Webster. "Art." Accessed April 3, 2016. <http://www.merriam-webster.com/dictionary/art>.

<sup>8</sup> Merriam-Webster. "Artifact." Accessed April 3, 2016. <http://www.merriam-webster.com/dictionary/artifact>.

<sup>9</sup> Archaeological Resource Protection Act of 1979, 16 U.S.C. §§ 470aa-470mm.

*Cultural property* is art, artifacts, etc., of cultural importance or interest, especially those regarded as belonging collectively to a particular country or people.<sup>10</sup>

The author recognizes that art and artifacts constitute *cultural property*. Nonetheless, current parlance of those engaged in the various aspects of this field, to include attorneys and law enforcement, often use the term *cultural property* interchangeably with *artifact*. Thus, there are times when the phrase *art and cultural property* may be encountered in the field. During parts of this thesis, the terms *art* and *artifact* may be referred to collectively as *cultural property*, or *the object(s)*, or *the item(s)*.

#### *Determining What Type of Art and Artifacts Require Advanced Care*

This thesis suggests that *cultural property* (i.e., art and artifacts) be treated with advanced care by law enforcement. Article 1 of the United Nations Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property 1970 provides a practical definition for the law enforcement officer:

[T]he term 'cultural property' means property which, on religious or secular grounds, is...being of importance for archaeology, prehistory, history, literature, art or science and which belongs to the following categories:

- (a) Rare collections and specimens of fauna, flora, minerals and anatomy, and objects of paleontological interest;
- (b) property relating to history, including the history of science and technology and military and social history, to the life of national leaders, thinkers, scientists and artist and to events of national importance;

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<sup>10</sup> Oxford English Dictionary. "cultural, adj. and n." March 2016. Accessed April 3, 2016. <http://www.oed.com.proxy.libraries.rutgers.edu/view/Entry/45742?redirectedFrom=cultural+property>.



- (c) products of archaeological excavations (including regular and clandestine) or of archaeological discoveries ;
- (d) elements of artistic or historical monuments or archaeological sites which have been dismembered;
- (e) antiquities more than one hundred years old, such as inscriptions, coins and engraved seals;
- (f) objects of ethnological interest;
- (g) property of artistic interest, such as:
  - (i) pictures, paintings and drawings produced entirely by hand on any support and in any material (excluding industrial designs and manufactured articles decorated by hand);
  - (ii) original works of statuary art and sculpture in any material;
  - (iii) original engravings, prints and lithographs ;
  - (iv) original artistic assemblages and montages in any material;
- (h) rare manuscripts and incunabula, old books, documents and publications of special interest (historical, artistic, scientific, literary, etc.) singly or in collections;
- (i) postage, revenue and similar stamps, singly or in collections;
- (j) archives, including sound, photographic and cinematographic archives;
- (k) articles of furniture more than one hundred years old and old musical instruments.

Based on the foregoing, not every piece of art or every artifact is worth the advanced care that is suggested in this thesis. For an obvious but illustrative example, a kindergartener's finger painting is artistic. It is created with skill and imagination albeit commensurate with the abilities of a five- or six-year-old child. Absent extraordinary circumstances, it is not the work of a legitimate artist and thus does not deserve the special care suggested

here. Likewise, artifacts are abundant. Modern tools, weapons, and things produced on a mass scale are general property items to be secured in accordance with existing policy. Determining what objects deserve special care is a common sense decision that must be made on scene by the law enforcement officer based on the totality of the circumstances.

There exists an ever changing line of demarcation between what cultural heritage preservationists can and will preserve and what they cannot or will not preserve. This line will never be static as science uncovers more details about each culture, politics and attitudes change, and resource allocations shift. Here is a current example of this conundrum:

It is rather easy for a law enforcement officer to realize that a Native American headdress, adorned with eagle feathers, is most likely very important and should be cared for differently than a typical household computer. However, what should the law enforcement officer do when seizing an Apple I computer, which was Apple's first model sold to the public in 1976. Only 200 Apple Is were ever produced.<sup>11</sup> For the balance of the twentieth century, few may have argued that an Apple I computer was worth preserving, however, since the new millennium, Apple has been a hegemonic force in America by producing some of the most iconic and widely used computer products to date. Is the Apple I worth preserving now? If not, will it be in ten, twenty, fifty, or a hundred years from now? Could it be important now and declared less so later?

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<sup>11</sup> Williams, Gregg; Rob Moore. "The Apple Story / Part 1: Early History." *Byte Magazine*. Volume 09 Number 13 - Communications (December 1984). Accessed April 13, 2016. <https://archive.org/details/byte-magazine-1984-12>.

The law enforcement officer's duty is not to make this decision. Rather, it is a duty of the law enforcement officer to conduct a logical investigation about the nature of the item being seized for the purpose of determining how to sufficiently care for the item. The officer's conduct should be judged from an ordinary reasonably prudent person's perspective based on the totality of the circumstances. If the officer can ascertain information about the art or artifact in question, which leads the officer to believe that there may be a legitimate historical or cultural importance attached to the object, then the officer should proceed with due care as suggested in this thesis.

### CHAPTER 3: DEVELOPING A CARE PLAN

#### *Three Golden Rules*

This thesis is filled with suggestions that will assist the law enforcement officer with caring for art and artifacts. Nonetheless, the author has carved out this section to highlight the most important themes of this thesis, which are referred to here as the *Three Golden Rules*. Should the law enforcement officer take away nothing else from this guide, let he or she commit the following three rules of art and artifact care to memory:

#1 Keep the object clean and safe.

#2 Only handle the object when absolutely necessary (and wear gloves).

#3 Consult experts whenever possible.

*Golden Rule #1: Keep the object clean and safe.*

Keeping property clean and safe are basic obligations for those who have custody of items belonging to others. At the very least, the law enforcement officer should find a clean, dry, and secure location to house any seized work of art or artifact.

*Golden Rule #2: Only handle the object when absolutely necessary (and wear gloves).*

Handling the object ALWAYS creates peril for the object. This includes physically touching or moving the object. Always wear gloves as oils from our skin can interact

with and subsequently alter materials such as metals. Small cloth strands from clothes can snag and break delicate protruding parts from ornamental objects. An inadvertent sneeze could fire wet mucous across a canvas allowing excess dust and dirt particles to attach to the paint furthers decay.

Likewise, the movement of an object is dangerous. Even vibrations, ever so subtle, can wreak havoc on certain objects. Packaged or not, avoidable and unavoidable damage occurs. Slips, trips and falls are obvious examples of avoidable peril. Incorrectly carrying a piece of furniture can result in breakage. Every time a pastel painting is moved, microscopic bits of pigment flake off and the rendering further deteriorates. Packaging the object has no bearing on this golden rule against unnecessary movement. Packaging cannot stop shock and vibration, it can only decrease these harmful effects. Movement kills.

Large, delicate, and/or very valuable works of art or artifacts should almost always be moved by professionals. As a result, the law enforcement officer should have a justifiable reason for moving the object and a complete understanding of all the actions he or she is going to take *before* moving and handling the object.

*Golden Rule #3: Consult experts whenever possible.*

Law enforcement officers are experts in enforcing laws. Most law enforcement officers are not experts in caring for art or artifacts. It is a best practice to consult the appropriate subject matter expert early in the investigation. The law enforcement officer should seek

out qualified help such as a trained conservator, museum curator, professional art handler, professional archaeologist, State Historic Preservation Officer, and/or professional art historian. It is important that the law enforcement officer properly vets the potential expert to ensure that the expert is qualified. Due diligence in reviewing the expert's education and experience is necessary. Ask the expert to provide references from other qualified experts in the same field or related fields. Contact those experts and conduct a logical background investigation. If the law enforcement officer is at a complete loss for acquiring the necessary help, contact the FBI Art Crime Team or the National Park Service for assistance.

Unless circumstances dictate otherwise, the law enforcement officer is best served by seeking help first from local experts. Local experts provide basic advantages: they may already have a relationship with the law enforcement agency, they are easier to maintain contact with due to their proximity to the agency; they may already have knowledge of the object or the affected party; and they may feel a greater communal obligation to assist the agency and the object than a distant expert. The law enforcement officer should consider checking first with his or her command staff to determine if the agency or the agency's governing body (municipality, county, state, etc.) may already have relationships with personnel that are qualified to assist.

It benefits the law enforcement officer to seek help from experts who are willing to work *pro bono*. Law enforcement agencies generally do not budget for the payment of services to outside professionals, which can become costly. As a result, the law enforcement

officer must broach the subject of payment directly with any expert that is willing to help. If the investigation requires experts and only paid experts are available, the law enforcement agency must ensure adherence to public contracting laws.

Sometimes experts, such as those affiliated with a college or university, will offer free services in exchange for the right to conduct research and/or publish scholarly articles about the object and aspects of the investigation. Generally, scholars will agree to forego publishing for a reasonable amount of time. Unfortunately, cases sometimes drag on in the court system for years, to include appeals. A risk/benefit analysis must be conducted on a case by case basis to ensure that the investigation and the potential subsequent prosecution will not be jeopardized by such scholarly work. If such an agreement is struck, it should be memorialized in writing with the input from the prosecutor and possibly the agency's solicitor or general counsel.

The law enforcement officer should also consider having any non-law enforcement personnel sign a non-disclosure agreement prior to being informed of the intimate details of the case, even if the personnel has not committed to the project. It is important to balance the need for outside help with the need to protect the critical details of the case until such time that the case can be made public. A non-disclosure agreement, approved by the agency's prosecutor, is a straight-forward way to help balance these investigative equities.

*Ten Critical Steps to Caring for Art and Artifacts*

There are ten critical steps to caring for art and artifacts subjected to the law enforcement process. All ten steps should be considered before the object is first moved, absent emergency circumstances, as each step is interconnected.

Here in summary form are the ten steps of object care, which will be discussed in further detail below:

STEP 1: Recognition

STEP 2: Photography & Documentation

STEP 3: Determining Material Composition

STEP 4: Determining Size, Shape and Weight

STEP 5: Assessing Condition

STEP 6: Handling

STEP 7: Field Expedient Packaging

STEP 8: Transportation

STEP 9: Storage

STEP 10: Documentation



As you will read below, the ten steps of object care are interconnected. For example, measuring the dimensions of the object (STEP 4) and all entry and exits including the opening of the transport vehicle (STEP 8) are critical steps to ensuring that the object will safely pass through all thresholds during its movement. Knowing the material composition of the object (STEP 3) is necessary when determining the proper type of storage environment for the object (STEP 9). Finally, documenting every critical action taken (STEP 2 and again reiterated at STEP 10) will better safeguard the object, the law enforcement officer, the law enforcement agency, and further the investigation.

#### STEP 1: Recognition

*In order to care properly for art and artifacts the law enforcement officer must first recognize that the object is artistic and/or historic in nature or otherwise some type of artifact and/or cultural property.* Recognition is the most important step in this thesis, for without it, the law enforcement officer cannot begin to develop an appropriate plan for care.

The physical, historical, cultural, and monetary contexts surrounding the object are an essential part of this recognition process. It is important to understand that art and artifacts can be composed of almost anything, can be as old as mankind itself, can belong to any culture, can range in monetary worth, and can be found almost anywhere. Placing the object in its proper context as it relates to the current and/or former possessors and the investigation is so important to determining its relevance to the case and may assist with

the subsequent care. It is important to stress that art and artifacts are collected because they are valued. Values differ but often overlap. For example, collectors may value the object for its cultural or historical significance but they may also value the object for the status that it brings to its respective holder. The object can also be a store of monetary value, which means that it can be held for investment purposes or traded like cash or other financial instruments. Sometimes, objects have personal or sentimental value to which no financial measure can be attached.

Art and artifacts are bought and sold through various legitimate and illegitimate networks around the world. This network includes auction houses, galleries, online marketplaces, and private dealers. The transactions that occur in the free market help determine the object's value. High value art and artifacts are often insured, which brings about another contextual aspect relevant to some investigations where insurance proceeds are paid.

When viewing the object (and the investigation) through a financial lens, the law enforcement officer may come to better understand the object and its perceived value in relation to the person in possession of the artifact at the time the law enforcement officer encounters it. For example, looters may be caught in the act of digging artifacts from restricted areas, such as federal or tribal lands or archaeological sites only granted by permit, because they know that the types of objects buried in those areas are coveted amongst collectors in the illegitimate market. In contrast, the law enforcement officer may be contacted by a museum and advised that it has recently been offered a loan of a work of art that the museum believes is stolen. The collector who is attempting to loan

the work may have unknowingly acquired the stolen piece in good faith and subsequently intended to loan the object to the museum in order to enhance the status of the work of art.

Asking the current possessor the basic law enforcement field inquiry questions like the *who, what, when, where, why, and how* regarding the object's history is an effective way to gather valuable information. *Who* did the current possessor acquire the object from? *What* were the terms of the deal; *what* documents exist to prove ownership? *When* and *where* was the object acquired? *Why* did the current possessor acquire this object? *How* was the object acquired by the previous owner?

Whether the law enforcement officer wholly understands the subtle and seemingly complex art world is unnecessary so long as the law enforcement officer can recognize the object's relationship to its current possessor and ask appropriate follow-up questions about the object which are necessary to its care.

*The FBI's National Stolen Art File, INTERPOL'S Database of Stolen Works of Art, and ICOM's Red Lists*

Recognition of stolen or looted items can sometimes occur by checking existing stolen art databases, which may contain details about the object and its theft. The FBI maintains the National Stolen Art File<sup>12</sup> and INTERPOL maintains the database of stolen works of art.<sup>13</sup>

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<sup>12</sup> Federal Bureau of Investigation. "National Stolen Art File." Accessed April 5, 2016.  
[https://www.fbi.gov/about-us/investigate/vc\\_majorthefts/arttheft/national-stolen-art-file](https://www.fbi.gov/about-us/investigate/vc_majorthefts/arttheft/national-stolen-art-file).

<sup>13</sup> Interpol. "Works of Art." Accessed April 05, 2016.  
<http://www.interpol.int/Crime-areas/Works-of-art/Works-of-art>.

These online databases are free to the public and easily accessed through a quick internet search. Other private databases can exist, which may provide clues to the investigator, however there might be a fee associated with conducting such searches. Many looted objects will not be found in these databases because the inherent nature of the crime is such that the object is removed from the earth prior to any type of documentation. It is still imperative that the object or objects in question be checked against these databases in the event of a match. These databases also provide additional guidance regarding art theft that may be of use to the law enforcement officer in the investigation.

