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Highlight

[1]

ABSTRACT

Long before the onset of the now-emblematic quarrel between England and Greece over the Parthenon marbles, nations and tribes have squabbled over the extraterritorial transfer of objects of purported cultural significance. Over the past few decades, however, there has been a dramatic increase in the number of cultural property repatriation claims, mostly targeting U.S. collections.

The value of cultural artifacts is generated largely by the intellectual expression they manifest. Digital technologies make increasingly possible the creation of reproductions of even three-dimensional artifacts, which are indistinguishable from the originals. This development challenges our attributing value to the "aura" of the original renderings of tangible cultural artifacts. Stripped of their auras, the worth of these objects devolves to the sum of the value of the physical materials deployed in their creation, and that ascribed to the perceptible intellectual expression they contain.

If we were to perceive cultural artifacts fundamentally as works of information rather than of tangible property, the location of the original instantiations of them would be of little significance. Three-dimensional technologies might soon permit source nations to retain the essential intellectual value of cultural artifacts found within their borders, while simultaneously capitalizing upon sales of the originals to collectors who will pay for their "aura."

Text

[2]

INTRODUCTION

Toward the end of Woody Allen's *Small Time Crooks*, Ray, the bungler played by Allen, attempts to conceal his theft of an emerald necklace by replacing it in the safe in which it is stored with a cheap imitation. [1](#) The scene is set at a party on New York's Upper East Side. Ray is so discombobulated by the risk of his hostess's discovery of him in flagrante delicto that he becomes confused as to which of the two pieces is genuine. After an agony of indecision, he pockets the glass fake, which his more discerning wife, Frenchy, dismissively destroys when he presents it to her as their ticket to retirement in Florida. [2](#)

In fact, even if the rendering of the Chinatown knock-off had been more artfully wrought so as to be visually indistinguishable from the original, the weight and other haptic qualities of the two objects would enable connoisseurs easily to distinguish between them. Suppose, however, that Ray's botched heist had involved not a gold and emerald necklace, but rather an equally precious ancient carving or sculptural work, perhaps rendered in ivory, jade, or marble. If the copy were visually indistinguishable from the original and fashioned from the same material, even experts might be unable, using vision and touch, to tell one from the other.

One could still readily identify the original work by using radiocarbon, or other dating technologies like thermoluminescence, that reveal otherwise imperceptible information about the composition of organic and inorganic materials. [3](#) This information is both historically and economically significant. An Aztec stone mask from the pre-Columbian era, for instance, will command a much higher price at auction than an indistinguishable copy of it from the twenty-first century. [4](#) Twenty-first century technologies, however, that enable ever more precise recording and re-creation of information about physical objects, challenge the rationality of this economic discrimination.

Works of intellectual expression whose value depends little on the materials in which they are fixed - e.g. literary, dramatic, and musical works - are most tractable to digital reproductions that are no less valuable than the original [5](#) manifestations of the works. [6](#) The same is true of sound recordings, popular music, and motion pictures that are now typically fixed, even at the outset, in digital media. Even molecular compositions of works of flavor and fragrance now can be analyzed through gas chromatography and mass spectrometry technologies, enabling the reproduction of perfumes and aromas indistinguishable from their models. [7](#) And increasingly, digital technologies make possible not

only the capture of information about three-dimensional works but also the fabrication of facsimiles of scanned objects.

Three-dimensional scan and **print** technologies have significant implications for the fine art and antiquities markets relating to the unauthorized reproduction of copyrighted **3D** works and the manufacture of counterfeits. **7** Less immediately apparent, however, are the implications of these technologies for how we perceive and resolve claims for the repatriation of three-dimensional cultural artifacts. This Article focuses on this latent capacity.

From time immemorial, there have been disputes involving title to, and possession of, objects claimed to belong to a nation's cultural patrimony. Long before the onset of the now-emblematic quarrel between England and Greece over the Parthenon marbles, nations and tribes have squabbled over the transfer of objects of cultural property. **8** The last few decades, however, have witnessed an extraordinary increase in the number of cultural property repatriation claims. **9**

Several factors have contributed to this development. World War II precipitated the destruction and relocation of vast quantities of cultural artifacts throughout Europe that included not only objects confiscated from Jewish families, but also many works that were expropriated from national collections. **10** This catastrophe prompted post-war efforts to establish international conventions to forestall its recurrence, as well as a robust network of resources dedicated to the recovery of property confiscated during the Holocaust. **11** Also, in the decades following World War II, former European colonies asserting their sovereignty have demanded the return of objects of cultural property transferred beyond their borders during eras of colonization. **12**

Perhaps the most significant catalyst for the recent spate of claims by a growing number of nations, for the repatriation of moveable cultural artifacts, has been the accommodation by the United States government of foreign assertions of title to artifacts owned by private and institutional collectors in the United States. **13** The ulterior motive behind the Executive Branch's brisk prosecution of these foreign claims and concerns against its citizenry has been the promotion abroad of goodwill and cooperation to further, for instance, United States' trade and security interests. **14** This prosecutorial zeal, however, has also generated disquietude within the United States community of antiquities collectors and dealers. Museums in particular are now apprehensive about not only perceptions of the integrity of their existing collections, but also the viability of ongoing development of these collections through acquisitions and contributions. **15**

This Article posits that the potential of digital technologies to record and reproduce three-dimensional works should bear on how we perceive tangible works of cultural property, and how we resolve disputes over their ownership. It suggests that the economic and aesthetic value of most material cultural artifacts, like statues and paintings, should be attributed to the intellectual expression they manifest. As this expression increasingly can be captured and replicated, the original physical manifestations of this expression should be perceived as less precious than they were heretofore.

Nations rich in archaeological artifacts - typically developing nations, or economically weak countries like Italy and Greece - could capitalize on their archaeological resources by selling original artifacts, while still possessing indistinguishable copies that contain most of the value of the originals. The window of opportunity for such capitalization, however, may be limited: with nanotechnologies on the horizon, and atomic-level replication of objects that they will enable someday, the economic worth of original archaeological artifacts should eventually wane to the point that they are valued, like literary and musical works, entirely for the human expression they evince.

The following discussion explores the thesis that works of cultural property are ultimately works of cultural information. It considers **3D** scan and **print** technologies and their copyright implications, and proposes the potential of these technologies to influence the resolution of cultural property repatriation claims. **5** We first set the stage, however, with an overview of the development of cultural property policy in the United States over the past fifty years, and the role that national and international law has played in it.

I. DEVELOPMENT OF UNITED STATES CULTURAL PROPERTY POLICY

A. What is "Cultural Property"?

While a nation or population's cultural patrimony comprises intangibles like language, music, dance, humor, and cuisine, cultural property usually refers to physical, man-made objects. **16** Objects of cultural property can be as massive and immobile as the Hagia Sophia, or as compact and portable as a Mesopotamian cylinder seal. **17** The term "property," rather than "patrimony," however, as qualifying something associated with a particular nation or people, implies ownership. We consider Shakespeare's dramas to be part of England's cultural patrimony, but not to be England's cultural property. On the other hand, we regard Stonehenge to be a component of England's patrimony, but also to be English property.

It is the physicality of cultural property objects that make them more troublesome than intangible elements of cultural patrimony. James Cuno, the CEO of the J. Paul Getty Trust, alluded to this phenomenon in a reference to the "stubbornness of objects": "It's not the same with music, it's not the same with film, it's not the same with literature - but when it comes to physical objects, these things are kept as evidence of a proud past, as defined by the nation-state government." **18**

It is also more difficult to eradicate intangible cultural property - language, cuisine, religion, etc. - than it is tangible objects like statues. **19** Tangible cultural property objects are therefore more vulnerable to theft and destruction than not only intangibles like language and costume, but also tangible, yet more fungible goods like oil and grain. Aggressor armies and terrorists capitalize on this fact when they **6** confiscate or destroy objects prized by their victims. Typically these objects hold economic and aesthetic value, as well as emotional significance, to the victims. **20**

B. What is Repatriation?

We typically associate "repatriation" with humans who have been displaced from their homelands: refugees, prisoners of war, hostages, and illegal immigrants. While illegal immigrants and refugees do not want to be returned to their native lands, "repatriation" has generally positive overtones associated with happy reunifications and a sense of rightness of place.

When we use "repatriation" in connection with cultural property, we anthropomorphize objects, implying not only that these objects have a homeland, but also that, like humans, they have an innate yearning to be located within a particular locus and culture, a phenomenon Germans refer to as "Heimat." **21** The five remaining Caryatids on the Acropolis's Erechthion are said to wail at night over Elgin's removal in 1801 of their sixth "sister." **22** Effrosyni Moschoudi, a popular Greek novelist, claims: "there isn't one among us that doesn't regard them as living and breathing things while we watch them wait." **23** Of course, such thoughts and feelings projected onto inanimate objects simply reflect those of the individuals transmitting them. **24**

7 Repatriation of persons involves their physical transfer to a political entity - a nation with a government. It usually also involves transfer to a particular geographical location. Repatriation of cultural property objects also involves their transfer both to a government and to a place. Unlike living persons, however, these objects often have only attenuated ties to the modern nations and cultures into which they are "repatriated." The Venetian Republic, for instance, was no more associated than was France with the creation of the Triumphal Quadriga ("Horses of St. Mark") that were repatriated to Venice from France in 1815 after Napoleon's drubbing at Waterloo. **25** Similarly, the purported bond between Italy and the Euphronios krater - given by the Metropolitan Museum to the Italian government in 2006 - was based on a claim that this Greek object had likely been excavated in Tuscany. **26**

Even when antiquities are sent to the geographical locations where they were created, the inevitable political changes and human migrations over millennia render sophisticated claims of emotional attachment between the current population and that of the creators of the object. **27** The fluidity of national boundaries further belies the legitimacy of repatriation claims rooted in jingoistic rhetoric. The Euphronios krater, for example, a Greek object, purportedly excavated from an Etruscan grave is no more "Italian" than a two-thousand-year-old arrowhead excavated in Massachusetts is "American."

While the rightful possession of cultural artifacts has been a perennially [8] contentious issue among nations for millennia, only in the past few decades has it developed into a mainstream political matter involving diplomats, politicians, archeologists, and various participants in the art and antiquities market. [28] Today, cultural property disputes and their resolutions are interesting not only to archeologists, collectors, and lawyers working in this field, but also to journalists and other commentators who inform the general public with a steady stream of intelligence in this area. [29]

The recent dramatic surge in the number of cultural property disputes is paradoxical because since 1970, governments have increasingly promulgated international and national legislation whose ostensible purpose is to combat looting and international transfer of cultural objects. This rise in the number of disputes suggests either that this legislation has failed to curb looting or transfer of antiquities, or that it has served mainly to encourage nations to assert claims for the return of objects once located within their borders.

Most national prohibitions on the export of cultural property were not enacted until after the Enlightenment and the surge of nationalism in the eighteenth and nineteenth centuries. [30] National legislation governing the ownership and movement of objects of cultural property may be relatively laissez-faire, like that of wealthy nations like Japan and the United States; or more restrictive, like that of less affluent nations like Italy and Mexico, which assert state ownership over objects of cultural property found even on private property within their borders. [31] National legislation is of little avail, however, to one country's assertion of ownership, and control of movement, of objects located in another nation. Such assertions, however, may become effective when international law is brought into play.

The 1954 Hague Convention, negotiated in response to the Nazis' rampant destruction and confiscation of cultural artifacts, was the first international convention to deal specifically with the protection of cultural property. [32] The goal of this convention is the mitigation of collateral and gratuitous damage during armed conflict among signatories. [33] The Convention's preamble establishes that its [9] purpose is to protect and preserve cultural property on behalf of all mankind. [34] It requires signatories not only to establish within their militaries units trained to protect cultural property during times of armed conflict, but also to take peacetime measures to identify and safeguard significant works of cultural property. [35] It also established the "blue shield" as the symbol by which parties are to identify works of cultural property eligible for protection. [36]

Whereas the Hague Convention was engendered by collective rue during the aftermath of war, the UNESCO Convention was forwarded largely by assertions by once-colonized states about the flow of objects of cultural patrimony associated with these source nations to wealthier market nations. [37] For instance, the British and Dutch colonization of India, or the French of Haiti, involved not only wholesale despoliation of natural resources, and virtual enslavement of indigenous populations, but also the removal of vast assemblages of cultural objects, most of which remain in Europe today. [38] Collective aggrievement among the governments of erstwhile colonies over this ransacking motivated the UNESCO Convention, just as similarly pooled regret in the aftermath of World War II prompted the Hague Convention. [39]

Unlike the Hague Convention, the UNESCO Convention is prescriptive, with a [10] strong nationalist bias evident from a preamble emphasizing the protection of cultural property as belonging to individual member states. [40] While the focus of the Hague Convention is the prevention of destruction and looting of cultural property during war, that of the UNESCO Convention is the control of the movement and sale of cultural artifacts beyond the borders of the state in which they were created or found. The UNESCO Convention effects this regulation by providing a mechanism for the retention and control of the transfer of antiquities in the modern states in which they are found, and specifically by requiring signatories to enforce each other's cultural property export laws. [41]

The initial version ("Secretariat Draft") of the UNESCO Convention identified market nations that did not participate in its drafting as the agents of the depredation of national cultural patrimonies. [42] This draft required every member state "(a) to prohibit the export of any item of 'cultural property' unless accompanied by an export certificate; and (b) to prohibit the importation of any item of 'cultural property' not 'accompanied' by such a certificate - that is, which was illegally exported." [43]

The draft thereby charged market nations with the responsibility to control within their borders, movement and commerce involving cultural property, as regulated by the national laws of the Convention's signatories. [44] Market nations, [11] including the United States, were naturally disinclined to join a convention that would unilaterally tax them with the costs of adjudication and enforcement - against their economic, and arguably also cultural, interests - of the cultural property ownership claims and export restrictions of source nations. [45]

The UNESCO Convention has no retroactive force, which means that only objects acquired by citizens of signatory nations after 1970 are subject to its terms. [46] Enormous European collections of art and antiquities, acquired over centuries through colonization and military aggression, are, therefore, outside the Convention's purview. [47] By the second half of the twentieth century, collectors in the United States had become the most significant buyers of antiquities. The impetus for the UNESCO Convention, therefore, appears to have been mainly the establishment of an instrument by which source nations could check acquisitions by United States collectors - or derive greater financial benefit from them. [48]

[12] Of all market nations, the United States had, therefore, ostensibly the most to lose, and least to gain, economically and culturally, by acceding to the Convention. [49] Rather than simply shunning participation in shaping the ultimate text of the Convention - the approach taken by Switzerland and Great Britain - the United States engaged in revision negotiations, enlisting support for their position from other market countries like France and West Germany. [50] In 1972, the United States ratified the Convention, but exempted itself from Article 6's sweeping requirement that signatories prohibit export of all objects they deem cultural property unless the export is expressly authorized by state authorities. [51]

Deep skepticism within Congress as to the Convention's positive potential for American interests delayed enactment of implementing legislation until 1982. [52] The crux of the implementing legislation, the Convention on Cultural Property Implementation Act (CCPIA), is the United States' commitment to Article 9 of the [13] Convention that obligates signatories to assist in forestalling the pillaging of cultural property through import regulations. [53]

The CCPIA authorizes the President to entertain requests by other Convention signatories for the United States to promulgate import prohibitions on specified objects of cultural property. [54] It also establishes the Cultural Property Advisory Committee (CPAC) to evaluate these requests, and to report its review of such calls, and the action it recommends regarding them, to the President. [55]

The objective of the UNESCO Convention is to discourage looting of antiquities by obligating signatories to safeguard cultural objects, and by thwarting their movement through import/export controls. [56] Both archeologists and those opposed to the antiquities market controls inherent in the UNESCO Convention acknowledge, however, that since the Convention was first adopted in 1970, the looting and sale of illicitly acquired antiquities has only increased. [57] This is remarkable given the Convention's swiftly growing number of adherents and the positive externalities with respect to curbing looting that this expansion should [14] have generated. [58]

D. UNESCO Convention, Domestic Law, and United States Cultural Policy

One reason for the recent rapid growth in the number of repatriation claims has been the willingness of market nations - the United States in particular - to prosecute these claims. [59] In the 1960s and 70s, United States assistance to Central American countries in controlling exploitation of their archaeological sites was motivated by a desire to cultivate stronger relations with our proximate neighbors to the south. [60] In 1970, for instance, the United States entered into a bilateral treaty to secure Mexico's cooperation in curbing the movement of stolen American automobiles crossing the border to the south, by agreeing to implement measures to check the movement of Mexican archaeological materials to the north. [61]

Since the 1970s the Justice Department has regularly used two domestic laws to prosecute cultural property claims by foreign states against United States citizens: the National Stolen Property Act and the Archaeological Resources Protection Act. [62] Prosecutions under these laws have led to the forfeiture of objects claimed by foreign nations, despite

the fact that Congress never intended either law to be used for this purpose. [63](#)

[15] Instead, Congress intended the CCPIA to be the basis of national policy regarding foreign cultural property concerns. [64](#) As Andrew Adler and Stephen Urice have demonstrated, however, the Executive Branch, in its prosecution of foreign claims under this law, has perverted the aim of the legislation and the "compromises democratically embedded" within it. [65](#)

The CCPIA establishes conditions that a foreign nation must meet before the President may enter into a bilateral agreement obligating the United States to provide import regulations at its behest. [66](#) For instance, under the CCPIA, a request for import controls must indicate specific categories of property that are in imminent danger of pillage, and the requesting state must establish that it has already taken measures to protect the property in question before petitioning the United States to promulgate a new import regulation on its behalf. [67](#)

The Executive Branch has ignored these statutory stipulations and, in at least one instance, even encouraged a foreign state to lodge a CCPIA request for implementation of domestic import restrictions, despite the clear language of the CCPIA that such requests were to be sua sponte. [68](#) The consequence of this insouciance towards these CCPIA provisions, which Congress brokered to offer a limited possibility of obtaining temporary import restrictions on specific objects of endangered cultural property, has been the Executive Branch's provision of a "blank check" to foreign interests with respect to United States implementation of import prohibitions. [69](#)

The role the CPAC has played in the Executive Branch's prosecution of foreign claims under the CCPIA also has been criticized for its lack of transparency and a bias towards archaeologists' interests. [70](#) In 1999 Senator Moynihan attempted to **[16]** reform the CCPIA, and thereby "clean up" the CPAC, but his proposed legislation gained no traction in Congress. [71](#) The current placement of the CPAC in a mid-tier State Department bureau belies Congress' grander intentions for the CCPIA as the principal instrument by which to implement United States' foreign cultural property policy worldwide. [72](#) Given that several administrative layers separate the bureau from the Secretary of State, let alone the President, it is only reasonable to assume that the recommendations of the bureau - and, therefore, the CPAC that serves it - will accommodate the broader policies and interests established by these supervisory strata.