The International Council of Museums (ICOM) is a non-governmental international organisation of museums and museum professionals which is committed to the conservation, continuation, and communication to society of the world's natural and cultural heritage, present and future, tangible and intangible.<sup>14</sup> One of ICOM's principal goals is to combat the illicit trafficking of cultural property.<sup>15</sup> ICOM produces *red lists*, which are notices that describe endangered cultural property around the world and can be accessed online.<sup>16</sup>

If the law enforcement officer is on the scene of an art theft, the pertinent details of the investigation should be transmitted to the FBI for inclusion in the National Stolen Art File. Getting the photograph of the object and its description on the National Stolen Art

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<sup>14</sup> The International Council of Museum. "ICOM Mission." Accessed April 5, 2016. <http://archives.icom.museum/mission.html>.

<sup>15</sup> The International Council of Museums. "Fighting the Illicit Traffic of Cultural Property." Accessed April 5, 2016. [http://archives.icom.museum/illicit\\_traffic.html](http://archives.icom.museum/illicit_traffic.html).

<sup>16</sup> The International Council of Museums. "ICOM Red List." Accessed April 5, 2016. <http://archives.icom.museum/redlist/index.html>.

File should be a priority for the investigator. Legitimate art businesses, to include auction houses and galleries, can check the National Stolen Art File prior to acquiring the work as part of their due diligence process in purchasing the object. Having the object listed as stolen may help prevent its transfer from one party to another and may also result in tips concerning the work. Contact the FBI Art Crime Team for assistance with the National Stolen Art File.

### *Encountering Objects in the Field*

Broadly, there are two ways the law enforcement officer encounters objects in the field: expected and unexpected.

#### *Expected Finds*

In many instances, the law enforcement officer will be made aware by the complainant that the object is a work of art or an artifact. From inception of an art crime related matter, the law enforcement officer should always be seeking to obtain as much knowledge about the object, to include its origins, composition, provenance, and whether it has ever received treatment, professional or otherwise, for any reason. Just like an individual in medical distress, the more the first responder learns initially about the “patient” object, the better care the first responder can immediately provide. The information gathered about the object will be important to its care but will also likely aid the investigation so the law enforcement officer should document this information accordingly.

### *Unexpected Finds*

In the event the law enforcement officer encounters an object in the field but has no prior knowledge about its artistic, cultural, or archaeological importance, the officer must make a common sense judgment about the appropriate action to take regarding the object. At all times, the law enforcement officer must first consider the legal parameters associated with any searching or seizing pertaining to the object. The assumption here is that the law enforcement officer has lawfully encountered the object.

To help guide the law enforcement officer's decision-making process, the first impressions of the object can be the most important. The physical context surrounding the officer's discovery will be critical to making a decision as to whether the object is material or not to the current investigation or potentially a separate violation and thus a new criminal investigation. It's important to note that in many instances, the object has been removed from its original location. Generally, the original location provides the most critical contextual clues concerning the object.

For example, the law enforcement officer may be executing a search warrant in a suburban neighborhood to search for drugs. During the search, the officer finds a box of ivory tusks in a bedroom closet. These tusks may or may not be related to the drug investigation. Maybe the tusks were purchased by the alleged drug dealer using drug proceeds, which could lead to these objects being lawfully seized and forfeited. Maybe the drug dealer or another resident is trading illicitly in the ivory market. This would

constitute a new and separate investigation. Maybe these items were inherited legally. Regardless of the end status of the ivory, legal or illegal, a box filled with these tusks is an uncommon sight in suburban America, and will hopefully provoke some additional line of questioning by the law enforcement officer.

The issue of recognition becomes more difficult with objects of utility. For example, the law enforcement officer has consent to search a basement and finds in a box, what appears to be, a ceramic bowl with markings that are indicative of some type of Native American cultural association. The totality of this find is critical to making a sound decision as to whether the object may be material to the investigation or possibly a separate and distinct violation of law. The officer notices some dirt around the edges of the bowl and becomes suspicious that this item was recently excavated from the ground. Assuming that the officer has no legal basis yet to seize this item, the next step is to assess the physical nature of the item. Does the bowl look handmade or is it an obvious modern mass-produced production? Is there a stamp or sticker indicating where it was produced? Does the box contain several other identical looking bowls, akin to mass production, or do the other objects differ in size, shape, and pattern, akin to individual craftsmanship? What information is found in or on the box: Handwritten notes? Shipping labels? Packing slips? Work gloves and digging tools? Photographs? Where is the box found in relation to other items in the basement? Is it stacked among other boxes containing contemporary dishes, plates, and other housewares? Or, is it placed amongst other boxes containing other known or suspected artifacts? Try and gather more information from the homeowner regarding the object, to include the history of the piece,

purchase information, and additional photographs. All of these observations and information may yield important clues about the object and the investigation.

If the law enforcement officer is still not sure about the object and its legal status, the officer could take a photograph of the item and quickly share it electronically with local experts or other more qualified personnel, who can help render an opinion. The law enforcement officer could use an internet-connected device, such as a smartphone or laptop, to enter a description of the item in an internet search engine and attempt to gather open source information, which may aid the investigation. Determining the object's material composition (*see* STEP 3) may also help identify the object. Ultimately, if the law enforcement officer is still not sure about the item but has no legal basis to seize it, the officer should document the find in a report, preferably with accompanying photographs, which may aid future investigations.

It is important to investigate the background of the subjects of the case. At first glance, it is not always possible to determine if the subject is an art thief, and amateur archaeologist, or a clandestine artifacts digger. The person may have a legitimate career and the looted object may be secreted or disguised amongst general household items or it may be hiding in plain sight. If the subject is a forger, mass quantities of fake items may be found together alongside the equipment used to create the fakes.



*A Note About Investigations Concerning Archaeological Sites*

There are times when the law enforcement officer may be called to investigate violations related to archaeological sites. These cases can vary in scope and complexity. From the outset, it is important for the law enforcement officer to understand who owns or otherwise controls the land associated with the archaeological site. Is the land owned by the federal, state, county, or local government? Is it tribal land? Is it private land? Determining ownership of the land is critical to understanding what laws govern the site and what resources may be available in furtherance of the investigation.

Generally, professional archaeologists will be needed to help investigate the scene, assess damages, and testify. If the site is tribal land or the case is otherwise linked to Native American culture, the respective tribe or tribes should be consulted early and often in the investigation. Many federally recognized tribes have a Tribal Historic Preservation Officer who can serve as an initial point of contact.<sup>17</sup> Each state has a State Historic Preservation Officer (SHPO). who should be contacted and included in the case, for matters that have occurred on state or federal land.<sup>18</sup> A SHPO may also have knowledge of or contact information concerning private land. In the United States, the Department of the Interior, which includes the Bureau of Indian Affairs (BIA), the National Park Service, and the United States Fish and Wildlife Service has experience in these matters

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<sup>17</sup> National Park Service. "Tribal Historic Preservation Officers Program -- Cultural Resources: Working with Native Americans -- National Park Service." Accessed April 4, 2016. [https://www.nps.gov/history/tribes/Tribal\\_Historic\\_Preservation\\_Officers\\_Program.htm](https://www.nps.gov/history/tribes/Tribal_Historic_Preservation_Officers_Program.htm).

<sup>18</sup> National Park Service. "List of SHPO Websites National Register of Historic Places Official Website--Part of the National Park Service." Accessed April 04, 2016. <https://www.nps.gov/nr/shpolist.htm>.

and can be consulted as necessary. The aforementioned National Park Service field procedures for ARPA-related investigations lists examples of the types of standard physical evidence that may be found at archaeological crime scenes.<sup>19</sup>

### *A Note About Forgeries and Replicas*

Forgeries and replicas of art and artifacts are prevalent throughout the world. This thesis does not provide guidance on determining the authenticity of objects. An expert would be needed to authenticate such objects. Generally, an authenticating expert will not be on-scene to assist the law enforcement officer, save for a planned operation, therefore, treat the object as authentic until proven otherwise. Even if the work of art or the artifact is not-authentic, it is property that still belongs to someone and must be treated with due care.

### STEP 2: Photography and Documentation

*Once an art or artifact matter is identified, each significant step of the law enforcement officer's care process should be documented in order to protect the object, the object's owner, the law enforcement officer and the officer's respective agency.* In the art world, when a piece of art is loaned to an exhibition or moved to a new site, a condition report is usually created. A condition report can vary, but its basic purpose is to document the condition of the object prior to its movement, its transport, and its condition immediately

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<sup>19</sup> Bureau of Indian Affairs. "Field Procedures for Investigating Violations of the Archaeological Resources Protection Act (ARPA)," Appendix B.

upon arrival to its destination. Documentation is listed immediately following STEP 1 and again at STEP 10 to reinforce its importance in this process.

Regarding this step, the law enforcement officer should follow his or her agency's crime scene protocols when processing the scene. At a minimum, the law enforcement officer should document the object in place when first encountered, prior to any law enforcement interaction. Photographs present an easy, quick, and affordable way to document the object's conditions and important activities performed by the law enforcement officer. The photographs should accompany a written report documenting the law enforcement officer's processes and should include relevant conditions that may not be captured via photography such as the environmental conditions (temperature, humidity, weather, etc.) and any statements about the object's condition or history made by knowledgeable people at the scene.

Photographic and written documentation, to include chain-of-custody, are also necessary where the object is considered evidence and thus subject to potential forensic testing. There may be instances when fingerprints, DNA, or other evidence may be recovered from the object. Since forensic testing is generally destructive, it is not recommended for the law enforcement officer to conduct such testing on the object, absent prior training or experience, until there has been consultation with the appropriate art- or archaeology-related specialists to determine the appropriate course of action. As a result, any interaction by the law enforcement officer should be documented because the officer has an obligation to preserve the integrity of the evidence collection process.

### *A Note on Photography*

The law enforcement officer should adequately photograph the scene and the object in place prior to any interaction with the object, absent emergency situations. The law enforcement officer's photographs will be an important step in memorializing the scene and will help place the object in the proper context. As a result, the photographs should be taken in a logical order. One logical method to photographing the object is to first capture it in place with an overall photograph of the scene, then to take a medium range photograph followed by a close-up of the object. When the object is finally removed, it should be photographed up-close with scale. For best results, this up-close photograph should be taken overhead or straight on as opposed to from an angle. Take any additional photographs of items or scenes that will further describe the situation. Take as many photographs as necessary.

If possible, complete a photograph log contemporaneous with the photography. Make sure and note the views (i.e., “view facing Northeast”) for each overall and medium range photograph. Each photograph will then have its own descriptive entry that can be quickly referenced by the law enforcement officer for future purposes. Download a copy of the photographs to an appropriate medium and place the photographs and the log into evidence. Make working copies of the photographs and the log.

The law enforcement officer should make best efforts to take quality photographs of the object. Best attempts should be made to try and light the object properly. Do not worry

about flash photography at this stage. It is true that light may damage an object but the few flashes from the camera during this period are of almost no danger to the vast majority of objects<sup>20</sup> and are outweighed by the importance of documenting the object. Light the object from different angles to help capture features like texture and gloss, which can aid an expert in evaluating materials and fabrication techniques. For example, taking up-close photographs with lighting at different angles may help an expert determine whether it is a painting on canvas or a high resolution print on poster.

Use the highest quality image settings on your camera. The highest resolution images will take up the most storage space on the camera's hard drive or removable drive but they will help reduce the need to physically examine the object, which in turn helps reduce the potential harm to the object. For example, quality photographs of the object can be sent to experts around the world, if necessary, to help with identification and further research.

### STEP 3: Determining Material Composition

*The law enforcement officer must know, generally, what the object is and what it is primarily composed of in order to provide the best care.* Although the elementary tenets of care—keeping the item clean and safe—are universal to all objects, the methods of best caring for these objects will differ. For example, an oil painting will be treated differently than an ancient clay tablet because its material composition is different. The painting is comprised of paint, canvas, wood, and nails, all of which interact with the

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<sup>20</sup> Schaeffer, Terry T. "Effects of Light on Materials in Collections: Data on Photoflash and Related Sources." The Getty Conservation Institute. 2001. Accessed February 27, 2016. [http://hdl.handle.net/10020/gci\\_pubs/effects\\_light](http://hdl.handle.net/10020/gci_pubs/effects_light).

environment in their own distinct ways. Likewise, the tablet is a single piece of clay that interacts with the environment in its own distinguishable way. To illustrate this point, ice cream would not be stored in the refrigerator and an egg would not be stored in a freezer. Both items need to be kept cold but both react differently to temperature. Ice cream needs to remain in a frozen state for suitable consumption while an egg needs to remain chilled but not frozen for later use. Understanding the basic material composition of the object will enable the law enforcement officer to make better decisions about its care.

The object's materials may be further identified as organic or inorganic. In unspecific terms, organic materials were (or still may be) alive and include wood, leather, feathers, textiles, paper, ivory, and bone.<sup>21</sup> Inorganic materials typically comprise non-living sources like stone, metals, glass, and ceramics.<sup>22</sup> Determining the object's organic and inorganic materials here will benefit the law enforcement officer later during the packaging and storage process.

Determining the general material composition of an object can often be accomplished via a quick visual examination. Art and artifacts are made of many of the same materials that people interact with daily. It requires no special training to tell the difference between many typical materials such as wood, stone, or plastic but it may require someone with advanced knowledge to determine the exact type of wood, stone, or plastic. Below is a

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<sup>21</sup> Holbrow, Katharine. "Organic Material." American Institute of Conservation, Objects Specialty Group Conservation Wiki. Last modified January 14, 2012. Accessed February 27, 2016. [http://www.conservation-wiki.com/wiki/Organic\\_Materials](http://www.conservation-wiki.com/wiki/Organic_Materials).

<sup>22</sup> Grabow, Nicole, Katherine Holbrow, Stephanie Croatt. "Inorganic Material." American Institute of Conservation, Objects Specialty Group Conservation Wiki. Last modified April 29, 2013. Accessed February 27, 2016. [http://www.conservation-wiki.com/wiki/Inorganic\\_Materials](http://www.conservation-wiki.com/wiki/Inorganic_Materials).

quick two-part process to help identify the material composition of art or cultural property found in the field.