The State Department has made cultural property claims "a palpable element of public diplomacy," and thereby heightened public awareness of source nations' cultural property repatriation claims against the United States. [73](#) Given the Executive Branch's readiness to accommodate foreign requests for import restrictions under the CCPIA, and its prosecution under domestic law of foreign cultural property claims, it appears that it may view foreign cultural property complaints primarily as opportunities to generate goodwill, and to promote United States interests abroad in unrelated areas like immigration, military installations, terrorism, and drug smuggling. [74](#)

[17] The pursuit of foreign cultural property claims against United States entities by the Departments of State and Justice may have obtained cooperation abroad on other national concerns, but arguably it also has had deleterious consequences for the United States antiquities market, as well as domestic museums and the national and international visitors that frequent them. In this respect cultural property claims by source nations that may be too readily accommodated by the United States are akin to brood parasites capitalizing on the indifference or nescience of a host, that have the potential insidiously to sap the vitality and growth of American collections and expertise in a wide range of cultural and archaeological fields. [75](#)

In a number of recent cases, the United States Government has, at the behest of a foreign nation, compelled its own citizens to forfeit objects that they acquired abroad in good faith. [76](#) In the most portentous of these cases - *United States v. An Antique Platter of Gold* - authorities in the United States acceded to a request by the Italian government for the confiscation without remuneration of a fourth-century Greek gold platter owned by an American collector. [77](#)

When the owner of the object challenged the confiscation, the Second Circuit upheld the district court's determination that the Government's seizure was legally justified. [78](#) The district court based the legitimacy of the seizure on its assumption that the artifact was stolen simply because it was considered so in Italy, under a 1939 Italian statute asserting state ownership over such objects. [79](#) The case can be read, therefore, as precedent effectively warranting prosecution by the United States of foreign demands for any object of cultural property over which the claimant nation asserts ownership. [80](#)

The Executive Branch's growing record of prosecutorial activity involving cultural property claims by foreign states has made dealers and museums in the United States skittish about transactions involving antiquities. [81](#) The Government's pursuit of foreign cultural property claims since the 1970s has not, however, **[18]** effected the ostensible goal of these efforts to ameliorate the looting and sale of source nation antiquities. [82](#)

It may, in fact, have exacerbated the problem. Since 2001, when the United States entered into a bilateral agreement with Italy to impose broad import restrictions on antiquities, the volume of Italian antiquities appearing in the market has increased significantly. [83](#) This indicates that the United States import restrictions have not effected a diminishment in the trafficking of antiquities, but rather a shift in the market destinations of these goods. While museums may now avoid purchasing and publicly displaying objects that might prompt scrutiny or seizure by the Executive Branch, these items will simply be discreetly transferred among private parties, and kept well out of public view. [84](#)

The Executive Branch's prosecution of foreign cultural property claims has also generated widespread cynicism as to the ethics of museums and individual collectors of antiquities in the United States. [85](#) Within this atmosphere of mistrust, United States museums have been pressured to give objects, without compensation, to foreign governments based on assertions of ownership that were never tested in a court of law. [86](#) It has also prompted extravagant sanctimonies, like a Denver museum's recent unsolicited delivery of African tribal works to the government of Kenya, and Boston Museum of Fine Arts' establishment of a "curator of provenance." [87](#)

[19] The Executive Branch has justified its capitulations to foreign requests for import restrictions on cultural property with assurances that these were provided only in exchange for pledges by claimant nations that they would loan significant cultural artifacts to American museums. [88](#) These pledges, however, as well as commitments by source nations to improve the security and preservation of archaeological sites in exchange for unilateral action by the United States Government, have proven to be hollow. For instance, the Italian government has ignored a commitment to long-term loans of cultural objects that it made under the 2001 agreement by which the United States promulgated import restrictions on an enormous range of Italian cultural objects. [89](#)

The Executive Branch's aggressive prosecution of foreign claims of title to cultural objects owned by United States entities may have generated good will overseas by flattering the amour propre of the governments of source nation claimants, but it has not decreased the looting and sale of antiquities worldwide. [90](#) Moreover, any good will that this accommodation may have fostered abroad must be discounted by international resentment fomented by demonstrations of woeful indifference to the preservation of cultural property attendant to United States military interventions abroad, like that most recently in Iraq. [91](#)

Underlying United States cultural property policy, and all of the foreign claims for the repatriation of cultural artifacts that have driven its development, is "the stubbornness of objects." [92](#) Cultural objects are "stubborn" because we regard **[20]** them as sui generis artifacts of human expression, typically manifest in a single rendering. By anthropomorphizing cultural artifacts, we indicate our perception of each object as unique and irreplaceable, like a human life. If, however, we were to consider cultural objects as unique but replaceable (i.e. replicable) works, much of the emotional encumbrances that accompany disputes over the possession of these works would dissipate. Digital technologies hold the potential to enable such a change in perspective.

II. CULTURAL PROPERTY AS INFORMATION

A. Elements of Cultural Property

In the digital age it is increasingly true that the economic and aesthetic value of a cultural artifact is generated more by the information it contains than by the substance in which

it is embodied. **93** The less valuable an object's material is, the more its worth depends upon metaphysical attributes - and vice-versa. **94** A marble carving from Antiquity, for instance, is exponentially more valuable, economically and aesthetically, than a chunk of marble of equal age used as a curbstone in Athens today. However, a jeweled necklace from Antiquity might not sell for vastly more than a contemporary setting of the same quality gems and metals.

Creators of cultural artifacts tend to use valuable materials to create objects that display high quotients of intellectual investment. Valuable materials like precious metals tend to be rare and durable. These are, obviously, desirable qualities to those who invest mental and physical effort in fashioning tangible materials into lasting artifacts. In fact, objects made of the most precious materials retain much of their worth even if they are stripped of the intellectual effort invested in their creation. **95**

We have, therefore, typically fewer qualms about re-setting the precious stones comprising a piece of antique jewelry than we have about modifying a bronze or wood sculpture from the same era. This is because the value of the materials in the **[21]** jewelry runs less risk of being compromised - and might even be increased - by an updated working. By the same measure, we are particularly aghast at the obliteration of the intellectual investment in a tangible substance - like a carving at the Acropolis or a bronze by Henry Moore - when the value of the work is almost entirely independent of that of its material. **96**

Tangible works of cultural property are also visible, and meant to be perceived, appreciated, and understood mainly through sight. **97** Unlike cultural artifacts like cuisine, music, and dance, works of cultural property do not require intermediating agents to render them perceptible. These cultural artifacts are, therefore, less mutable and fungible, but also more fragile, than non-tangible cultural artifacts. While, for instance, there are many different and equally valuable renderings of the Greek dish moussaka, there is only one Greek Venus de Milo. As a purely intangible cultural artifact, moussaka is non-rivalrous. On the other hand, given its physicality, most of the Venus de Milo's economic value resides in the single original work that is now in the Louvre.

B. The Aura of Cultural Artifacts

Cultural property's dependence on materiality prompts consideration of its metaphysical attributes. Walter Benjamin famously observed, "Even the most perfect reproduction of a work of art is lacking in one element: its presence in time and space, its unique existence at the place where it happens to be." **98** Benjamin identified this phenomenon as the "aura" of the original. **99** The aura often determines the worth ascribed to an object as much as, if not more than, the combined value of the material of which it is composed and the intellectual effort invested in shaping it.

We revere the Parthenon not only for its aesthetic and historical values but also because the building and its decoration are very old. We cherish, in a manner akin to ancestor worship, the fact that objects we behold today were touched over 2000 years ago by individuals of an ancient civilization that profoundly affected the development of our own. We anthropomorphize such objects - "if these stones could speak" - according them the same reverential deference we accord to aged individuals because of all they have experienced, and their capacity to withstand the vagaries of an indifferent world for a long time. **100**

[22] An object's aura and associated economic and psychic worth may be enhanced not only by its age but also by the identity of its creator. We know little of the identities, and nothing of the personalities, of the individuals who sculpted the Parthenon marbles; the age alone of these objects imbues them with a powerful aura. The aura and financial value of amateur paintings by Adolf Hitler and Winston Churchill, on the other hand, are grounded entirely in the identities and notorious personalities of their creators. **101** Moreover, the more a creator of a work is associated with a particular nationality the more likely that the work will be perceived as an artifact of national cultural heritage. Therefore, while England proudly promotes Churchill's third-rate watercolors, Germany and Austria are mortified by the irrepressible interest in, and acquisition of, similar dross by its erstwhile Fuhrer. **102**

Human relics are an extreme illustration of the importance of human connection to the development of the aura of a work of cultural property. Encountering a tooth or the facial hair of someone who died over a thousand years ago would likely elicit a frisson of ghoulish repugnance unless one believed that these objects were, for instance, once body parts of Buddha and Mohammed, respectively. **103** Despite the fact that no intellectual effort was invested in the creation of Buddha's tooth or Mohammed's beard, each object has considerable psychic and economic worth stemming from its aura, particularly to Buddhists and Moslems respectively. Neither object has any utility, aesthetic, or informational value; their worth is based entirely upon belief that they are human remains of particular individuals and cannot, therefore, be replicated, nor can any other objects replace them.

C. Digital Technologies Challenge Aura

It is increasingly possible to produce exact replicas of objects of cultural property using digital technologies, but neither these, nor any other technology, reproduce the aura of these objects. This is because auras, while attributed to physical objects, have no physical manifestations. They are entirely mental constructs of information, feeling, and belief. As such, auras have been ascribed to innumerable tangible objects, ranging from a Mexican peasant's cloak imbued with an image of the Virgin Mary in the 1500s to a silkscreen of Jackie O stamped out **[23]** by Andy Warhol's factory in the 1960s.

Indistinguishable replicas of cultural property objects do, however, challenge the significance we ascribe to the auras of the originals. If human eyes cannot distinguish, for instance, between the Getty's "Victorious Athlete" and a bronze copy of it, why should we place greater value on the earlier object simply because it was submerged in the Aegean Sea for 2000 years? **104** The Aegean Sea is full of naturally occurring rocks that have been there for millions of years, but they are not more valuable than less-aged rocks of similar molecular composition that one might find elsewhere. This is because none of these naturally-occurring rocks evince any demonstrable intellectual effort. **105** The Getty's Athlete is more valuable than an unshaped chunk of bronze because it manifests the expression of its creator, and in the twenty-first century we can increasingly record and reproduce that expression exactly.

Archaeologists stress the potential loss of historical context for, and aesthetic appeal of, objects that are removed from their "find-spots." **106** Easily divisible works like Gutenberg's Bibles or Audubon's Birds suffer similar informational losses when they are disbound and their individual pages scattered. Such removals and dismantlings, however, are not categorically damaging to the economic worth, and the associated aura, of works of cultural property. In fact, Gutenberg and Audubon's books may be worth more when dismantled, as was a work by Picasso that was cut into small segments and sold as a number of "original" Picassos." **107**

By the same token, the aura of the Getty's "Aphrodite" - now housed in an insignificant museum in a provincial town close to where it was apparently excavated in Sicily - was stronger when the statue was housed in palatial quarters in Malibu. The great geographical separation between the statue's find-spot in Sicily and the Getty Villa in Malibu only enhanced our sense of wonderment in beholding something massive, yet dramatically beautiful, temporally and **[24]** geographically distant from its time and place of creation.

Three-dimensional scan and **print** technologies cannot reproduce an original object's aura, but they hold the potential to dilute, or even eviscerate, it. Imagine the Getty's bronze Athlete standing among a dozen or more visually and haptically identical copies of it. Each additional copy further undermines the legitimacy of the aura we ascribe to the original; what does it matter that one of these ten, twenty, or thirty bronzes was created 2000 years ago if I cannot identify it among the copies? While one could establish the original by resorting to non-visible or intangible evidence, why should such evidence affect the economic and physic value of a work that was created to be perceived entirely by human eyes and hands?

D. Forgeries Challenge Aura

Forgery is like plagiarism in that the copying of the intellectual expression of another is done with the intention to deceive others as to the identity of the author of the expression in the copy. **108** However, the forger hopes that others will believe that his copy is the work of a putative original author whereas the plagiarist hopes that others will believe that the copy is his work.

There are well-known examples of forgeries dating from Antiquity; even Michelangelo indulged in the practice when it was more profitable to him to tout his work as that of a

sculptor from the Classical era than that of a little-known artist. **109** Players in the art market ostentatiously decry forgeries, yet these fakes (i.e. the forgeries) have had a salubrious affect in exposing some of the chicanery that has long permeated this market. **110**

In the early decades of the twentieth century the Dutch artist Han van Meegeren painted a number of paintings in the style of Vermeer that he doctored so as to make them appear to be three hundred years old. **111** He successfully passed off one of these forgeries to Hermann Goring, who acquired it in exchange for 200 original Dutch paintings that had been expropriated by the Nazis. **112**

Today we are astonished that van Meegeren duped Goring, who was a seasoned and somewhat discerning collector, because the painting in question appears **[25]** grotesque alongside those long considered genuine Vermeers. **113** In fact, van Meegeren was more talented in forging attributes of Vermeer's works - e.g. seventeenth-century paint and canvas, as well as colorable and imaginative provenances - than he was in imitating Vermeer's intellectual capacity as conveyed in his paintings. **114** Moreover, because paintings by Vermeer are so rare, and were so prized in the early twentieth century, there was a collective yearning within the art world for the discovery of additional works by this artist. Like Peter Pan's Tinkerbell, the auras of van Meegeren's forgeries gained strength simply because participants in the art market willed it. **115**

Goring may have been the most notorious and deserving victim of van Meegeren's deceit, but he was hardly alone. Prominent art historians, dealers, and collectors of the time were also duped by van Meegeren's work; the Netherlands' Rembrandt Society paid a fortune for one of his forgeries ("Supper at Emmaus") that became the most celebrated piece of Rotterdam's Boijmans Museum in the 1930s. **116** Once van Meegeren's fraud had been established, and the unfortunate painter incarcerated, his "Vermeers," some of which had been sold at some of the highest prices ever paid for paintings, became virtually worthless overnight. Their economic and historical value has since been based entirely on the fact that they are not by Vermeer, but were once thought to have been. **117**

E. The Paradox of Aura in the Twenty-First Century

As copying technologies became increasingly refined and ubiquitous during the twentieth century there was a commensurate growth in the value ascribed to the aura of original cultural objects. A manifestation of this development is the catalogue raisonne, a purportedly definitive list of all extant works by a particular artist. **118** These lists provide buyers and sellers a means of distinguishing originals from forgeries. Given, however, that creators of cultural artifacts intend them to be appreciated for their expressive content, why should their worth be significantly, if **[26]** not entirely, determined by their attribution to specific individuals? **119** Likewise, if, using unenhanced perceptive capacities, we cannot distinguish between an original artifact and a copy, it is irrational to prize the unknown original. **120**

The legitimacy of auras associated with twentieth-and twenty-first century conceptual and mechanically produced works of art is particularly dubious. Jeff Koons's balloon sculptures, for instance, evince virtually no original expression, but merely the implementation of the concept of rendering already well known objects in an unexpected medium. **121** Anyone may legally manufacture and sell balloon sculptures as long as they are not passed off as having been manufactured by Koons. The economic worth of Koons's balloon sculptures is generated, therefore, simply by Koons's assertion that he authorized their manufacture. In other words:

What is wrongly so-called "authenticity" is actually the stamp that the artist or his legal successor appends on the artwork. In fact, to be clear, we should not talk about an authentic work but an authorized work while making a distinction according to the identity of the author of the authorization (either the artist or his legal successor). **122**

More questionable, and arguably crasser, than the ascription of auras to conceptual and manufactured works is the modern day phenomenon of economic capitalization on auras associated not with the creators of objects, but rather their owners. It is salubriously humane to attach an aura of sentimentality to objects owned and used by individuals with whom we have had an intimate rapport: a lock of hair, a favorite book, even a piece of furniture. Ascribing auras, however, to objects without utility - not even spiritual potential like that of religious relics - or aesthetic significance, simply because they were once owned or used by well-known and notorious individuals like Jacqueline Onassis, and Lee Harvey Oswald, is deplorable in that it puts "you in mind of Christopher Lasch's definition of the clinical narcissist ... as someone "whose sense of self depends on the validation of **[27]** others whom he nevertheless degrades." **123**

The significance of aura to the aesthetic and economic valuations of cultural artifacts can be diminished only if we perceive cultural artifacts as fundamentally works of information rather than tangible relics. This re-conception, in turn, depends on our capacity to capture and recreate exact material renderings of the information contained in these objects. Today's digital **3D** scan and **print** technologies make such material renderings increasingly feasible.

III. DIGITAL **3D** SCAN AND PRODUCTION TECHNOLOGIES

A. Before the Digital Era

Since time immemorial humans have copied not only useful and valuable tangible objects like tools and coins, but also those of mainly aesthetic content, like paintings and statues. The accuracy of these reproductions has been determined both by the complexity of the original works and the technologies used to produce the copies. Ancient Greeks, for instance, could replicate only bronzes, terra cottas, and coins, because the only technologies available to them were founding and stamping. **124**

Unlike works valued primarily for the information they contain - books, music scores, blueprints, etc. - it is much more difficult to create copies of three-dimensional works of art that possess even a modicum of the economic value of the original. This difficulty stems in part from the fact that technologies enabling the mechanical reproduction of a painting by Rembrandt, or a sculpture by Rodin, are less advanced than those used to produce copies of literary works or architectural drawings. The difficulty in creating copies that are indistinguishable from original sculptures, paintings, etc., in turn, underscores the rarity of the originals and thereby boosts their worth.