*Part 1: Visual Inspection. What are the Most Prominent Visible Materials?*

The material composition of art and artifacts can comprise almost anything found on this planet. However, the focus for care should be on the most notable materials visible to the naked eye. Some objects have a simple composition, such as those carved from stone. Other objects may be a mixture of numerous materials, some of which may be visible and others may be hidden under layers. Size up the piece like you would size up a dish at a buffet. What are the main ingredients? Can you see anything else that may be important?

A reasonable line must be drawn between the invasiveness of the law enforcement officer's inspection of the object and the benefit derived from the knowledge gained through such inspection. A conservator would likely inspect the entire object for all of its materials and care for it accordingly. Since the officer is not trained in conservation, it is not recommended to conduct any examination of the object beyond a visual examination in order to prevent unnecessary damage. The law enforcement officer should make a common sense judgment on materials via this visual inspection.

*Part 2: Open Source Research of the Care of Materials.*

This thesis is meant to provide general ideas for the care of objects. However, since each object requires individual care it is best for the untrained law enforcement officer to become a quick study in the care of the materials that comprise the object. The

Smithsonian, the National Park Service, the Library of Congress, the Getty Conservation institute, major museums, and major research universities are examples of reliable starting points for additional research. Many of these organizations publish significant amounts of helpful information online, which can be accessed for free. Therefore, the internet provides a robust source of knowledge concerning the care of all different types of objects. The law enforcement officer's research will be informal but extremely helpful if gleaned from credible sources. Additional information regarding specific objects and materials are listed in the bibliography of this thesis.

When researching materials, the important aspects to be learned are the suggestions concerning handling, packaging and storage. Disregard any techniques that require intervention with the object. Again, the goal is to merely keep the object safe in its present condition, NOT to conduct any form of conservation, which is reserved for trained professionals.

### *Example*

The law enforcement officer recovers the saddle used by Teddy Roosevelt on his charge up San Juan Hill. One can expect that a visual examination would reveal that the saddle is composed predominantly of leather with metal stirrups. The officer can begin an open source query about the care of leather saddles with metal stirrups. Thinking critically, the law enforcement officer might note that metal is a general term that can refer to many different solid materials, such as gold, silver, copper, iron, etc. The care of each kind of metal differs because the scientific make-up of each metal differs. As a result, the officer



can visually scan the saddle for any type of label or maker's mark. If one is found, additional research can be conducted in the attempt to ascertain what type of metal was used by the saddle maker to make the stirrups.

In the case of Roosevelt's saddle, a quick check of the label from trusted sources may reveal what type of leather and metal was typically used to make that type of saddle during that time period. Only expert research and testing can confirm the composition of the materials, however, at this point in the investigation, the law enforcement officer is using common sense and making best attempts to determine the object's material composition. Once the law enforcement officer secures basic knowledge about the object's materials, the law enforcement officer can continue to conduct further research about the care for such materials.

At this point, the law enforcement officer should have a basic understanding of the composition of the object and how generally to care for the object based on this composition. The law enforcement officer should naturally be forming an opinion on how to care for the object during this step. This step is critical to sharpening the law enforcement officer's mind regarding the details of care that the law enforcement officer is usually not forced to consider.

#### STEP 4: Size, Shape and Weight

*The size, shape, and estimated weight of the object will significantly influence how it is handled, packaged, transported and stored.* The law enforcement officer must take

accurate measurements of the object's height, width, and depth or thickness, in that order, prior to moving the object. Equally important, the law enforcement officer should attempt to measure (or at least consider) every threshold which the object may cross en route to the storage location, when practical. This includes doorways, hallways, elevators, and transport vehicle openings. Finally, the law enforcement officer should know the measurements of the storage location, including the spacing, height, depth, and weight capacity of shelving, to determine if existing storage facilities can handle the new object or if modifications will have to be made.

The measurements of the object are critical to accurate packaging. Measure twice, order once: packaging material is an expense not generally considered in law enforcement budgets. Waste of packaging materials can be mitigated by ensuring measurements are accurate. Whether packaging materials are ordered from archival supply stores, office supply companies, big box retailers, or local specialty shops, the dimensions of the materials are generally listed on the exterior of its packaging, on the purveyor's website, or available via customer service telephone call. These dimensions will allow for the law enforcement officer to make quick and correct calculations.

In many cases the object will be packaged on site. The packaging materials will undoubtedly add size to the object. Therefore, the law enforcement officer must account for the size and shape of the packaged object when considering thresholds and storage space.

## STEP 5: Assessing Condition

*Once the object is deemed to be of artistic or cultural value, evaluating its condition is necessary in order to determine its proper care.* It should be understood by all parties that a trained professional, such as a conservator, will make the most accurate determination of condition. However, in these circumstances, the law enforcement officer is generally the first person on scene and must make an initial assessment.

In a medical emergency call, the officer must generally decide the nature and severity of the patient's condition and radio for an appropriate medical response. Some medical calls result in the patient being checked by emergency medical technicians on scene and being released. Other calls require paramedics and a helicopter transport to a trauma center. The law enforcement officer is experienced enough in these medical situations to understand the general condition of most patients in the field. The same principles of on-scene evaluation apply here to art and artifacts.

Some in the professional art world may cringe at a law enforcement officer determining condition of an object in the field. In keeping with the medical analogy, it should be stressed that even though a heart surgeon is the only person authorized to perform heart surgery, a first responder can render CPR to someone having a heart attack and save a life. In other words, it is best that the law enforcement officer make a reasonable determination of condition and act accordingly in the best interests of the object and the investigation.

The law enforcement officer should perform a rudimentary assessment—does the object appear structurally sound for travel? If the law enforcement officer determines that the object is not safe for travel, the operation ends there—absent emergency circumstances—and a trained professional or more suitable assistance should be sought in order to move the object in a safe manner.

The law enforcement officer's rudimentary assessment can be guided by three common-sense questions: (1) Does the object appear fragile and/or damaged or is it sufficiently intact? (2) What type of materials comprise the object? Are these materials inherently sound? (3) What is the shape and approximate weight of the object?

#### *Does the Object Appear Broken or Intact?*

The law enforcement officer should visually inspect the object in the attempt to determine if the object is cracked, broken, flaking, crumbling, or showing signs of obvious repair. Professional repairs may be difficult to spot. Objects that have received treatment or have otherwise been repaired may look like they are in one piece. However, they generally are being held together with an adhesive or some other weak bond.

A flashlight is a tremendous resource for the law enforcement officer when attempting to assess an object's condition. The law enforcement officer can aim the flashlight's beams parallel to the surface of the object. This type of lighting is called *raking light*. Raking light can assist the law enforcement officer in spotting structural deformities or previous areas of repair, which were otherwise not visible under normal lighting conditions.

During this process, the law enforcement officer should also start thinking about a method in which to carry the object that would not create stress on the object's joints, broken points, or areas of repair. Remember STEP 1, ask questions about the history of the object and collect as much information about it as possible. The current possessor may be able to tell you that the object was previously repaired, which parts were broken, and the treatment employed to repair it. Moreover, there may already be a known method to carry the object. All of this information will be crucial to assessing the object's overall fragility.

*What Types of Materials Comprise the Object? Are These Materials Inherently Sound?*

In STEP 3, the law enforcement officer determined the object's primary material composition. The material composition of the object can give an important clue about its condition. Materials like leather<sup>23</sup> and metal<sup>24</sup> are usually strong and durable. Materials like glass<sup>25</sup> or eagle feathers<sup>26</sup> are generally fragile. However, that does not mean that the leather and metal are inherently stable and ready for transport and that glass or feathers cannot be moved. The leather may be visibly rotted and the metal rusted to the point of

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<sup>23</sup> The Museum of Florida History. "Care of Historic Leather Artifacts." Accessed April 06, 2016. <http://museumoffloridahistory.com/resources/caring/acs4.cfm>.

<sup>24</sup> American Institute of Conservation of Historic and Artistic Works. "Caring for Your Treasures/Metal Objects." Accessed April 06, 2016. [http://www.conservation-us.org/about-conservation/caring-for-your-treasures/metal-objects#.VwV3\\_rdf2SN](http://www.conservation-us.org/about-conservation/caring-for-your-treasures/metal-objects#.VwV3_rdf2SN).

<sup>25</sup> Deck, Clara. "The Care and Preservation of Glass & Ceramics." Benson Ford Research Center. 2016. Accessed April 6, 2016. <https://www.thehenryford.org/docs/default-source/default-document-library/the-henry-ford-glass-amp-ceramics-conservation.pdf?sfvrsn=2>.

<sup>26</sup> Bishop Museum. "The Care of Feathers." 1996. Accessed April 6, 2016. <http://www.bishopmuseum.org/research/pdfs/cnsv-feathers.pdf>.

near disintegration. Glass and feathers will always be fragile but may be intact and supported by other materials.

*What is the shape and approximate weight of the object?*

In STEP 4, the law enforcement officer who took measurements of the object had a general idea of its size, shape and weight. Oddly-shaped objects may be inherently vulnerable during movement. For example, a sculpture that is over-weighted on top with protruding points on all sides presents more concerns for the law enforcement officer than something square and lightweight.

The law enforcement officer should be able to form an actionable opinion on the object after scrutinizing its material composition, size, weight, and shape. This is a common sense decision.

#### STEP 6: Handling

*The size, shape, and weight of the object will determine how it will be handled and how many people will be required to handle it.* More than one person will be required to move objects that are large, heavy, and/or awkwardly-shaped. Each law enforcement officer must account for his or her personal strength and dexterity as well as that of the assisting personnel. The general rule should be to always have a second person assist with the movement of the object unless the law enforcement officer is ABSOLUTELY CERTAIN that he or she can carry the object safely.

Prior to handling the object, put on gloves, remove watches and any dangling or oversized jewelry, and secure loose clothing. Loose articles of clothing and personal effects can nick, scratch, dent, tear, or get caught on the object.

Misjudgments abound. For example, a law enforcement officer of average health and strength may find that an unframed painting, 36" x 42", may seem light and easy to carry. However, the size and shape of the painting will likely block some view for the law enforcement officer making the law enforcement officer susceptible to slips, trips, and falls. By employing a second person to assist or otherwise guide the travel, the pair should be able to safely navigate most paths.

One method for carrying an object is to use one hand for support and one hand to cradle. When picking up an object, the law enforcement officer should try and grasp the object from its natural load-bearing position. For example, the law enforcement officer should hold a bowl by its base. As a general rule, the law enforcement officer should not grab an object by its handles. In many instances, handles are ceremonial and not functional and could snap with the slightest pressure.

When setting an object down, place the object in its intended position. For example, busts, sculptures and pottery were meant to stand upright. Placing these objects on their sides without adequate protection will create stress in various places that were not intended by their respective artists during their creation. This stress can lead to fractures, flattening, warping and other potential problems. Similarly, if framed paintings cannot be

rehung, they should be placed upright against a wall or placed flat on a table with nothing touching the canvas. The same goes for furniture: carry a chair from its seat and not from the arms; place the chair on four legs; and do not sit on or place other objects on it.

#### STEP 7: Field Expedient Packaging

*An object must be properly packaged in the field in order to protect it for safe transport.*

Proper packaging of an object is also critical to its safe storage. Besides proper packaging techniques, use of proper materials to pack the object is equally important. Like medical supplies, art-specific packaging materials are available but there are plenty of other materials that can be used as substitutes for field expedient packaging.

#### *Preparation Suggestions*

The law enforcement officer should ensure that enough personnel are available to conduct the operation. The officer should account for the time needed to package on site and take into consideration how long the scene can remain secure and well-lit and the environment stable (check weather conditions). The officer should make an initial assessment of the packaging supplies that will be needed and bring them to the work space before commencing packaging operations.

The law enforcement officer should find a clean, flat, and spacious work area. This space should include enough room for the object, the necessary personnel, and the packaging materials. Cover a portion of the work area with butcher block paper, cardboard, or other clean and safe material. This will create a barrier layer, which will become the packaging



area. It is best to always have an additional layer of protection between the floor, table, or other flat work space to prevent the transference of any potential harmful substances in the work space. Once the work area is defined, the officer should ensure that everyone present and involved in the operation knows the boundaries of the space and further ensures that only those necessary to the packaging process are in it.

In the event that numerous objects will be collected, the law enforcement officer should try and create an order for the packaging process that will correspond to how the packages will be secured in the transport vehicle. Larger object which will generally be placed first in the transport vehicle should probably be packaged first, if possible. This will allow for a smooth transition where packaged objects can be taken from the work area and placed in the transport vehicle. This will keep the work space from overflowing with packaged objects or reduce incidents for which objects must be re-organized in the transport vehicle once they are brought there.

Remember, all personnel assisting with the packaging operation should wear gloves, remove watches and any dangling or oversized jewelry, and secure loose clothing.

Do not crowd the work area with multiple works of art. Sometimes this cannot be achieved due to a lack of space. Cutting, folding, and taping will take place in the work area. Keeping other works of art away from this space will help reduce the possibility of inadvertent damage from packaging actions. Never pass tools or other objects over the object. Dropping a box cutter, flashlight, camera, scissors, etc., on top of a work of art

can create significant damage. Do not wrap an object or otherwise fill a box with newspaper because the ink can transfer to the object.

There should be no eating, drinking, or smoking in the work area.

### *The Layering Technique for Packaging*

The packaging of an object is completed in increased layers of protection. Each scenario will dictate what level of protection is required. Not every case will require the most protective layer. These layers can be described in order as follows:

1. A thin protective barrier, such as tissue paper or plastic, that will be wrapped around the object to shield it from dust, debris, and physical contact;
2. A cushioning layer, such as bubble wrap or foam, to help mitigate vibration and reduce impact from handling, transport, and accidental falls;
3. An outer shell, such as a cardboard box, that is puncture and crush resistant; and
4. Crating, which is the use of wood and other sturdier materials to further encase the object.

For analogous purposes, a flat screen television is packaged in a similar manner as above. First, it is wrapped in a plastic bag or a soft thin foam to protect the screen from marks and scratches. Foam is placed on the corners of the television to cushion it. It is then placed inside a cardboard box, which provides added rigidity and strength and helps to

prevent puncturing of the screen. Multiple boxed televisions are usually placed together on a pallet or in a crate for shipment from the factory to the warehouse.

It is important that the packaging process should limit the the object's interaction with the outside environment. The packaging materials should not damage the object. The law enforcement officer should avoid applying adhesives or markings directly to the object.

The first three layers of packaging can be readily achieved in the field for many objects. The materials necessary to create a thin protective barrier, cushion the object and create an outer shell can usually be obtained from retailers with reasonable effort. The law enforcement officer is under no obligation to make the layering techniques look like a professional art handler's endeavor, they just need to work. Once the object is packaged, the law enforcement officer can label the exterior of the packaging with the object's description and case information.

### *Selecting Packaging Materials*

The law enforcement officer must make best efforts to select the proper packaging materials. Generally, the law enforcement officer should strive to use packaging materials that are "acid free" or otherwise maintain a neutral hydrogen ion concentration (pH). Harmful chemicals found in many types of materials such as paper and plastic can leach onto the object causing irreparable damage.

If the law enforcement officer has access to sufficient agency funds and enough time, the officer can consult a professional conservator or archaeologist/art specialist who can

provide case-specific packaging suggestions. The law enforcement officer can then acquire the packaging materials from an archival supply company, to include a custom fitted box for the object. However, if such expense and time cannot be afforded there are less expensive and readily available materials that can be used for packaging and short term storage.

In order to assess the necessary packaging materials, the law enforcement officer must render an accurate evaluation of the object. By now, if the law enforcement officer has followed the steps herein, he or she should have enough basic information to make packing decisions. The officer knows the material composition of the object (STEP 3); its size, shape, and weight (STEP 4), and a general idea about condition (STEP 5). If the object is stable enough to pack and move (STEP 6) then the law enforcement officer should begin preparing a packaging strategy. Continue to Chapter 5: Creating an Art Recovery Kit, Chapter 6: Art Recovery Suggestions, and the Bibliography for specific packaging suggestions.

In instances when numerous objects will be recovered, the law enforcement officer needs to consider developing a comprehensive collection management plan that will incorporate all the additional resources required to successfully collect such objects. Although this thesis presents the foundational elements for which a law enforcement officer could design a large-scale collection operation, it is not the main thrust. More advanced help can be sought from the FBI Art Crime Team, other government agencies, museum personnel and/or professional archaeologists.

### *Packaging Objects for Safe Opening*

The packaging of objects should always be performed with a vision towards the safe opening of the packaging. There are several reasons why a packaged object may later need to be opened while still in the care and custody of law enforcement. Some reasons are the following: (1) the object was packaged in material that was not intended for long-term storage thus the object would need to be opened and repackaged in proper archival material; (2) the object may require forensic examination or additional investigative review; (3) and the object may require academic study.

Opening a packaged object presents danger for the object. Generally, people open packages with sharp implements such as knives, scissors, or box cutters. Time and care must be taken when opening a packaged object to avoid accidentally cutting, scratching, poking, or otherwise breaking the object.

The law enforcement officer should try and package an object so that it can be opened by hand, except for the crating (if necessary) and the outermost packing tape on the exterior of the box. If the law enforcement officer must use a sharp object, it should be done with great care along the edges of the box with minimal intrusion past the tape or cardboard. The blade and cutting motion should always be away from the object. Just enough cutting should be employed to allow the law enforcement officer to open the balance of the package by hand. The law enforcement officer who is packaging the object should plan as if someone else unrelated to the case must open the package at a later date. Therefore,

the packaging strategy should be simple and intuitive, whenever possible. The tools, materials, and packaging suggestions in Chapters 5 and 6 of this thesis will help provide further details for accomplishing this task.

#### STEP 8: Transport

*Transportation of the object is a dangerous time for the object; it begins the moment the law enforcement officer picks up the object and ends when the object reaches storage.* As a result, transportation may be in several modes but will typically be via foot and vehicle. The law enforcement officer should plan the entire route before moving the object.

The walking route should be checked for possible slips, trips, and falls. For interior walkways, make sure the floor is dry. Move electrical cords, small tables, children's toys, and anything else out of the way so as to clear a path. Runner carpets in hallways present hazards and benefits. Ensure that the runner carpet is not prone to slipping on its respective surface and that the edges are not curled up so as to create a tripping hazard. If there are extension cords or other wires on the floor that cannot be moved, a runner carpet can be moved to temporarily cover them. If no carpet is available, use tape to secure the wires to the floor. All thresholds, such as those between doorways, hallways, and elevators should be carefully checked for saddles between the flooring that may cause someone to trip. Also, thresholds that have doors that close automatically such as elevators, hinged fence gates, or kitchen doors with springs should be secured or held open by someone not assigned to carry the object.

Exterior walkways present many of the same dangers as interior walkways but also have additional elemental hazards such as snow, ice, wet leaves, moss, fallen tree branches, loose bricks, and/or cracked cement. When possible, move the transport vehicle as close to the door of the building where the object is located. If a building has a loading dock, especially one that is covered, attempt to secure its use. Otherwise, during operations in the rain and snow, extra care must be taken to ensure that the object remains dry during the walk. Be wary of high winds as they can catch the flat side of a large painting like a sail and send it flying. Point an edged side of the object towards the gusting to cut the wind.

Even though the object may be packaged for transport, rain or snow can dampen the packaging material. The wetness may eventually seep through to the object causing damage. Replace packaging material that becomes wet to avoid mold growth. Do not assume that packaging material will adequately dry. To avoid the packaging from becoming wet, cover the packaged object with a disposable plastic bag, such as a large trash bag, which can be discarded after the object reaches a dry destination. If necessary, tape or tie the disposable bag closed to ensure that no rain or snow gets inside.

Darkness is a natural danger to safe travel, so when possible, daylight operations are suggested. However, since law enforcement operations are conducted at all hours, proper lighting should be employed when possible. Be mindful that unlit pathways may require the use of a flashlight, reducing the law enforcement officer to one free hand to carry the object. Where the object requires at least two hands to carry it and a flashlight to light the

path, another person should be used to operate the lighting and to communicate direction and dangers.

Free hands are at a premium when attempting to place the object in the transport vehicle. A law enforcement vehicle usually remains locked when the law enforcement officer is not inside it. Therefore, the law enforcement officer may be in a position where he or she is carrying the object by himself or herself and then must unlock the vehicle and open a door or trunk in order to place the object inside. If the ground is level, dry, and clear of debris it should be no problem to gently place a properly packaged object on the ground while unlocking and opening the transport vehicle's door. If the ground is wet, uneven, or dirty, the law enforcement officer may be unable to place the object on the ground.

Placing the object on top of the vehicle, balancing the object on a foot, or using the body to press the object against the vehicle may work with groceries but are not suggested here. The easiest solution is to have another person assist by unlocking and opening the door so that the law enforcement officer can place the object directly into the transport vehicle. However, if there is no one else to help the law enforcement officer, the officer can first set-up a holding station by the transport vehicle before moving the object. Be resourceful: a common plastic footstool may easily suffice. It is a stable platform that can be placed next to the transport vehicle. It is elevated so the top should be raised well above a puddle or dirty ground and the top is generally covered in a non-slip rubber, which should be able to grip the bottom of the object's package. The object can then be positioned on top of the footstool and laid against the side of the transport vehicle while



the law enforcement officer uses one hand to steady the object and the other hand to unlock and open the door. Remember STEP 4 and ensure that the packaged object can fit inside the transport vehicle's opening. Once the object is secured inside the vehicle, the footstool can be quickly cleaned and returned to its owner.

When transporting via vehicle, the object must be properly secured prior to moving. Vans or vehicles that have moveable seats which can be reconfigured to create flat and sturdy interior transportation platforms are preferred choices for these types of operations. Many times, the law enforcement officer's only reasonable and available mode of vehicle transportation is a sedan. Avoid two-door vehicles when possible because it is very difficult to insert and remove packaged objects from the back seat between the folded front seat and door jam. First, ensure the vehicle is clean. Spilled food and beverages can transfer their respective residues to the object. If the interior is dirty, the law enforcement officer should place a clean towel or blanket in the vehicle first to cover the soiled areas before inserting the object. The vehicle's foot wells are possible options to place the object because they are usually flat and buffered on four sides by stable parts of the car such as the seats, a door and the center console. If the object is placed in the footwell, ensure that no heat or air conditioning is blowing in the footwell. Objects sensitive to rapid fluxes in temperature and humidity might suffer damage even on a short ride.

If the object cannot fit in the foot wells, place it on the front or rear passenger seats. Use other objects, such as empty cardboard boxes, pillows, or blankets to fill voids and cushion the object and to keep it upright and limit its mobility. Using a seatbelt to secure

a box that contains an object is a possibility if the law enforcement officer determines that the pressure applied by the seatbelt will not damage the object. This method is only recommended in instances when the strength and rigidity of the outer shell is assured.

Loose items in the car, including cellular telephones, soda cans, and coffee mugs should be secured because they can become projectiles in the event of a crash and impact the object (not to mention potentially injuring the driver and passengers.). Avoid using vehicles with an obvious cigarette stench as that environment is not good for art or artifacts.

An object can be packed in a trunk provided the following: that the object can rest in an appropriate position, the trunk is clean, all loose items are secured, voids are filled, the object is cushioned and its mobility restrained. It is very important to be absolutely certain that the object will fit in the trunk without the trunk crushing any part of the package upon closure.

Open beds of pickup trucks expose the packaged objects to obvious perils during transport and therefore are not recommended for transportation of the object. That is not to say that large objects which are unable to fit inside a vehicle's interior cabin cannot be transported in a pickup truck's bed, it is just that it is a much more precarious situation and safety and weather conditions must guide such attempts. A packaged object should only be transported in the open bed of a pick-up truck if it is inherently stable for such a ride, the weather will be clear during its transport, the bed is clean, the object is properly packaged, additional cushioning is applied to the bed, and the packaged object can be

secured safely inside the bed. Placing a tarp over the rear of the bed to further protect the object is suggested.

For operations requiring larger transport vehicles, the law enforcement officer will likely need to rent a box truck or trailer, which is *air ride equipped*. Air ride equipped means that the suspension of the vehicle has airbags that absorb the weight of the cargo, ensuring a smoother ride than traditional suspensions. Air ride equipped vehicles are becoming industry standard for art movers and should be used by the law enforcement officer whenever possible.

It is also recommended to line the bottom of the box truck with foam, preferably ethafoam, to provide an additional layer of shock absorption. Fill the truck from the back of the bed to the front. Pack boxes together snugly and logically; place the largest boxes in the back of the truck and the smallest in the front. Stay at one level; do not pack boxes on top of each other. The weight of one box may crush the contents of another. If the truck is only half full, secure a piece of sturdy wood at the edge of the box line to pin the boxes. Straps can also be used.

For objects sensitive to temperature and humidity that are traveling long distances or changing altitudes (e.g., mountainous travel) or latitudes (e.g., the cold north to the warm south), a transport vehicle with climate control may be required. Consult a professional conservator or art mover for helpful insight prior to renting a truck and taking the trip.

### *A Note About Labeling and Inventory*

In instances when numerous items will be collected and transported, it is best to make sure that each object is properly labeled before being loaded into the transport vehicle. It is also a good idea to make an inventory of the objects that are loaded into each transport vehicle. Since the objects are of some presumed value, it would make sense to have a second law enforcement officer witness and confirm the inventory of each vehicle prior to its departure from the scene and again on arrival to the storage facility.

### STEP 9: Storage

*Proper storage of art and artifacts are crucial to their survival.* Storage practices will vary depending on the material composition and condition of each object; however, there are general rules which apply to most situations. At the most basic level, storage locations should be clean and dry, free of rodents and pests, use proper lighting, and possess stable temperature and humidity.<sup>27</sup> For objects that are of evidentiary value, the storage location must also be secure for chain-of-custody purposes.

All objects should be raised off the floor at least a few inches to help preserve them in the event of flooding. No objects should be placed next to or under a heating or cooling source in order to avoid intermittent blasts of air and changes in temperature. The storage area should have some type of pest control plan in place.<sup>28</sup> Insects and rodents consume

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<sup>27</sup> Appelbaum, Barbara. *Guide to Environmental Protection of Collections*. Madison CT: Sound View Press, 1991.

<sup>28</sup> The Smithsonian Institution, Museum Conservation Institute. "Integrated Pest Management System." Accessed October 9, 2015. <http://www.si.edu/mci/downloads/articles/pests9.pdf>.

and nest in organic material, which includes many types of art and artifacts, including textiles and paper.<sup>29</sup>

An important goal for storage locations is stability. Objects, whether composed of organic or inorganic material, or a combination of both, preserve best when conditions are stable. Relative humidity, temperature, and lighting conditions should remain as constant as possible.<sup>30</sup> Rapid and continuous fluctuations in any of one of these three key categories can lead to a host of problems. For example, continuous changes in humidity can create natural expansions and contractions of the object's organic materials, which may cause cracking, flaking, or splitting.<sup>31</sup> Too high of a temperature in combination with too much humidity and lack of proper ventilation can spur mold growth.<sup>32</sup> Direct sunlight can degrade organic material faster.<sup>33</sup>

A note about humidity and relative humidity, also called *RH*. Humidity is the amount of water vapor, commonly referred to as *moisture*, in the air. Relative humidity is the measurement of the moisture in the air versus how much moisture the air can hold.

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<sup>29</sup> *Ibid.*

<sup>30</sup> Maekawa, Shin and Franciza Toledo. "Controlled Ventilation and Heating to Preserve Collections in Historic Buildings in Hot and Humid Regions." The Getty Conservation Institute. 2002. Accessed February 28, 2016.

[http://www.getty.edu/conservation/publications\\_resources/pdf\\_publications/controlled\\_ventilation\\_hot\\_humid\\_regions.html](http://www.getty.edu/conservation/publications_resources/pdf_publications/controlled_ventilation_hot_humid_regions.html)

<sup>31</sup> Ogden, Sherelyn. "2.1 Temperature, Relative Humidity, Light, and Air Quality: Basic Guidelines for Preservation." Northeast Document Conservation Center. Accessed April 6, 2016. <https://www.nedcc.org/free-resources/preservation-leaflets/2.-the-environment/2.1-temperature,-relative-humidity,-light,-and-air-quality-basic-guidelines-for-preservation>.

<sup>32</sup> The Smithsonian Institution, Museum Conservation Institute. "Mold & Mildew." Accessed January 2, 2016. [http://www.si.edu/mci/english/learn\\_more/taking\\_care/mnm.html](http://www.si.edu/mci/english/learn_more/taking_care/mnm.html).