Because of the technical obstacles to creating exact copies of three-dimensional works of art, reproductions of, for instance, carvings from Antiquity typically have not been intended to lead the viewer to believe he is seeing an original work. During the eighteenth and nineteenth centuries, aficionados of Classical culture commissioned collections of plaster casts of statuary and carvings, particularly of works located in Italy and Greece. **125** These casts were not meant to serve as **[28]** substitutes for the originals; they had, rather, a pedagogical purpose to provide to those living thousands of miles from the sources accurate three-dimensional versions of at least the outlines of the stone originals. **126** Cast copies were relatively inexpensive to produce, and a nineteenth century industry developed to provide for domestic delectation of innumerable Greek and Roman statues. **127**

Plaster cast copies are made using a simple technology by which a "negative" mold is created by surrounding the exterior surface of an object with plaster. **128** The mold is filled with fresh plaster, or a similar liquid substance, which, once solid and extracted, displays the same shape as the original. This technology, however, can be used only on three-dimensional objects whose composition will not be compromised by being encased in plaster. Moreover, the material of the molds and resulting casts, both typically plaster, limit the fidelity of the copies, especially with respect to the colors and textures of the reflective surfaces of the original.

B. Digital Era

The limitations of the relatively low tech, plaster cast approach to **3D** copying can be overcome, increasingly, by using only information about objects, rather than the physical objects themselves. Artists have, of course, always known that the more exhaustive one's information about an object, the more accurate one's rendering of it. Michelangelo, for instance, rendered his wax models in stone using an ingenious system by which he obtained information on the height, width, and depth of the models. **129** By placing a wax model in a vessel of water, and gradually draining the water, he would record the dimensions of the emerging model - guided by the plane of water - which would steer his work for the final version in stone. Similarly, the phenomenon of camera obscura ("darkroom"), known since Antiquity, enabled artists to trace actual images of objects projected through narrow openings into dark spaces. **130**

[29] In the twenty-first century, **3D** scan technology allows one to obtain such detailed and precise information about objects that it is increasingly feasible to create copies of sculptural works from this information which are indistinguishable from even highly faceted and subtly finished originals. Moreover, this information can be obtained with minimal physical contact - or even none, when using passive optical devices - by using light waves to measure the typically fragile object. [131]

The quality of the copy, or "**print**," of the scanned work depends upon the granularity of the scan information as well as the precision of the machinery reading and rendering this information. [132] Most **3D prints** are created through an additive process that builds an object layer by layer. **3D** scans can also be rendered through subtractive manufacturing that carves an object from a block of solid substance like stone or metal. [133]

3D scanners obtain information about the shape, but not the color or reflective properties, of the scanned surfaces. Color sampling technology can be used to obtain this information and, combined with that about shape, enable production of a colored object that is close in appearance to the original. [134] Advancing technologies steadily lessen existing limitations for machine capture and reproduction of information about color, reflectivity, and tactile qualities of surfaces. These advances make possible, for example, high quality **3D** reproductions of oil paintings for haptic perception by the blind. [135] Nanotechnologies hold even more astonishing potential for the precise capture and replication, at an atomic level, not only of the shape, color, and feel of an object, but also the materials of which it is made. [136]

Existing technologies permit the manufacture of many three-dimensional cultural works - e.g., bronze statuary, stone engravings - which the naked eye cannot distinguish from the originals. Those who copy or restore antiquities, however, typically will not employ these technologies to their full reproductive or [30] restorative capacity. Aesthetic, economic, and political interests underlie this reluctance. [137] Athens's Acropolis Museum provides an example of such political motivations. The museum houses decorative sculpture from the Parthenon, including sections of the frieze of the Panathenaic Procession, much of which is now in the British Museum. [138] Early in the twenty-first century the frieze carvings remaining on the Parthenon were removed to the Acropolis Museum and replaced on the temple with copies manufactured using **3D** scans of the originals. [139] Juxtaposed with the warm and weathered surfaces of the original frieze segments, the chalky plaster **prints** appear spectral and impermanent, a phenomenon capitalized upon by the campaign calling for the British Museum to return the "missing" portions of the frieze to Athens. [140]

Given the perception of tangible works of cultural property, whether Classical marble sculptures or contemporary metallic balloon animals, as essentially works of information, the replication of these works, and particularly the mechanical production of exact copies, implicates intellectual property concerns. Given that the fundamental purpose of **3D** scanning and **print** technologies is the creation of identical copies of existing objects, through use of information about their composition these technologies commingle patent, trade dress, and copyright issues.

IV. INTELLECTUAL PROPERTY IMPLICATIONS OF **3D** TECHNOLOGIES

A. Patent and Trade Dress

If I invent a newfangled citrus reamer and am granted a utility patent based upon some improvement it brings to pre-existing reamers, for twenty years no one may legally replicate this utensil without my authorization. [141] The unauthorized scanning and **printing** of my patented object for market distribution would clearly undermine my economic interests and constitute patent infringement. If the reamer were not sufficiently novel or useful to obtain a utility patent, it still might be protected for fourteen years under a design patent. [142] This protection would also proscribe scanning and **printing** the reamer, even if done in the privacy of one's [31] home and for personal use.

Merely creating an unauthorized **3D** scan of a product that is protected by a utility or design patent may not appear to threaten financial detriment to the patent holder. Doing so, however, could ultimately constitute an unauthorized and detrimental use of the protected invention or design. [143] An unauthorized scan of a patented object might, for instance, provide those possessing the scanned information an unfair lead in the production and sale of the object following the termination of its patent protection.

Unauthorized **3D** scanning and **printing** might also violate a product's trade dress protection. For example, the distinctive snowman contour of the bottles in which POM Wonderful juice is sold does not facilitate the packaging, distribution, and consumption of the product and cannot, therefore, be protected by a utility patent. Unauthorized use of the shape in commerce, however, could be proscribed through a design patent, or through trade dress protection if consumers associate that shape with POM juice. [144] Paradoxically, the fact that the snowman shape does not enhance the delivery of the product renders it more likely to be associated by consumers with a particular brand, and therefore eligible for trade dress protection.

Creating a **3D** scan of an unpatented POM Wonderful bottle does not implicate liability for infringement of trade dress because the mere creation of a scan does not affect POM's capacity in the marketplace. [145] Using this scan to produce bottles in which to sell carrot juice, and certainly pomegranate juice, however, would lead to POM's assertion that use of this scan to package juice constitutes infringement of its trade dress. Use of POM-shaped bottles to package and vend a caustic drain cleaner, on the other hand, would likely not provide POM with a colorable infringement claim based upon likelihood of confusion as to the source of the cleaner, although POM might claim such use constitutes tortious disparagement of its juice. [146]

B. Copyright

Three-dimensional cans and **prints** of copyrighted objects - e.g., Barbie dolls - are both derivative works and copies. [147] As such, only the owner of the copyright may authorize legitimate creations of either. [148] It is more ambiguous, however, whether authorized **3D** scans and **prints** of copyrighted objects, or even of works in the public domain, might constitute independently copyrightable works.

[32] The more that the creation of a copy depends upon human perception and physical dexterity rather than mechanical processes, the greater the likelihood that it will deviate from the original - even if the copyist aspires otherwise - and thereby achieve at least the "spark" of creativity prerequisite to obtain copyright protection. [149] By the same token, the more a copy, or even an original work, is produced through mechanical means - photocopier, sound synthesizer, even a Spirograph(R) - the less likely that it will contain copyrightable content. [150]

One of the greatest advantages of **3D** scans and **prints** over earlier methods for reproducing material objects is the fact that they enable the manufacture of an infinite number of copies that so accurately replicate the contour of the original that it is difficult to distinguish by sight and feel between the original and the reproduction. This is the same advantage inherent in other digital reproduction applications, like audio recordings, in which the fidelity does not decline progressively as one reproduces the original.

Because digital **3D print** technologies render highly accurate replications, the production of unauthorized **3D prints** of copyrighted tangible objects would clearly constitute infringement. The same attribute of accuracy also raises the question, however, whether use of this technology to create copies of copyright protected and public domain works, regardless of the "sweat of the brow" expended in doing so, may generate copyrightable expression. Two recent federal court cases dealt with this issue.