<sup>33</sup> Ogden, Sherelyn. "2.1 Temperature, Relative Humidity, Light, and Air Quality: Basic Guidelines for Preservation." Northeast Document Conservation Center. Accessed April 6, 2016. <https://www.nedcc.org/free-resources/preservation-leaflets/2.-the-environment/2.1-temperature,-relative-humidity,-light,-and-air-quality-basic-guidelines-for-preservation>.

Relative humidity is inverse to changes in temperature. As temperature increases, RH decreases. Likewise, as temperature decreases, RH increases. A tool called a *hygrometer* measures relative humidity. A hygrometer is a common and inexpensive tool that should be acquired to measure the relative humidity of a potential storage location. A thermometer should also be employed to measure temperature. Many times, a hygrometer also includes a thermometer and may be referred to as a *hygrothermograph*. These measurement tools should be placed above the ground and away from doors windows as well as heating and cooling elements and airflows. A hygrometer can be either analog or digital. Some digital hygrometers have the capability to be connected to a monitoring system that can alert the law enforcement officer in changes in temperature or relative humidity.<sup>34</sup>

Although certain materials are best suited in higher or lower relative humidity, it is suggested that a storage location be maintained with a relative humidity around 50%. Another suggestion is that a storage location be maintained with a constant temperature between 68 and 70 degrees Fahrenheit. There will always be reasons to deviate from this suggestion. For example, bronze and other metal objects are best placed in a low RH environment, especially those that have corrosion.<sup>35</sup> So, if the law enforcement officer has only collected a corroded bronze sculpture and that is the only item in storage, it

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<sup>34</sup> Northeast Document Conservation Center. "2.2 Monitoring Temperature and Relative Humidity." 2012. Accessed April 6, 2016. <https://www.nedcc.org/free-resources/preservation-leaflets/2.-the-environment/2.2-monitoring-temperature-and-relative-humidity>.

<sup>35</sup> Deck, Clara. "The Care and Preservation of Historical Brass and Bronze." Benson Ford Research Center. Accessed April 6, 2016. <https://www.thehenryford.org/docs/default-source/default-document-library/the-henry-ford-brass-amp-bronze-conservation.pdf?sfvrsn=2>.

would be appropriate to adjust conditions, accordingly. Each situation is different and the law enforcement officer will need to make his or her best assessment of the proper temperature and RH based on the totality of the circumstances. Consult a professional conservator or museum professional for further guidance.

Based on the foregoing, potential storage locations should be inspected and tested in advance to ensure that these conditions are possible. It should be noted that temperature and relative humidity are more difficult to regulate in rooms that have windows or one or more exterior walls due to the exposure to the outside elements. Once a suitable location is found, the hygrometer should be left in the room so that the law enforcement officer can periodically inspect the conditions.

Lighting can present tricky problems for law enforcement. Natural and artificial light are both problematic because they produce *ultraviolet radiation*, commonly referred to as *ultraviolet light*.<sup>36</sup> Ultraviolet radiation degrades organic materials.<sup>37</sup> One obvious example is how light fades a newspaper. Also, UV radiation creates heat, which can further degrade an object.<sup>38</sup> For example, UV energy may subsequently compromise the object's existing adhesives and potentially cause physical deformations. If the lights must remain on, and they are potentially damaging, the law enforcement officer can create a dark environment within the storage area by draping clean cloth, cardboard, butcher

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<sup>36</sup> Conn, Donia. "Protection from Light Damage." Northeast Document Conservation Center. 2012. Accessed April 6, 2016.

<https://www.nedcc.org/free-resources/preservation-leaflets/2.-the-environment/2.4-protection-from-light-damage>.

<sup>37</sup> *Ibid.*

<sup>38</sup> *Ibid.*

paper, or other non-translucent non-toxic material around and over—but not touching—the object.<sup>39</sup>

The law enforcement officer should also be cognizant of what's in close proximity to the storage room. Is it next to a boiler room where steam may be released? Is it by a kitchen where food is stored and cooked? Are there humidifiers or dehumidifiers present for other reasons? Are chemicals stored nearby? Is it part of a maintenance building where oils and exhaust are common?

In general, when a law enforcement officer is forced to store objects in a less than ideal environment, the law enforcement officer can make best efforts to create as best a storage environment within the location as possible. For example, the location can be cleaned and pest and rodent traps can be set. False walls could be created and employed to block or change direction of airflows. Lighting may be able to be adjusted or moved.

For matters where the storage of the objects will be long-term, to mean several years, and the objects in question demand significant care for their subsequent preservation, the law enforcement officer and the agency should seriously consider attempting to rent space at a secure and professional art storage facility and consult a professional conservator or museum professional for further guidance.

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<sup>39</sup> *Ibid.*



## STEP 10: Documentation

This step is a way to review the law enforcement officer's actions and subsequent documentation to this point. Has the law enforcement officer followed established crime-scene protocols? Has the law enforcement officer photographed the object in place and documented its condition upon first interaction? Has the law enforcement officer documented the steps taken to handle and care for the object? Has any damage occurred? Where and how is the object stored? Who else has assisted with caring for the object? Is the law enforcement officer prepared to explain his or her actions to date?

## CHAPTER 4: OTHER CARE CONSIDERATIONS

### *Disaster Situations*

This thesis is not intended to address disaster situations since they constitute a different type of response, which is not focused on normal law enforcement investigations and operations. It should be noted that the United States Committee of the Blue Shield is a non-profit organization dedicated to preserving cultural heritage in areas of armed conflict or areas afflicted by natural disaster. The organization offers training, awareness, and advice in these matters. There are additional suggested readings for disaster response and emergency preparedness, which are listed in the bibliography.

If the law enforcement officer is faced with a disaster situation, the primary goal is the safety of the officer and those in danger. As a quick aside, in situations where lack of any intervention by the law enforcement officer will result in almost certain destruction, such as fire, hurricanes, earthquakes, or armed conflict, *and the officer is in a position to safely assist*, the law enforcement officer should remove the objects from the threat in the most judicious manner possible. It may mean taking a painting directly from the wall and running with it. It is not ideal but the alternative is worse.

### *Marking the Object for Evidence*

Marking items of evidence is a standard practice for law enforcement. It is an essential process to document chain of custody. The law enforcement officer must adequately identify the object but not damage it by doing so. This thesis suggests that an object collected for evidence should be photographed and the package that contains the object be marked with the object's description and case information. This thesis does not suggest marking the object directly due to the harm that can occur to the object from such action. Specifically, the law enforcement officer should never directly mark or attach an adhesive label to the object. Ink and adhesive can cause permanent damage to the object. For example, numbers written in ink or adhesive placed on the back of a canvas may ultimately seep through and be visible from the front. Also, an adhesive label, when removed, may very likely remove a portion of the object with it.

In instances when marking the exterior package is not acceptable for agency protocols, one suggestion would be to write the necessary evidence or storage information on a paper tag, punch a hole in it, and use string to attach the tag to the item. Another suggestion would be to place the tag inside a smaller bag and place that bag into the acceptable agency evidence bag. If possible, the law enforcement officer should try and use archival tags and string, which are pH neutral. Do not tie string tight around the object because it may cause harmful stress to the affected area. Do not tie string around points that are obviously thin and weak, such as the extended finger of a human sculpture. Try to tie the tag around the base of a sculpture or sturdy area that is easily

accessible by hand. In the case of paintings, tie the tag on the wire used to hang the painting. If no wire exists, it would be permissible to tape the string to a piece of the stretcher or strainer that does not touch the canvas. For a large vessel or bowl, place the tag inside without the string, provided that the opening allows for easy and safe retrieval. For glassware, tie the string loosely around handles or stems unless the glass is too fragile, then place the tag inside the box or wrapping that will house or cradle the glass. For all other items, use best judgment considering the above mentioned suggestions.

### *Forensic Analysis of the Evidence*

The law enforcement officer should discuss with the prosecutor the need for any potential evidence from the object in the subsequent prosecution. The law enforcement officer should contact the laboratory examiner first before attempting to collect evidence from the object in order to determine the likelihood of success in the recovery and subsequent analysis of the proposed evidence. If the law enforcement officer is not experienced in evidence collection, the law enforcement officer should consult a more experienced evidence collector who can explain the actual procedure required to collect the evidence. The law enforcement officer should then consult a professional conservator in order to evaluate whether the proposed evidence collection procedure will harm the object. If the conservator indicates that the object will be harmed, then the law enforcement officer must weigh the importance of the evidence to the prosecution, the likelihood of successful laboratory analysis, and the subsequent damage to the object in order to determine if the risk to the object is worth the investigative reward.

*Damage Caused by the Law Enforcement Officer*

A law enforcement officer should document all damage which occurred while the object was in the custody of the law enforcement officer and his or her respective agency. Document the damage in writing and via photography. Make appropriate notifications to any relevant parties such as a superior, the prosecutor, and the owner.

## **CHAPTER 5: CREATING AN ART RECOVERY KIT**

Having an art recovery kit prepared and ready for instant implementation is optimal but an unlikely scenario save for some of the very few law enforcement personnel that work these types of investigations on a full-time basis. In the event that the law enforcement officer has ample money and time, he or she can purchase art-specific supplies from an archival supply store, which can be custom suited to each object on a case-by-case basis. If time is available but money is in short supply, the following list of items can be acquired at reasonable prices from various merchants such as big-box retailers, specialty stores, or the online marketplace. Having these items at the ready will aid in the speed and success of the recovery. In the event that the law enforcement officer must act immediately and there is no time to assemble such a kit, the officer can attempt to gather as many of the materials as are immediately available and proceed as prudently as possible. It should be noted that not every material listed on the supply list will be needed in every situation nor is this list exhaustive of all materials that could be used, rather it attempts to be a well-rounded kit capable of serving the law enforcement officer in a majority of situations.

## ART RECOVERY KIT – SUPPLY LIST

### Gloves

White cotton gloves

Nitrile gloves

### Layering Materials

#### *Thin Protective Layer:*

Tissue paper (preferably acid-free)

Glassine paper (water and grease resistant)

Tyvek

Butcher block (brown or white) paper

Sheet plastic or poly wrap

Paper bags (various sizes)

Folders / sleeves (paper or plastic; accordion)

*Cushioning Layer:*

Bubble wrap (bubble size dependent on object)

Ethafoam

Accordion folder or folio

Cotton (preferably cotton pads)

Paper bags (various sizes)

*Outer Shell:*

Cardboard

-Individual sheets (can be re-used from boxes that contained common household items provided that the cardboard is clean and non-toxic)

-Pre-formed boxes such as banker boxes

Cardboard two piece slide boxes (various sizes; similar to matchboxes)

Plastic storage bin with lid

Paper bags (various sizes - generally larger than )

*Crating:* consult a professional art handler/mover



### Tools

Camera

Photograph documentation ruler (for scale in photographs)

Tape measure

Cloth tape measure

Scissors

Box cutter

Hygrometer/Thermometer

### Securing Materials

String

Masking tape or blue painter's tape (this tape is pressure sensitive, which means that it can be removed by hand easier than other types of tape)

Packing tape (for outer shell)

Identification

Pencils (for marking paper tags)

Paper tags (preferably pH neutral-archival quality)

Fragile stickers (for outer shell)

Right side up arrow stickers (for outer shell)

Marker (outer shell; preferably archival quality)

## CHAPTER 6: ART RECOVERY SUGGESTIONS

### *Preparation Tips and Miscellaneous Suggestions*

All of the following preparation tips and miscellaneous suggestions should be considered prior to beginning the packaging operation. Many of these ideas have already been discussed during the general care plan but are listed again here because of their importance.

1. Ensure that enough personnel are available to conduct the operation.
2. Account for the time needed to package on site and ensure that the scene can remain secure and well-lit and the environment stable (check weather conditions).
3. Make an assessment of the packaging supplies that will be needed and bring them to the work space.
4. Find a clean, flat, and spacious work area. This space should include enough room for the object, the necessary personnel, and the packaging materials.
5. Cover a portion of the work area with butcher block paper, cardboard, or another clean and safe material. This will create a barrier layer, which will become the packaging area. It is best to always have an additional layer of protection between the floor, table, or other flat work space to prevent the transference of any potential harmful substances in the work space.

6. Once the work area is defined, ensure that everyone present and involved in the operation knows the boundaries of the space and only those necessary to the packaging process are in it.
7. In the event that numerous objects will be collected, try and create an order for the packaging process that will correspond to how the packages will be secured in the transport vehicle. Larger objects, which will generally be placed first in the transport vehicle, should probably be packaged first, if possible. This will allow for a smooth transition where packaged objects can be taken from the work area and placed in the transport vehicle. This will keep the work space from overflowing with packaged objects or reduce incidents where objects must be re-organized in the transport vehicle once they are brought there.
8. Wear gloves, remove watches and any dangling or oversized jewelry, and secure loose clothing.

*Remember the Other Steps of the Care Plan:*

STEPS 2 and 10: Be prepared to take notes and photographs to document the actions taken during this process. Ensure that the object has been adequately photographed prior to being packaged.

STEP 8: Ensure that the mode of transportation for the object has been confirmed.

STEP 9: Be certain that a suitable storage location exists.

*Things to Avoid During the Packaging Process:*

1. Do not crowd the work area with multiple works of art. Sometimes this cannot be achieved due to a lack of space. Cutting, folding, and taping will take place in the work area. Keeping other works of art away from this space will help reduce the possibility of inadvertent damage from packaging actions.
2. Never pass tools or other objects over the object. Dropping a box cutter, flashlight, camera, scissors, etc., on top of a work of art can create significant damage.
3. Do not wrap an object or otherwise fill a box with newspaper because the ink can transfer to the object.
4. There should be no eating, drinking, or smoking in the work area.

*Packaging an Object for Safe Opening:*

1. The safe opening of a packaged object starts with smart packaging. Make best efforts to package the object logically so that someone with average skill and abilities can see and understand how each layer of packaging functioned as the layer before it was removed. The layering technique that is offered here in this guide presents a logical packaging strategy.

2. Hand opening preferred. Except for the outer shell's tape. The object should be packaged in a manner that allows it to be opened and unwrapped by hand. This reduces the chance that object may be accidentally damaged by a knife or other sharp tool.
3. *Creating tabs.* In order to assist anyone opening a packaged object, the law enforcement officer can tab edges of tape, which will enable an easier removal. To create a tab, simply fold the end of the tape over itself. Make tabs easy to grab but not too long that they can get snagged on other materials. A tab that is about a half inch in length should accomplish both of these goals. Tabs are not needed for the outer shell.
4. *Photography.* If the law enforcement officer has the ability to photograph each layer of the packaging process, those images can be printed and attached to the exterior of the packaged object. This will enable the person opening the packaged object to understand how it was packaged. It is just an extra layer of protection for the object that could be employed under any circumstances but especially when the object is extremely fragile or the packaging process was complex.
5. Ensure that all four sides and the top of the outer shell are labeled appropriately. If just one side is marked and that side is not visible to a handler, mishandling may occur.