In *Meshwerks v. Toyota* the Tenth Circuit addressed the effect of reproductive accuracy of **3D** scans and **print** technology on copyright eligibility. [151] Toyota's advertising agency had commissioned Meshwerks to create **3D** scans of several of its automobile models. Toyota used these scans in more than one advertising campaign, prompting Meshwerks's claim that any use of the scans beyond the single initial television ad they had anticipated in creating them, infringed their copyright. [152]

The Tenth Circuit upheld the district court's grant of summary judgment in favor of Toyota, having determined that Meshwerks's scans were not copyrightable expression. [153] The court noted that while Meshwerks had spent hundreds of hours creating the scans, this work involved manipulating measurement data to render a digital wire-frame that would appear to be an even more exact copy of the model than otherwise. [154] This expenditure of time and skill, therefore, worked against Meshwerks's copyright claim because the intent of this investment was to enable [33] replication of the intellectual expression, and only that expression, created and owned by another. [155]

The court emphasized that its determination that the Meshwerks's **3D** scans were not copyrightable expression was not influenced by the fact that the works in question were generated through a relatively new, and highly mechanical, technology. "A Luddite might make the mistake of suggesting that digital modeling, as was once said of photography, allows for nothing more than "mechanical reproduction ... and involves no originality of thought" **156**

Two years after Meshwerks, in a dispute involving **3D prints** of model railroad components, a federal district court in Missouri heeded the Tenth Circuit's caution that use of "mechanical reproduction" technologies does not preclude the generation of copyrightable expression. **157** Like the **3D** scans of automobiles created by Meshwerks, those created by the plaintiff in Osment Models were based on non-copyrightable works: existing railway and filling stations at various locations in the United States.

Like Meshwerks, Osment, in developing his **3D** scans and **prints** of these buildings, manipulated some of the digital information collected from the scanned full-scale building models. Unlike Meshwerks, however, Osment adjusted this information - using "selective compression" - to create an object that would look somewhat different from the model when deployed in the toy railroad. **158** Osment also added to his **3D** models a number of original features - colors, signage, and design details - to evoke the actual buildings but not slavishly replicate identifying details of their appearance. **159**

The Osment court determined that these additions met copyright's requirement for a "spark" of original expression, having made it a question of fact whether the model was sufficiently original. Therefore, the plaintiff's particular combinations of public domain and original information could not be legitimately copied without his authorization. **160** From Osment we learn that the more exact an unauthorized **3D** rendering is of a copyrighted work, the greater the likelihood that the reproduction is infringing. From Meshwerks, on the other hand, we learn that the more exact an authorized **3D** reproduction is of a copyrighted or public domain work, the less likely that the reproduction constitutes copyrightable expression.

C. Copyright, **3D** Technologies, and Public Domain Works

The goal of most initiatives to create **3D** scans and **prints** of antiquities and **[34]** works of visual art is to produce the most accurate copies possible of objects in their current state. Computer assisted design (CAD) and **3D** scan technologies make it possible to create a version of the Venus de Milo with arms and an unblemished face, which more closely resembles the work in its original state over 2000 years ago than does the damaged original in the Louvre. Such a rendition, however, would have less economic and aesthetic value today than an exact replica of the armless and nicked original because we consider such restorations to be presumptuous and vulgar. **161**

Paradoxically, as technologies have enabled the production of ever more accurate copies of original works, we have become increasingly disdainful toward reproductions and restorations of these works that vary from the original and contain information or materials added by the copyist or restorer. This disdain has led to absurdities like Congress' considering in 1987 whether colorization of black and white movies should be deemed illegal, or Schadenfreude-engendering vignettes in which hopeful participants in Antique Roadshow learn that their meticulously refinished Queen Anne highboy, which represents the work in its original condition, would have been worth twice as much if it had been left wearing its now crazed and shabby - but original - lacquer.

It is typically more difficult to make a copy or restoration that faithfully represents the intentions of the author of a public domain work than it is to adhere to those of the author of a copyrighted work. This is because the longer the period between the original appearance of a work and the subsequent effort to copy or restore it, the greater the work's accumulation of content that was unintended by its original creator. These accretions can be as irrelevant as the barnacles covering the Getty's Victorious Youth when it was fished from the Aegean, or as exquisitely complementary as a cadenza that Beethoven wrote to be inserted into a concerto by Mozart, which is still widely performed today. **162**

Restoring a public domain work to its original reification, whether an ancient bronze or a score by Mozart, requires time and intellectual application, but these investments yield no copyrightable interest to those making them, at least under United States law. **163** In fact, the more accurate the restoration, the more likely the work will manifest nothing other than the expression of the original creator, long in the public domain.

The fact that no copyright protection exists for the vast majority of objects we consider cultural property is an inconvenient fact for those hoping to capitalize **[35]** financially upon their physical possession of these items. Before cameras became portable consumer products, museums could monopolize the market for reproductions of works in their collections by limiting physical access to them. Today, however, museum visitors need not exit through the gift shop to buy two-dimensional reproductions of public domain works they have just seen; they have already recorded these on their smart phones.

Equally vexing to those seeking to capitalize on their possession of cultural artifacts is the potential of **3D** technologies to undermine not only the financial benefit stemming from monopolistic control of the market for **3D** replicas of these objects but also the economic potential of the original object. **164** If I can view in Los Angeles a **3D** replica of Michelangelo's David that is visibly indistinguishable from the statue in Italy, why should I incur the expense of travelling to Florence, and paying a fee to the Italian government, specifically to see the original? **165**

Digital technologies now threaten to undermine the economic potential of cultural artifacts like Michelangelo's David much as they have undercut profits from the producers of cultural artifacts like Hollywood movies and Silicon Valley software. Movies and software whose earnings have been sapped by unauthorized copying, however, involve the interests of living creators or direct descendants and are protected by copyright. There are no such lingering interests, on the other hand, in the case of Michelangelo or any of the creators of innumerable excavated and still buried cultural artifacts in Italy, whose works are in the public domain.

Those who possess the originals of cultural artifacts in the public domain may still attempt to capitalize on their controlling access to them. These owners may also impose contractual limits on those who obtain access to the works, on use of information about, and copies of, the objects. In short, although technology may be transforming our perception of these objects into intangible works of unprotected information, owners of the objects may still capitalize on this public domain information by resorting to legal protections for tangible property in which this information is contained. **166**

[36]

V. RECOMMENDATIONS

A. Partage and Leasing

Partage and leasing have often been proposed as different means by which we might achieve an equitable balance between the benefits stemming from the international circulation of cultural artifacts and the desirability of protecting the cultural patrimony of source nations. Partage is a time-honored arrangement by which archeologists and owners of archaeological sites - typically governments - agree to divide between themselves artifacts excavated by the archeologists. **167** Partage thereby enables source nations to acquire materials that would otherwise remain underground - or be looted or destroyed - through the economic largesse and technical expertise of foreign archeologists. **168**

More recently, the leasing of antiquities by source nations has been proposed as a means by which source nations might benefit financially from the international circulation of cultural artifacts found within their borders. **169** Economists Michael Kremer and Tom Wilkening, for instance, have suggested that leasing antiquities could not only provide source nations welcome revenues but also assist in achieving the objectives of their commonly ineffective antiquities export bans. **170** They have argued that blanket prohibitions on the export of cultural property have actually fueled the black market for these goods and that leases could "mitigate the incentive problems that arise from export bans that can perversely increase risks to antiquities." **171**

Lurking behind both the partage and leasing solutions, however, are two dubious premises: first, that cultural artifacts are non-renewable resources, like gems and fossil fuels;

and second, that these artifacts hold special psychic significance to those now inhabiting the lands on which these objects were created or found. [172](#)

To an increasing extent, tangible cultural artifacts are renewable resources. Not only can we replace or build upon works of cultural property that have been lost or [\[37\]](#) damaged through intentional destruction or normal disintegration, but also we can increasingly use technologies to regenerate them. [173](#) As this article suggests, this regenerative capacity progressively leads to a perception and valuation of these objects primarily as containers of information about human expression rather than material artifacts. [174](#) Neil Silberman, of the International Council on Monuments and Sites, refers to this phenomenon as development of a "meta-cultural property":

While precise digital imaging of such politically and emotionally fraught cultural properties as the Dead Sea Scrolls and the Elgin marbles have not stilled the protests about the legalities of their current physical possession, they have nevertheless created a new kind of cultural property a kind of meta-cultural property that represents a shared global culture that we are creating today. [175](#)

The corporeality of visual and three-dimensional cultural artifacts once relegated them, and their creators, to an intellectual and aesthetic rank below that of works and creators of philosophy, poetry, and music. [176](#) The dematerialization of these works made possible by [3D](#) technologies allows these objects to approach the level of great works of music and literature, whose prestige and cultural value have been enhanced by their capacity to transcend geographical and temporal boundaries, and positively influence the lives of all humanity. [177](#) This dematerialization also holds the potential to mitigate the loss of cultural artifacts by theft or politically motivated wanton destruction favored lately by the Islamic State. [178](#)

B. Cultural Property, Cultural Tribalism

Around the year 2000 a contingent of students and faculty members from Stanford and the University of Washington created a digital [3D](#) scan of Michelangelo's David. [179](#) A retired member of Stanford's computer science [\[38\]](#) department involved in the project has arrogated to himself autonomous control over access to the billion-polygon [3D](#) model, the result of a communal effort involving intellectual input from many students and faculty members. [180](#) Along with a list of daunting prerequisites for access to - and limitations on use of - Stanford's project data is an exhortation that those granted access to this information "keep renderings and use of the data in good taste" because the artifacts in question "are the proud artistic patrimony of Italy." [181](#)

Michelangelo was Florentine; the political and geographical entity that we know today as Italy did not exist until the middle of the 1800s. Therefore, what once may have been considered an artifact of the Florentine Republic has now been incorporated into the patrimony of the vastly larger nation of Italy. This raises the question why, given the mutability of political boundaries, we shouldn't now consider the artifact part of an even broader patrimony of human accomplishment of the European Union - membership to which the economically iffy Italy tenaciously clings - or even of the world.