*Suggestions for Safely Opening a Packaged Object:*

1. The opening of a packaged object should only be for a specific purpose. Opening a packaged object is akin to moving the object—and movement should only occur when absolutely necessary.
2. The law enforcement officer should ensure that the packaged object is being opened in a safe environment.
3. Define a work area where the object will be unpackaged. Once the work area is defined, ensure that everyone present and involved in the operation knows the boundaries of the space and only those that are necessary to the opening process are in it.
4. Cover a portion of the work area with butcher block paper, cardboard, or another clean and safe material. This will create a barrier layer, which will become the area where the packaging is removed. It is best to always have an additional layer of protection between the floor, table, or other flat work space to prevent the transference of any potential harmful substances in the work space.
5. If the object will be repackaged then appropriate packaging materials and tools should be brought to the scene so that the object can be promptly repackaged once there is no more need to handle the object.

6. The opening of the packaged object and its subsequent repackaging should be properly documented, both in writing and via photography, if possible.
7. The object's packaging should be opened by hand, whenever possible. Crating and the outermost packing tape of the outer shell may require tools and cutting to open. If the law enforcement officer must use a sharp object, it should be done with great care and along the edges of the box. The blade and cutting motion should always be away from the object. Just enough cutting should be employed to allow the law enforcement officer to open the balance of the package by hand.
8. Clear all debris associated with the outer layers away from the work area before removing the object's thin protective layer.

### *Suggestions for Emergent Packaging*

In the case of an emergency or utter lack of time and resources, the law enforcement officer can still be resourceful by repurposing existing items common to law enforcement. For example, gun and equipment cases, which have a foam interior and an outer shell, can be used to package many smaller three dimensional objects. A metal sword may fit securely inside a shotgun case. Medical supplies found in first aid kits, such as gauze and tape can be used as necessary. Tyvek suits that are kept for evidence recovery missions or hazardous material scenes can be cut to size to wrap objects. Evidence packaging material such as paper and plastic bags can be deployed where needed.



### *Evidence Storage Protocol Issues*

Some evidence storage protocols may require that the object be opened and inspected prior to entry into the secure space. If this is the case, then the law enforcement officer should consider wrapping the object in polywrap or glassine so that the object can be viewed through the thin protective barrier as opposed to being totally unpackaged and exposed. If the evidence storage facility has severe space limitations, framed paintings, which take up considerable space, may have to be removed from their outer shell and cushioning layer. As a result, the framed paintings can be wrapped in butcher block brown paper. This thin double protective layer is very durable and should provide adequate protection to most framed art if subjected to this process.

### *Packaging Strategies for More Commonly Encountered Objects*

This section provides general packaging strategies for several categories of objects such as framed and unframed works of art, three dimensional objects, books, maps, paper documents, photographs, tapestries, rugs, and other textiles. There are different and superior methods to packaging objects which professionals employ that are not shown here. These methods may be difficult to learn and execute without formal training and practice. The strategies and suggestions offered in this thesis will serve to realistically leverage law enforcement resources, time, and ordinary skill to accomplish the goal of field expedient packaging of the object. The law enforcement officer should feel free to adapt these strategies as necessary provided that the object remains safe and clean.

For large and heavy objects, especially those weighing more than 50 pounds, professional rigging equipment and crating may be required. Please consult professional art handlers and movers for suggestions.

### *Framed Works of Art*

For packaging purposes, paintings, prints, drawings, photographs, and mixed media generally fall into one of two categories: framed or unframed. Framed works of art already provide a layer of strength and protection, which make them easier to pack and store. Unframed works of art can vary greatly and some more common forms will be discussed below. The frames themselves must also be cared for appropriately. Some frames are constructed from cheap commercial grade material while others can be handcrafted masterpieces. It is important to ensure that the corners and edges of the frames are handled with care and protected as best as possible throughout this process. Here is a suggested field expedient packaging method:

1. Is the framed art covered by glass or plexiglass?
  - A. Glass is heavier and breaks more easily than plexiglass. Although plexiglass is lighter and stronger than glass it can sometimes scratch easier.
  - B. Tape any glass. If the painting is covered with glass, place masking tape on the glass in rows and columns equidistant apart. Only apply tape to the

glass; do not extend the tape to the frame. Glass in transit becomes a liability for the surface of the painting below. The tape will not necessarily prevent glass breakage, however, if the glass breaks, the tape will help hold it in place.

2. Begin the layering process.

- A. Wrap the art in a thin protective layer, such as tissue paper, glassine, polywrap, or Tyvek. If these materials are not available, use butcher block paper. [Remember that butcher block paper is a rough material in comparison to polywrap and tyvek and it may not be safe for long-term storage so if the painting will be kept for an extended duration try and re-wrap it in a safe archival material.] Wrap generously. Keep the wrapping taut. Use masking tape to secure the wrapping to itself. Never tape the wrapping directly to the art.
- B. The art can then be labeled for evidence purposes. Label the case information on a strip of masking tape and secure that strip to the wrapping on the back side of the art. Do not write directly on the wrapped surface of the art. This will prevent any unnecessary scratches, tears or markings caused by the writing implement.
- C. Next, add the cushioning layer. If there is enough wrapping material available, try to have one to two inches of layering protection. Wrap the

art in bubble wrap. Always have the flat side of the bubble wrap facing inward toward the painting with the bubbles facing outward. If facing the other way, there is a chance that the bubbles can leave impression marks on the surface of the art. Wrap generously. Cut pieces of foam to fit the corners of the wrapped art, if necessary. Tape the foam to the bubble wrap to ensure that the foam remains secure through handling, transport and storage. If the frame is ornate and the corners are subject to breakage or chipping, it is imperative that the cushioning layer be applied so that there is no unnecessary pressure placed on the ornate and/or weak parts.

- D. If necessary, label the cushioning layer of the artwork with case information.
  - E. The art should now be placed inside the outer shell. A cardboard box will work well. If one is available, consider layering the bottom of the box with foam to further reduce shock and vibration. If no pre-made box is available one can quickly be made from pieces of cardboard. See *Five Methods to Create a Field Expedient Outer Shell* below for instructions on how to create various field expedient cardboard outer shells.
3. Once the object is secured in the outer shell, mark the outer shell with fragile warnings, right side up arrows, and case information.

### *A Note About Storing Multiple Framed Works of Art in a Field Expedient Manner*

During operations where multiple framed works of art will be collected but must first be organized and temporarily stored on site, the paintings can rest face to face and then back to back in corresponding sizes. For example, if ten framed paintings are seized, the law enforcement officer should divide the paintings into five pairs. Each pair should roughly be the same size. The two paired paintings will face each other. The frames will serve as protection for the surfaces of both paintings. The pairs of paintings should be stored upright in descending order of size. If done correctly, only the backs of the paintings will be touching each other. If possible, place individual sheets of cardboard between the paintings for further protection. If the floor is dirty, lay down sheets of cardboard or butcher block paper first. Also, the frames must be cared for throughout this stacking process. Some ornate frames may have protruding parts that cannot bear the weight of the painting when situated on the ground, especially in a tilted position. Lay these types of paintings flat or temporarily rehang them. Once collected and wrapped, these paintings should also be stored in evidence in the similar pairing manner as discussed above.

### *Unframed Works of Art (on canvas)*

Unframed works of art on a canvas can be divided into two subcategories: those that are mounted to a *stretcher* or a *strainer*, which are types of auxiliary support, and those that are not. The primary support for a painting is the canvas, which is the cloth or fabric to which the paint is applied. [Paint can be applied to other supports to include wood, metal,

plastic, and other un-stretchable materials. Refer to the *Unframed Paintings - Supported* section below for tips with packaging these types of paintings.] This primary support is then stretched over some type of frame, usually a stretcher or strainer, which provides structural integrity to the painting. A stretcher is a type of wood frame that has the ability to expand and keep the canvas taut even as the canvas ages and begins to slack. A strainer is a wood frame that is static and cannot be expanded. This auxiliary support determines the dimensions of the painting and provides structural integrity to the work. Once the painting is completed, it can then be placed inside an external frame for display. Paintings can also be unstretched and the canvas may be found resting by itself, flat or rolled. Unstretched paintings require some additional steps in order to secure them safely.

*Unframed Paintings – Supported:*

Unframed paintings present difficult packaging decisions. Care must be taken to ensure that an unframed painting's surface is not damaged during the packaging process. Think of the surface of a painting as the icing on a cake, which can be very easily damaged. The thin protective layer may actually be harmful. As a result, the packaging of an unframed painting will be different than a framed painting. Here is a suggested field expedient packaging method:

1. The painting will be transported flat, face up inside a cardboard box.
2. Find a cardboard box that is large enough to hold the painting and has enough depth that the front of the painting will not rub against the inside of the cardboard

when placed inside. If no pre-made box is available one can quickly be made from two over-sized pieces of cardboard. Refer to the instructions listed above in the *Framed Works of Art* section, which will provide one method for creating a field expedient cardboard outer shell. Make sure the dimensions account cushioning, which will also be added.

3. Add cushioning to the four sides and bottom of the box. Cut and insert foam accordingly.
4. Lay the cardboard box flat.
5. Insert the unframed supported painting, face up, inside the cardboard box.
6. Close any open cardboard flaps and use packing tape to secure the box.
7. Mark the outer shell with fragile warnings, right side up arrows, and case information.

*Unframed Paintings – Unstretched:*

Unframed paintings, which are unstretched should be transported in the position they are found, which is usually either flat or rolled. Here are packaging suggestions for both flat and rolled unstretched paintings.

*Flat Paintings:*

If the painting is found flat and unstretched, it should be packaged and transported in that manner. This packaging process is similar to putting a cake in a box. Here is a suggested field expedient packaging method:

1. Measure the painting.
2. Find a flat piece of cardboard that is slightly larger than the painting. Wrap the cardboard in tissue paper, glassine, polywrap, or Tyvek. If these materials are not available, use butcher block paper. [Remember that butcher block paper is a rough material in comparison to polywrap and tyvek and it may not be safe for long-term storage so if the painting will be kept for an extended duration try and re-wrap the cardboard in a safe archival material.] Use masking tape to secure the wrapping to the back of the cardboard. This process is similar to creating a tinfoil support that a sheet cake would rest upon. For descriptive purposes, this will be referred to as “the sheet.”
3. Write the case information on masking tape and secure the tape to the bottom side of the sheet.
4. Next, find an outer shell that can house the sheet. A plastic storage bin with a lid may offer a quick solution. If no pre-made outer shell can be located, build an outer shell from cardboard.



A. *The following is one method of creating a field expedient cardboard outer shell.*

1. Acquire a piece of cardboard that is significantly larger than the sheet.
2. Place the sheet in the center of the cardboard. There should be enough excess cardboard surrounding the sheet that can be folded upwards to create the walls of the box.
3. Use a pencil to trace around the sheet in order to guide the folding of the cardboard.
4. Extend the pencil lines of all four sides of the sheet towards their respective ends of the cardboard. There should be a total of eight extended lines. These extended lines will be the cut lines.
5. Remove the sheet from the cardboard.
6. Using scissors or a box cutter, cut along the extended lines to the edge of the traced sheet. A portion of excess cardboard should be removed from each corner of the piece.
7. Fold the four flaps upward along the traced lines of the sheet. Use packing tape to secure the four walls in an upright position thus creating a box.

8. Trim or adjust the height accordingly.
9. Reinforce the exterior of the walls with more cardboard as necessary.
10. Cut an additional piece of cardboard to be the lid. Make the lid slightly larger than the parameters of the open box so that the lid cannot fall into the box and make contact with the painting.
11. Add a layer of cushioning to the bottom of the box. Add additional cushioning along the walls of the box, keeping in mind the minimum required space needed for the sheet to fit properly.
12. Place the painting on top of the sheet.
  - a. Move the sheet as close to the painting as possible to avoid excess movement of the painting.
  - b. Gently lift a corner of the painting and carefully slide the sheet underneath until the painting is centered on the sheet. Use a playing card or another thin but firm tool to lift the corner of the painting without damaging it.
  - c. If the painting is found face down, consider flipping the painting right side up onto the sheet.

13. Place the sheet in the outer shell.

14. Place the lid on top of the box and secure it to the outer shell with packing tape.

B. Since this packaging method leaves the painting in a “floating” state, it is imperative that it is placed on a level surface in the transport vehicle and great care is taken to avoid sudden stops or routes with significant inclines or declines.

5. Mark the outer shell with fragile warnings, right side up arrows, and case information.

#### *Rolled Paintings:*

Do not unroll and re-roll a painting to make it fit into a tube. This can seriously harm the painting's surface by causing cracks and flaking, resulting in loss. Instead, build a box for the painting. Here is a suggested field expedient packaging method:

1. Begin the layering process.

A. Wrap the painting in a thin protective layer, such as tissue paper, glassine, polywrap, or Tyvek. If these materials are not available, use butcher block paper. [Remember that butcher block paper is a rough material in comparison to polywrap and tyvek and it may not be safe for long-term

storage so if the painting will be kept for an extended duration try and re-wrap it in a safe archival material.] Wrap generously. Be sure to cover the rolled ends of the painting. Use masking tape to secure the wrapping to itself. Never tape the wrapping directly to the painting.

- B. Next, add the cushioning layer. Try to have two inches of cushioning around the painting. Wrap the painting in bubble wrap. Always have the flat side of the bubble wrap facing inward toward the painting with the bubbles facing outward. If facing the other way, there is a chance that the bubbles can leave impression marks on the surface of the painting. Be sure to cover the rolled ends of the painting. Use masking tape to secure the bubble wrap to itself.
- C. The art can then be labeled for evidence purposes. Label the case information on a strip of masking tape and secure that strip to the cushioning layer. Do not write directly on the wrapped surface of the art. This will prevent any unnecessary scratches, tears or markings caused by the writing implement.
- D. The painting should now be placed inside the outer shell. A cardboard box will work well. If one is available, consider layering the bottom and sides of the box with foam to further reduce movement of the rolled painting and any subsequent shock and vibration. If no pre-made box is available one can quickly be made from cardboard. Refer to the instructions below,

which will provide various methods for creating a field expedient cardboard outer shell. The one-piece box with lid (constructed similar to a coffin) or the one-piece wrap may work best.

2. Mark the outer shell with fragile warnings, right side up arrows, and case information.

*Three Dimensional Objects* (other than what is already listed in this thesis)

Three dimensional objects, which are not paintings, come in all different shapes and sizes and can be comprised of almost any material. This section focuses on general ideas that should be adapted to each situation. This section also includes specific recommendations for small artifacts recovered from archaeological sites.

*Small Objects:*

For purposes of this guide, consider a small object anything that can fit, wrapped, inside a common banker's box, which is roughly 10 inches in height by 12 inches in width by 15 inches in depth and can reasonably be carried by an average adult. In the case of the recovery of numerous small objects from a single location they can be collected and grouped together in a tray or box that is clean and has a soft bottom and brought to a centralized collection point for subsequent packaging.

If the objects are stable, they can be packaged using the layering techniques discussed above. Here are some suggested field expedient packaging methods:

1. Begin the layering process.
  - A. Measure the object's dimensions (height, width and depth).
  - B. Determine if the object has an intended resting position. For example, a ceramic bowl is generally meant to rest in an upright position so the contents remain inside the bowl. If so, best attempts should be made to package and transport the object in that position.
  - C. Wrap the object in a thin protective layer, such as tissue paper, glassine, polywrap, or Tyvek. If these materials are not available, use butcher block paper. [Remember that butcher block paper is a rough material in comparison to polywrap and tyvek and it may not be safe for long-term storage so if the object will be kept for an extended duration try and re-wrap it in a safe archival material.] Wrap generously. Use masking tape to secure the wrapping to itself. Never tape the wrapping directly to the object. Make a common sense analysis before applying the thin protective layer to the object to determine whether the protective layer may create the following hazards:
    1. Abrasiveness: Is the layering material abrasive to the object's exterior? Will the friction created from the application of this protective material cause damage to the exterior materials of the object? Only in the most fragile circumstances will this be an issue

since buffered tissue paper or glassine are generally meant to be a protective layer.

2. Breakage of protrusions: The layering material may snag or catch on fragile protrusions of the object, such as a sculpture's fingertip, and may cause such protrusion to break. If the sculpture is inherently strong, the protrusion will not necessarily break at the slightest pressure. Nonetheless, this pressure-sensitivity issue must be accounted for in the packaging process so no undue pressure is applied. In certain circumstances, where the protrusion(s) is inherently weak, it may be best to avoid the application of layering material and instead package the object in a way where it is secure inside the outer shell yet the protrusion is not touching anything.
3. In these fragile conditions, tissue paper is generally the softest and least stressful of the readily available protective layering materials. Butcher block paper is generally the most rigid material and should only be used, when necessary.
4. For small individual artifacts, a druggist fold may work best.
  - a. To create a druggist fold, use a clean piece of paper and fold it length-wise upon itself in thirds.
  - b. Next, fold the paper width wise upon itself in thirds.

- c. Open up the piece of paper and place the artifact in the middle.
  - d. Re-fold the piece of paper length-wise again upon itself in thirds and then again width wise upon itself in thirds.
  - e. The object should be secured inside the middle of the folded paper. Tape the end of the paper to itself to prevent the artifact from falling out.
- D. Next, add the cushioning layer. If there is enough wrapping material available, try to have one to two inches of layering protection. Wrap the object in bubble wrap. Keep the wrapping taut. Use masking tape to secure the wrapping to itself. Never tape the wrapping directly to the object. Add foam to the corners and edges as necessary. Always have the flat side of the bubble wrap facing inward toward the object with the bubbles facing outward. If facing the other way, there is a chance that the bubbles can leave impression marks on the surface of the object.
- E. The object can then be labeled for evidence purposes. Label the case information on a strip of masking tape and secure that strip to the cushioning layer. Do not write directly on the wrapped surface of the object. This will prevent any unnecessary scratches, tears or markings caused by the writing implement.



F. The object should now be placed inside the outer shell. A cardboard box will work well. If one is available, add a cushioning layer, such as foam, to the bottom and sides of the box to further reduce shock and vibration.

1. If the object is oddly shaped or lacking a stable base, fill the outer shell with foam and cut away a section in the middle that will allow the object to fit inside. This method can vary as needed. Use the portion of foam that was cut away as additional cushioning, where needed.
  2. If no pre-made box is available one can quickly be made from two over-sized pieces of cardboard. Refer to the *Five Methods to Create a Field Expedient Outer Shell* in the *Framed Works of Art* section below, which will provide various methods for creating a field expedient cardboard outer shell.
  3. Seal the outer shell with packing tape.
2. Mark the outer shell with fragile warnings, right side up arrows, and case information.
  3. If the object is heavy and the cardboard box is not sufficiently strong, the box (outer shell) can then be placed inside a plastic bin or on a more sturdy and stable platform for carrying. Add cushioning inside the plastic bin or other sturdy

platform to fill any voids between the box and the bin so the box is restrained during transport.

#### 4. Considerations When There are Numerous Objects

- A. If there are numerous objects, which are small enough to fit in the outer shell, then cardboard dividers can be added to the inside of the outer shell to create individual compartments. This method is similar to how glassware is packaged. Just measure and cut cardboard slats to fit the sizes and shapes, which are necessary.
- B. *Scientific collections or collections already grouped together.* When recovering small three dimensional objects which are already grouped together, such as scientific collections, bones, or lithic material, it is best to keep them together in the original grouping because the grouping may yield clues about who, what, when, where, why, and how the objects came to be in the collection. Also, the grouping may already be in a stable environment, such as a shadow box or other portable display case. If the law enforcement officer assesses that the objects in the collection are secure in the box or case, seize the objects in the box or case instead of removing them, if legally permissible. The box or case can always be returned later. In the event that only some of the objects in the case need to be seized, it will be up to the law enforcement officer to determine whether to remove the seized objects or remove the unwanted objects and

seize the remainder in the case. If the box or case with the objects will be seized, and the objects inside appear stable and safe for transport, treat the box or case as one object and package it according to the protocols suggested in this thesis.

### *Small Artifacts Recovered from Archaeological Sites*

Small artifacts such as lithic material, bone, or shells recovered during archaeological investigations should be packaged according to where and how they were discovered by the archaeologists or other experts. Generally, archaeologists will sample locations and recover artifacts for later evaluation. The archaeologists will need to identify the types of artifacts on scene. Once identified, the law enforcement officer can then begin the packaging process. These artifacts should be grouped together according to how they were collected. For example, if the archaeologists sampled two locations, then the objects recovered from the first location should be packaged together. Likewise, the objects recovered from the second location should be packaged together in their own respective bag. This means that the law enforcement officer should ensure that the archaeologists are communicating with the law enforcement officers on site to ensure that there is no mix-up of objects collected from one location with another.

If time permits, the law enforcement officer should request the archaeologist to make an initial on-scene identification of the types and amounts of each class of artifact found in each group of collected artifacts. For example, in a group of 27 artifacts, the archaeologist would separate the pieces into 14 pieces of lithic material, 11 pieces of

shell, and 2 pieces of bone, totaling 27 artifacts. The archaeologist can make further examinations in a laboratory setting to confirm or adjust the on-scene identification of each artifact. Prior to packaging, the law enforcement officer should photograph this group with the subsequent breakdown of each class of artifact, if possible. At a minimum, where the artifacts will serve as key evidence in the underlying prosecution, it is suggested that the artifacts are properly accounted for and receive some type of labeling on scene for the preservation of chain-of-custody.

If the artifacts are still wet from their removal from the soil or from subsequent wet screening, allow them to dry in a safe and secure environment prior to packaging. Certain agencies may require wet or damp objects to be packaged in a certain material like paper. Consult a professional archaeologist for additional guidance with the drying and subsequent packaging of artifacts, as necessary.

1. Assess the sizes and shapes of the group of artifacts that will be collected together.
  - A. Separate the classes of artifacts into their own sub-groups.
  - B. Further separate the objects in each class according to size. Group the small, medium, and large artifacts together for their respective packaging.
2. Each class of artifacts, to include each sub-group of class, which is arranged according to size, will be placed in their respective cardboard two-piece slider boxes or plastic or paper bag.

3. Begin the layering process.
  - A. Find a cardboard two-piece slider box of appropriate size for the first class of artifacts. If not slider box is available, use a plastic or paper bag and layer it according to the same method as the slider box.
    1. Layer the bottom of the box with cotton, preferably cotton strips.
    2. Place the group of artifacts in the box, one by one. Begin by placing the largest object of the group in one corner of the box and working clockwise (or counterclockwise) around the interior of the box until it is filled.
    3. Add a layer of cotton on top of the artifacts. Fill the box with cotton until the mobility of the artifacts are gently restrained.
    4. Slide the box inside the second cardboard piece to cover the artifacts.
    5. If necessary, use masking tape to tape the exterior of the slider box together.
    6. If the pieces are small and stable, and there is room in the box, a layer of cotton can be added and another layer of artifacts can be

added. Ensure that the top layer of artifacts are covered by cotton prior to closing the box.

7. If the group of artifacts contains more artifacts than can reasonably fit in one slider box, use as many slider boxes as necessary.

B. For small individual artifacts, a druggist fold may work best.

1. To create a druggist fold, use a clean piece of paper and fold it length-wise upon itself in thirds.
2. Next, fold the paper width wise upon itself in thirds.
3. Open up the piece of paper and place the artifact in the middle.
4. Re-fold the piece of paper length-wise again upon itself in thirds and then again width wise upon itself in thirds.
5. The object should be secured inside the middle of the folded paper. Tape the end of the paper to itself to prevent the artifact from falling out.

C. Mark each slider box (or druggist fold) with the class of artifact and the amount of artifacts inside and add the necessary case information.

- D. Place the box or boxes associated with the group of artifacts inside a brown paper bag. Seal the bag and add the aforementioned artifact and case information to the exterior of the bag.
    1. If more than one bag is needed, fill as many as necessary.
    2. If the objects are very fragile, crumple tissue paper and add it to the bottom of the bag prior to placing the slider boxes inside. This will create additional cushioning.
  - E. Place the bag or bags inside a cardboard box, which will serve as the outer shell.
4. Mark the outer shell with fragile warnings, right side up arrows, and case information.

### *Books and Unbound Paper Documents*

#### *Books*

Books are comprised of organic materials, meaning that they can deteriorate quickly and are subject to infestation of pests.<sup>40</sup> Take care not to damage a book's cover or bend its corners. Even though a book may appear intact, its binding may be loose leaving its pages susceptible to falling out.

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<sup>40</sup> Library of Congress. "Care, Handling, and Storage of Books." Accessed April 9, 2016. <http://www.loc.gov/preservation/care/books.html>.

1. Begin the layering process.
  - A. Wrap the book in a thin protective layer, such as tissue paper, glassine, polywrap, or Tyvek. If these materials are not available, use butcher block paper. [Remember that butcher block paper is a rough material in comparison to polywrap and tyvek and it may not be safe for long-term storage so if the object will be kept for an extended duration try and re-wrap it in a safe archival material.] Wrap generously. Use masking tape to secure the wrapping to itself. Never tape the wrapping directly to the object.
  - B. Next, add the cushioning layer. Wrap the book in bubble wrap. Keep the wrapping taut. Use masking tape to secure the wrapping to itself. Never tape the wrapping directly to the book. Add foam to the corners and edges as necessary. Always have the flat side of the bubble wrap facing inward toward the object with the bubbles facing outward. If facing the other way, there is a chance that the bubbles can leave impression marks on the surface of the book.
  - C. The book can then be labeled for evidence purposes. Label the case information on a strip of masking tape and secure that strip to the cushioning layer. Do not write directly on the wrapped surface of the book



This will prevent any unnecessary scratches, tears or markings caused by the writing implement.

- D. The book should now be placed inside the outer shell. A cardboard box will work well. If one is available, add a cushioning layer, such as foam, to the bottom and sides of the box to further reduce shock and vibration.
  1. Lay the book flat. Do not stand it up because the pages may separate from the binding.
  2. If multiple books are to be collected and they are sufficiently stable they can be stacked upon each other, accordingly, inside the box.
  3. Fill voids in the box with tissue paper, foam, or cardboard to prevent the book(s) from moving during transport.
2. Mark the outer shell with fragile warnings, right side up arrows, and case information.

### *Unbound Paper Documents*

Unbound paper documents can be temporarily moved in manilla folders, which are then placed inside a folio or box (outer shell) to protect them from bending. For long-term storage, the paper documents should be housed in acid-free, lignin-free, buffered file folders.<sup>41</sup> When the paper is stable, several sheets can be stored in one folder by creasing

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<sup>41</sup> Northeast Document Conservation Center. "4.1 Storage Methods and Handling Practices." Accessed April 09, 2016.

the bottom of the folder to accommodate the thickness of the papers.<sup>42</sup> Fragile paper may require fewer sheets per folder or an individual polyester sleeve.<sup>43</sup>

### *Photographs*

Photographs are comprised of different types of media that each require specific types of care.<sup>44</sup> If the photographs are already securely housed inside an album or other container, do not remove the photographs and instead package said album, or specific album page, or container in a box, according to the layering principles suggested in this guide.

Place loose photographs in paper or plastic folders, which will protect them from dust and light. Ensure that the folders are then placed inside a folio or box to protect them from bending. Long term packaging and storage of rare photographs will likely require them to be placed in paper folders that are lignin-free or plastic folders that are chemically inert.<sup>45</sup>

### *Oversized Maps and Works on Paper*

Oversized maps and works on paper may be treated differently from a conservation standpoint but have the potential to be packaged similarly in the field. If possible, these

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<https://www.nedcc.org/free-resources/preservation-leaflets/4.-storage-and-handling/4.1-storage-methods-and-handling-practices>.

<sup>42</sup> *Ibid.*

<sup>43</sup> *Ibid.*

<sup>44</sup> American Institute of Conservation of Historic and Artistic Works. "Caring for your Treasures/Photographs." Accessed April 9, 2016.

<http://www.conservation-us.org/about-conservation/caring-for-your-treasures/photographs#.VwICD5MrKu5>.

<sup>45</sup> *Ibid.*

large objects should be packaged flat. If the maps or works on paper are already rolled, see the *Rolled Paintings* portion of this section for packaging suggestions.