Attributing emotional attachment between a particular group of living humans and aged cultural artifacts, based upon contemporary political or geographical ties, implies tribalism and deleterious jingoism. Such ginned up attachment is akin to the allegiance of a fan of a professional sports team that is based simply on the fact that he resides in the city attached to the team's name. Fans of the San Francisco Giants did not win the 2014 World Series; the individual ballplayers did. [182](#) A fan's derivation of pride or chagrin, therefore, from the performance of individual team members who share nothing in common with him other than proximity to a particular urban location, is a harmless fatuity until it curdles into feelings that generate hooliganism and sectarian violence. [183](#)

Antiquities, like natural resources, are precious in part because of their scarcity and age, but also because the only investment required for capitalizing on either is [\[39\]](#) the expense of extracting it from the ground. Ancient Greek pots that may be buried in a contemporary Roman garden have no greater emotional connection specific to the garden's owner than has for me the crude oil under my garden near Los Angeles's La Brea tar pits. This is because the contemporary Roman, and everyone he knows, contributed no more to the creation of the Greek pots than I did to the fossil fuel.

Governments' assertions of ownership to all ancient cultural artifacts found on private land reflect a paternalist view that state dominion over these objects is necessary to safeguard the particular psychic significance they hold for the nation's current and future citizenries. In fact, these assertions of ownership have not only promoted clandestine excavations and an illegal market in which to sell their findings but have also ascribed to objects a distorted political significance.

A Greek statue buried for millennia in Sicily holds for contemporary Italians little of the meaning that, for instance, the relatively recently built and universally long recognized Arc de Triomphe, Washington Monument, and Little Mermaid hold for contemporary French, United States, and Danish citizens respectively. The imposition through fiat of national significance to cultural artifacts makes political pawns of these objects, and thereby more attractive targets for looting and destruction by enemies of the state, and even its own citizens.

C. Suggestion

The crux of this discussion is that the value of cultural artifacts is generated largely by the intellectual expression they manifest. Digital technologies make increasingly possible the reproduction of even three-dimensional artifacts that are indistinguishable from the originals. This development challenges the value we ascribe to the aura of original renderings of tangible cultural artifacts. Stripped of their auras, the values of these works can be reduced to the sum of the value of the physical materials deployed and that ascribable to the application of intellectual expression in their creation.

In short, digital technologies make possible the dematerializing of cultural artifacts. If we were to perceive these artifacts mainly as works of information rather than of tangible property, the location of the original instantiations of them would be of little significance. Using digital [3D](#) technologies, source nations might eventually retain the essential value of cultural artifacts found within their borders, while simultaneously capitalizing upon sales of the originals to those collectors who put a premium on the value of whatever remains of the aura of the original.

The world's resources are not apportioned equally: Saudi Arabia has a surfeit of oil; Italy has a surfeit of Greek and Roman artifacts; the United States has a surfeit of computing machinery and entertainment media content. Despite the fact that computers and Hollywood movies are part of United States cultural heritage, we readily sell to eager buyers throughout the world surpluses of tangible and intangible products that manifest our patrimony of technological prowess. Sales of such surpluses, in turn, provide funds by which Americans acquire objects for [\[40\]](#) which the United States has a deficit: antiquities.

In an era in which digital technologies can provide superb images, and even replicas, of cultural artifacts, repatriation claims for these items become increasingly tenuous. If I owned an Apple computer - a cultural artifact of the United States - built by Steve Jobs himself, I would readily sell it to whoever places the highest value on its aura, buy a computer identical to the prototype, and pocket the difference. [184](#) Why would contemporary Italians and Greeks be more attached to the innumerable, and often nearly indistinguishable, antiquities under their soil than I am to a computer built by a contemporary who lived in the country, state, and city in which I once lived? Antiquities, like Job's handmade computer, are chattels that embody intellectual investment. Given their age, they have no psychic or spiritual connection that is specific to twenty-first century Europeans, and now can be monetized and increasingly accurately replicated.

In 2011 the Getty Museum gave to the Italian government its statue of Aphrodite that the Italians claimed had been illegally excavated in Sicily. After years of delighting hundreds of thousands of admirers in sumptuous glory at the Getty Villa in Malibu, the work now languishes in obscurity in a provincial museum in the remote and necessitous Sicilian town of Aidone. [185](#) The Getty paid \$ 18 million (close to \$ 35 million today) for its Aphrodite. If the Italian government had obtained that sum - rather than Robin Symes, a convicted felon in London who sold the work to the Getty - it could have obtained an exact [3D print](#) replica of the statue, plus a Ford Fiesta apiece for over half the residents of Aidone. [186](#) No doubt such an outcome would have been far more welcome to both the Aidonese and the Getty - not to mention museumgoers worldwide.

Footnotes

17 Small Time Crooks (DreamWorks 2000).

27 Small Time Crooks chronicles the Pygmalion-like transformation of the nouveau riche Frenchy through her deft acquisition of savoir-faire with high-class indicators like wine, classical music, art, and jewels. By the end of the movie she is sufficiently sophisticated to be capable of identifying a "clinker" as such.

37 See A Dictionary of Chemistry (John Daintith ed., 6th ed. 2008) (carbon dating is a "method of estimating the ages of archaeological specimens of biological origin"; thermoluminescence is a process by which "by comparing the luminescence produced by heating a piece of pottery of unknown age with the luminescence produced by heating similar materials of known age, a fairly accurate estimate of the age of an object can be made.").

47 In 2011 Sotheby's sold an Aztec mask made between 450-650 A.D. for \$ 530,500. Teotihuacan Greenstone Mask, Classic, ca. A.D. 450-650, Sotheby's (May 13, 2011), <http://www.sothebys.com/en/auctions/ecatalogue/2011/african-oceanic-and-precolumbian-art-n08749/lot.177.html> [<http://perma.cc/28XP-AWGH>]. Replicas of similar objects made of the same materials are sold on eBay for under \$ 100.

57 While an autograph manuscript of, for example, a Mozart symphony, is vastly more economically valuable than a modern edition of it, the modern edition has considerably greater practical worth.

67 See Daintith, *supra* note 3 ("Gas chromatography is often used to separate a mixture into its components, which are then directly injected into a mass spectrometer. This technique is known as gas chromatography-mass spectroscopy or GCMS.").

77 See Lucas S. Osborn, *Of PhDs Pirates, and the Public: Three-Dimensional Printing Technology and the Arts*, 1 Tex. A&M L. Rev. 811 (2014) (offering an overview of various copyright quandaries raised by 3D print technology).

87 See Joseph P. Fishman, *Locating the International Interest in Intranational Cultural Property Disputes*, 35 *Yale J. Int'l L.* 347, 348-49 (2010) (quoting the Greek historian Polybius who decried the plundering of subjugated Greek cities by Roman conquerors).

97 See Charles Cronin & Erik Nemeth, *Cultural Property Case Resource*, USC Gould School of Law, <http://uscar.usc.edu> (last visited Sept. 25, 2015) (a sample of 350 cases between 1970 and 2015 showed that most claims were initiated after 1990).

107 See generally Lynn H. Nicholas, *The Rape of Europa: The Fate of Europe's Treasures in the Third Reich and the Second World War* (1995).

117 On these international conventions, see *infra* note 32 and accompanying text. The New York State Holocaust Claims Processing Office is one of many programs established to assist with recovery of property seized by Nazis during the Second World War. Holocaust Claims Processing Office, New York Department of Financial Services, <http://www.dfs.ny.gov/consumer/holocaust/hcpoindex.htm> [<https://perma.cc/S8DN-YCM6?type=image>] (last visited Sept. 25, 2015).

127 See Jeanette Greenfield, *The Return of Cultural Treasures* (2d ed. 1996) (discussing claims for the return of cultural artifacts by many former colonies following World War II).

137 See *infra* note 50 and accompanying text.

147 See *infra* note 50 and accompanying text.

157 *Infra* note 50 and accompanying text.

167 UNESCO asserts an enormously broad definition of cultural heritage that encompasses "tangible" and "intangible cultural heritage," "natural heritage" (landscapes and biological formations), and "heritage in the event of armed conflict." *Illicit Trafficking of Cultural Property*, UNESCO, <http://www.unesco.org/new/en/culture/themes/illicit-trafficking-of-cultural-property/unesco-database-of-national-cultural-heritage-laws/frequently-asked-questions/definition-of-the-cultural-heritage/> [<http://perma.cc/BB9H-J5JY>] (last visited Sept. 25, 2015).

177 Cylinder seals are small cylindrical stones "carved with relief decoration, which was rolled across wet clay items ... to indicate their genuineness" A Dictionary of Archaeology 188 (Ian Shaw & Robert Jameson eds., 1999).

187 Rachel Donadio, *Vision of Home: Repatriated Works Back in Their Country of Origin*, N.Y. Times, Apr. 20, 2014, at AR1, <http://www.nytimes.com/2014/04/20/arts/design/repatriated-works-back-in-their-countries-of-origin.html>.