1. Avoid rolling, folding, or creasing.
2. Begin the layering process.
  - A. Find equally sized flat pieces of cardboard, which are slightly larger than the object.
  - B. Wrap both pieces of cardboard in tissue paper, glassine, or Tyvek. If these materials are not available, use butcher block brown paper. [Remember that butcher block paper is a rough material in comparison to polywrap and tyvek and may not be suitable here. Butcher block paper may not be safe for long-term storage so if the objects will be kept for an extended duration try and re-wrap it in a safe archival material.] Wrap generously. Keep the wrapping taut. Use masking tape to secure the wrapping to the back of the cardboard. Never tape the wrapping directly to the art.
  - C. Lay one wrapped piece of cardboard on a flat surface.
  - D. Place the object in the center of said board.
  - E. Cover the object with the front of the other board.

- F. Use a cushioning layer, preferably bubble wrap, to wrap the two boards together, with the object sandwiched in between. Tape the bubble wrap to itself.
  - G. The object can then be labeled for evidence purposes. Label the case information on a strip of masking tape and secure that strip to the cushioning layer. Do not write directly on the wrapped surface of the art. This will prevent any unnecessary scratches, tears or markings caused by the writing implement.
  - H. The wrapped object should now be placed inside the outer shell. A cardboard box will work well. If one is available, consider layering the bottom and sides of the box with foam to further reduce movement of the object and any subsequent shock and vibration. If no pre-made box is available one can quickly be made from cardboard. Refer to the instructions below, which will provide various methods for creating a field expedient cardboard outer shell.
3. Mark the outer shell with fragile warnings, right side up arrows, and case information.

## *Tapestries, Rugs, and Other Textiles*

### *Tapestries and Rugs*

Tapestries, rugs, and other textiles are comprised of organic materials, meaning that they can deteriorate quickly and are subject to infestation of pests.<sup>46</sup> Other textiles could be clothing and woven art.

1. Rolling the tapestry or rug.
  - A. In order to correctly roll the tapestry or rug, the law enforcement officer must determine the condition of both sides of the tapestry or rug. Generally, whichever side is weakest or most susceptible to damage should be rolled in.
  - B. Locate a roller that can be used to roll the tapestry or rug. Make sure it is longer than the tapestry or rug.
  - C. Gently roll the tapestry or rug on the roller. Allow the textile to catch upon itself during the first turn.
2. Begin the layering process.

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<sup>46</sup> The Smithsonian Institution, Museum Conservation Institute. "How to Handle Antique Textiles and Costumes." 2006. Accessed April 09, 2016.  
[http://www.si.edu/mci/english/learn\\_more/taking\\_care/handletex.html](http://www.si.edu/mci/english/learn_more/taking_care/handletex.html).

- A. Wrap the tapestry or rug in a thin protective layer, such as tissue paper, glassine, polywrap, or Tyvek. If these materials are not available, use butcher block paper. [Remember that butcher block paper is a rough material in comparison to polywrap and tyvek and it may not be safe for long-term storage so if the tapestry or rug will be kept for an extended duration try and re-wrap it in a safe archival material.] Wrap generously. Use masking tape to secure the wrapping to itself. Never tape the wrapping directly to the tapestry or rug.
  - B. The tapestry or rug can then be labeled for evidence purposes. Label the case information on a strip of masking tape and secure that strip to the cushioning layer. Do not write directly on the wrapped surface of the tapestry or book. This will prevent any unnecessary scratches, tears or markings caused by the writing implement.
  - C. The tapestry or rug should now be placed inside the outer shell. A cardboard box will work well. If one is available, add a cushioning layer, such as foam, to the bottom and sides of the box to further reduce shock and vibration.
3. Mark the outer shell with fragile warnings, right side up arrows, and case information.

### *Other Textiles*

Other textiles can comprise almost anything. Examples include costumes, blankets, gowns, and woven artistic pieces. If possible, wrap the object in a protective barrier and place it flat inside a box. If the textile is large, assess whether it can be folded or tucked. Fold or tuck as little as possible. Fold or tuck along areas that will not create stress on the stitching and/or joints. It is important to note that items which adorn the base textile may be secured via glue or other weak adhesives and should be accounted for when developing a packaging strategy.

### *Five Methods to Create a Field Expedient Outer Shell*

#### *The One-Piece Box with Lid*

1. This outer shell is meant to be created from one piece of cardboard. Depending on the size of the cardboard piece, there may be enough excess to make the lid.
2. Measure the height, width and depth of the wrapped artwork.
3. Find a suitable piece of cardboard. Measure the piece to ensure that there is enough material. To find the approximate minimum amount of cardboard necessary, make the following calculations:
  - A. To find the minimum height: Double the object's height, add the depth, and add four inches.

- B. To find the minimum width: Double the object's height, add the width, and add four inches.
  - C. The addition of four inches to each side is to account for any additional cushioning that may be placed inside the outer shell. This number can be adjusted as necessary.
  - D. Depending on how the object rests on the cardboard, depth may need to be substituted for one of the other measurements.
- 4. Place the piece of cardboard on a flat surface.
  - 5. Find the middle of the cardboard. Using a pencil and a ruler, sketch the width and depth (or height and width, depending on how the object rests) in the middle of the cardboard. Remember, if cushioning is to be added to the inside of the box, add the additional necessary inches to account for that space. When finished, there should be a square or a rectangle drawn in the center of the cardboard. If necessary, place the object inside the square or rectangle to ensure that the measurements and drawing are correct. Adjust as necessary.
  - 6. Next, use the pencil and ruler to extend each side of the square or rectangle, in both directions, by the object's height. There should be a total of eight lines drawn. Remember, if cushioning is to be added to the top of the object, once it is



placed inside the box, add the additional necessary inches to these lines to account for that space.

7. Cut the along these eight lines starting from the edge of the cardboard and stopping at the edge of the square or rectangle. Remove any waste and save for later to make the lid. There should now be four flaps attached to the square or rectangle.
8. Fold the four flaps upward. These flaps comprise the four walls of the outer shell.
9. Reinforce the walls with additional cardboard as necessary.
10. Use packing tape to secure the four walls.
11. Add cushioning to the base of the box and the sides of the box, as necessary.
12. Use the excess cardboard to make a lid. The lid can be flat or it can be cut and folded similar to the box, with slightly larger dimensions, which will allow it to fit snugly over top of the box.
13. Add cushioning as necessary to the inside of the lid or the top of the object once it is fitted in the box.
14. Secure the lid to the box with packing tape.

*The Two-Piece Box*

1. Measure the height and depth of the wrapped artwork. Add those two measurements together. Measure the width and depth of the artwork and add those two measurements together. If foam blocks have yet to be added to the corners of the artwork, make sure and account for them in these measurements.
2. Cut two pieces of cardboard that both have a height and width similar to the two added measurements in the step above.
3. Place the cardboard pieces on a flat surface. Place the wrapped artwork on top of the first cardboard piece. Situate the artwork so that the lower left corner of the artwork is inline with the lower left corner of the cardboard. There should be excess cardboard at the top and to the right. Ensure that the excess cardboard at both the top and right is greater in length than the depth of the artwork. Use a pencil to trace the outline of the artwork to mark exactly where the excess cardboard begins at the top and side of the artwork and extend these lines until reaching their other respective edges of the cardboard. Make a special mark on the cardboard where the top right corner of the artwork rests. Remove the artwork. There should be two pencil lines, one coming from the left edge of the cardboard and one coming from the bottom of the cardboard, that intersect somewhere near the top right of the cardboard and both extend to their respective edges of the

cardboard. At that intersection, there should be an additional marking that confirms where the top right corner of the artwork rested on the cardboard.

4. Repeat the process for the second piece of cardboard.
5. Remove the artwork.
6. Use scissors or a box cutter to make a single cut from the top edge of the cardboard to where the top right corner of the artwork rested. Stop at the mark that was made to signify where the top right corner of the artwork rested.
7. Next, cut from the right edge inwards toward the where the top right corner of the artwork rested. Stop at the mark that was made to signify where the top right corner of the artwork rested.
8. Remove the excess cardboard from the top right corner of the piece.
9. Repeat the same cut for the second piece of cardboard.
10. Place the artwork back onto one of the pieces of cardboard, with the folded portions facing up. Again, ensure that the folded portions are greater in length than the depth of the artwork.
11. Add any additional cushioning to the wrapped artwork.

12. Take the second piece of cardboard, flip it over and rotate it 180 degrees, so that it fits on top of the artwork and its excess portions cover the other edges of the artwork not covered by the first piece's excess portions.
13. The cardboard pieces should fit together to create a total enclosure of the artwork. If the pieces do not fit, assess where the measurements were off and attempt to make adjustments or begin the process again with two new pieces of cardboard.
14. The corners of the excess portions can be trimmed away or folded to make a better fit.
15. Once the two cardboard pieces sufficiently fit together, use packing tape to begin taping the edges together.
16. Use additional pieces of cardboard, where necessary to bolster the strength of this enclosure. This may be useful at the corners of the enclosure. If necessary, fold additional pieces of cardboard into shapes that can be placed over the corners to provide additional protection and shock absorption. Secure with tape as necessary.

### Telescopic Boxes

1. This outer shell is useful when there is an oversized artwork or object.
2. The object is secured in the bottom box. The object, due to its size will be taller than the top of the box.

3. A second box, slightly larger than the bottom box, will be turned over and fitted over top of the object and slid downward until it rests snugly in an overlapping fashion with the bottom box.
4. The two boxes can then be secured with packing tape at the point of overlap.

#### The “Sandwich”

1. This outer shell is only recommended for framed art or objects that are otherwise stable and reinforced.
2. Acquire two similarly sized sheets of cardboard, which are slightly larger than the wrapped object.
3. Place one sheet of cardboard down on a flat surface.
4. Place the wrapped object on top.
5. Place the second sheet of cardboard on top of the object.
6. Use packing tape to tape the cardboard together and secure the object inside.

#### The One-Piece Wrap

1. This outer shell can be used for rolled paintings, scrolls, or other elongated objects.
2. Measure the length and width of the object
3. Acquire a piece of cardboard that is at least four times wider and slightly longer than the rolled object. The piece should be slightly larger to account for cushioning, which may be added later.

4. Starting at one of the long edges of the cardboard, use a pencil to make four vertical lines, equidistant apart, which are each equal to the width of the wrapped object. Add additional width as necessary to account for cushioning, which will be added later.
5. Fold the cardboard along those lines. The cardboard should now be folded into a rectangular box.
6. Cushioning can be added as necessary either before or after the cardboard is sealed to itself.
7. Depending on the situation, the cardboard box can be sealed with packing tape first and then the object can be inserted or the object can be placed inside the open cardboard and then sealed. Just ensure that the measurements are correct so the rolled object will not be flattened or crushed during the closure of the box.
8. The excess cardboard can be folded down on both ends and sealed with packing tape.

## **CHAPTER 7: CONCLUSION**

This thesis is meant to increase the knowledge and skill of law enforcement officers in the United States when they handle art and artifacts. This thesis can also serve to inform art-world professionals and academics about certain processes, which may involve art and artifacts, that are routinely performed by law enforcement officers. A better understanding of how both “worlds” operate may foster a greater appreciation among all parties about these cultural heritage preservation issues.

For those law enforcement officers who may feel overly burdened by these suggestions, they should be reminded that the law enforcement profession is constantly evolving to meet society’s expectations and needs. Cultural heritage preservation is an important aspect of this generation and will continue to be so for the foreseeable future. The recognition by law enforcement of the need to identify and care for cultural property is merely another progression of professional development in this long and storied career field. This thesis appreciates the ever-increasing demands of the law enforcement officer by attempting to offer practical advice that can be readily learned and implemented.

For all the professionals that are engaged in some capacity with cultural heritage preservation it must be understood that the suggestions listed here are based on the education and practical experiences of a single law enforcement officer. The author has not been exposed to the entire breadth of this field and thus cannot offer advice or account for every conceivable object or handling situation. Nonetheless, the author has

studied this field and has conducted numerous art and artifact related law enforcement operations. The suggestions offered here may not meet the required level of care for an art-world professional but these operations are occurring under circumstances specific to law enforcement.

Currently, there is no ground swell for law enforcement to start treating art and artifacts with advanced care. The author suggests that cultural heritage preservationists and related professionals attempt to work with and teach law enforcement about best practices in this field to better this paradigm. It will likely take a determined and lengthy grassroots appeal from interested parties both in law enforcement and in cultural heritage preservation to bring this issue of proper care to the fore. One such way to facilitate spreading this information across the law enforcement community is to develop a handbook with a corresponding smartphone application that is robust and easy to use. The handbook should include photographs and diagrams. The smartphone application should be intuitive, easily searchable, and include short videos for the suggested techniques that can be accessed in the field. The application may even be designed for additional field uses, such as accessing the smartphone's camera to assist the law enforcement officer with on-scene photography and lighting when a professional camera is unavailable.

Finally, a dedicated partnership between cultural heritage preservationists and American law enforcement has the ability to create a significant force multiplier effect for the cultural heritage preservation field. As of 2011, there are over 1,000,000 law



enforcement officers in the United States.<sup>47</sup> If cultural heritage preservationists commit themselves to encouraging and supporting law enforcement with caring for cultural property then there is the reasonable chance that, over time, the cultural heritage preservation field can increase by one million people those individuals in this country who have the knowledge and the ability to protect and preserve cultural heritage.

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<sup>47</sup> Federal Bureau of Investigation. "Table 74 Full-time Law Enforcement Employees by Population Group, Percent Male and Female, 2011." Uniform Crime Reports Crime in the United States 2011. Accessed April 9, 2016.  
[https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2011/crime-in-the-u.s.-2011/tables/table\\_74\\_full-time\\_law\\_enforcement\\_employees\\_by\\_population\\_group\\_percent\\_male\\_and\\_female\\_2011.xls](https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2011/crime-in-the-u.s.-2011/tables/table_74_full-time_law_enforcement_employees_by_population_group_percent_male_and_female_2011.xls).

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*See also* WOODEN OBJECTS

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*See also* FURNITURE & WOODEN OBJECTS

**LEGAL DISCLAIMER**

This thesis was written to provide suggestions for the care of art and artifacts subjected to the law enforcement process. It is the author's intent to raise the standard of care in this area. Nonetheless, the contents of this thesis are not binding on any person or entity, to include any law enforcement officer or law enforcement agency, in any capacity.