197 England's imposition, for hundreds of years, of the English language upon Gaelic speakers in Scotland and Ireland failed to extirpate Gaelic; China's ongoing persecution of religious adherents has not eliminated Buddhism, nor even Christianity, in China.

207 Napoleon carried off to Paris the Horses of St. Mark's not only to adorn the Place du Carrousel with a dazzling sculpture, but also to underscore France's subjugation of Venice. See Simon Hout, *Museum of the Missing: A History of Art Theft* 33 (2006) (discussing the role of Dominique-Vivant Denon, director-general of museums under Napoleon). Members of the Taliban, on the other hand, could only destroy the non-transferrable World Trade Center towers that symbolized United States economic might they so resented, as well as the Bamiyan Buddhas that signified a religion other than their own - despite the fact that each object held great economic value. See W. L. Rathje, *Why the Taliban are Destroying Buddhas*, USA Today (Mar. 22, 2001), <http://usatoday30.usatoday.com/news/science/archaeology/2001-03-22-afghan-buddhas.htm> [<http://perma.cc/5GZK-WDGM>] ("The colossal Buddhas were cut at immeasurable cost (probably in the third and fifth centuries A.D.) into the tall sandstone

cliffs surrounding Bamiyan").

21 See Dictionary of Untranslatables 430 (Barbara Cassin ed., 2014) (observing the complexity of the word "Heimat," which connotes a place of both origin and settlement).

22 The five Caryatids were moved to the Acropolis Museum, and replicas of them installed in their original location on the south porch of the Acropolis temple known as the Erechtheion. See The Erechtheion, The Acropolis Museum, <http://www.theacropolismuseum.gr/en/content/erechtheion> [<http://perma.cc/9QC4-S6PT>] (last visited Sept. 25, 2015). There have been no reports, however, of the Caryatids's wailing over this indignity. Perhaps the impulse to anthropomorphize Greek statuary can be attributed in part to the Greek language. The statement of authorship in Greek on, for instance, works from the early Roman Empire created by Ennion, a glassmaker, is not "made by Ennion" but more precisely, "Ennion made me." See Ken Johnson, "Ennion' at the Met, Profiles an Ancient Glassmaker, N.Y. Times, Mar. 6, 2015, at C22, <http://www.nytimes.com/2015/03/06/arts/design/review-ennion-at-the-met-profiles-an-ancient-glassmaker.html>.

23 Effrosyni Moschoudi, What are the Parthenon Marbles to the Greeks?, Effrosyni's Blog (Nov. 19, 2013), <https://effrosinimoss.wordpress.com/2013/11/19/what-are-the-parthenon-marbles-to-the-greeks/> [<https://perma.cc/C5SK-E43L>].

24 Such projections onto insensate objects are also a gambit to elicit sympathy for one's position regarding the disposition of those objects by posing as a disinterested advocate for a purportedly oppressed victim.

25 Like the French in the late eighteenth century, the Venetians, in the thirteenth, during the sack of Constantinople, absconded with the bronze horses. Venice's Triumphal Quadriga, like London's Parthenon Marbles, raises the question to what extent cultural objects that have been removed from their original locations can acquire, over time, supranational cultural significance. The disposition of the Parthenon Marbles "demonstrates the emergence of a particular form of national distinctiveness that transcended the smallness of particularity and rose to the level of universal civilization." Fiona Rose-Greenland, The Parthenon Marbles as Icons of Nationalism in Nineteenth-Century Britain, 19 Nations & Nationalism 654, 654 (2013).

26 See Neil Brodie, Euphronios (Sarpedon) Krater, Trafficking Culture (Sept. 6, 2012), <http://traffickingculture.org/encyclopedia/case-studies/euphronios-sarpedon-krater> [<http://perma.cc/S5CE-YDEK>]. In a preemptive effort to avert attention to the peculiar outcome of the Italian claim - i.e. the acquisition by Italy of a Greek work from an American collection - the Italian government promptly loaned the krater to the National Archaeology Museum of Athens where it was displayed in 2014 in an exhibition "Classicita ed Europa: The Common Destiny of Greece and Italy." The political motivations for this loan are evident from commentary that accompanied the display of the krater exalting "the fortunate coincidence [of] the successive assumption of the Presidency of the European Union by the two countries in 2014. The [exhibition] is the premier event celebrating the two Presidencies." Photo of exhibition label (on file with author).

27 See generally Whose Culture?: The Promise of Museums and the Debate Over Antiquities (James Cuno ed., 2009) (documenting the vast cultural and temporal divides between creators of antiquities and modern states claiming that present-day inhabitants of lands populated thousands of years ago are the descendants, and sole heirs of the cultural artifacts, of these earlier dwellers).

28 A sample of approximately 350 cultural property repatriation disputes since 1970 shows that well over half these cases were initiated after 2000. See **Cronin**, supra note 9.

29 See generally Erik Nemeth, Cultural Security: Evaluating the Power of Culture in International Affairs (2015) (discussing the significant expansion of interest across disciplines in cultural property as it becomes a significant influence in the shaping of international policy and security).

30 As early as the fifteenth century, however, Pope Pius II prohibited the export of works of art from the Vatican. See Halina Niec, Legislative Models of Protection of Cultural Property, 27 Hastings L. J. 1089, 1092 (1976).

31 Id.

32 The Convention for the Protection of Cultural Property in the Event of Armed Conflict, May 14, 1954, 249 U.N.T.S. 240 [hereinafter Hague Convention]. One of the most notorious examples of Nazi brutality toward cultural property was its destruction of the mountaintop monasteries in Meteora, Greece. See Famous Monasteries in Greece Destroyed; German Mountain Guns Razed Cloisters at Meteora, N.Y. Times, Jan. 18, 1944, at 5.

33 Earlier conventions of 1899 and 1907 referenced the protection of cultural property among other matters implicated by armed conflict. See 1899 Hague Convention (II) with Respect to the Laws and Customs of War on Land and its Annex, July 29, 1899, [32 Stat. 1803](#), [1 Bevans 247](#); Hague Convention (IV) Laws and Customs of War on Land, Oct. 18, 1907, [36 Stat. 2277](#), [1 Bevans 631](#). The conventions of 1899 and 1907 had been roundly breached during the two world wars earlier in the twentieth century. See Adriaan Bos, Words of Welcome, in Protecting Cultural Property in Armed Conflict xvi (Nout van Woudenberg & Liesbeth Lijnzaad eds., 2010). These violations led to near-apocalyptic ruination of public and private cultural property in Europe, enabled by destructive technologies unknown at the time the earlier conventions were negotiated. That devastation, in turn, prompted drafting of the Hague Convention.

34 Being convinced that damage to cultural property belonging to any people whatsoever means damage to the cultural heritage of all mankind, since each people makes its contribution to the culture of the world" Hague Convention, supra note 33, Preamble.

35 Hague Convention, supra note 33, at arts. 3, 7.

36 Hague Convention, supra note 33, at arts. 16, 17. Identifying culturally significant works to protect them during wartime seems counterintuitive. The prominent tagging of cultural monuments and artifacts could potentially render these objects more, rather than less, vulnerable to destruction or theft by an enemy.

37 Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property, Nov. 14, 1970, 823 U.N.T.S. 231 [hereinafter UNESCO Convention]. "UNESCO", the acronym of the "intellectual" agency of the United Nations, indicates the United Nations Educational, Scientific and Cultural Organization. Unesco.org, <http://en.unesco.org/about-us/introducing-unesco> [<http://perma.cc/7WTT-WUQD>] (last visited Oct. 7, 2015). See Asif Efrat, Governing Guns, Preventing Plunder: International Cooperation Against Illicit Trade 121 (2010) (noting, e.g., Peru's and Mexico's early promotion of the UNESCO Convention).

38 The United Kingdom stands out as a principal holder of some of the major cultural treasures of the world, primarily because of her colonial history, although not all the treasures were acquired as a direct result of this. Many were acquired simply as the result of long-distance archaeological raids and these were not always carried out by archaeologists." Greenfield, supra note 12, at 91.

39 Preservation of the cultural heritage was of much concern in a postcolonial environment, which was often rife with nationalist sentiments and where antiquities were deemed a part of the new nation's identity." Efrat, supra note 37, at 121.

40 Considering that it is incumbent upon every State to protect the cultural property existing within its territory against the dangers of theft, clandestine excavation, and illicit export; considering that, to avert these dangers, it is essential for every State to become increasingly alive to the moral obligations to respect its own cultural heritage and that of all nations" UNESCO Convention, supra note 37, Preamble. See Jane Warring, Underground Debates: The Fundamental Differences of Opinion that Thwart UNESCO's Progress in Fighting the Illicit Trade in Cultural Property, [19 Emory Int'l L. Rev. 227, 251 \(2005\)](#) (noting that the UNESCO Convention "marks the beginning of the trend away from cultural internationalism and toward cultural nationalism"). See also Janene Marie Podesta, Saving Culture, but Passing the Buck: How the 1970 UNESCO Convention Undermines its Goals by Unduly Targeting Market Nations, [16 Cardozo J. Int'l & Comp. L. 457, 467 \(2008\)](#) (observing that the Hague Convention is more a "general reflection on the importance of cultural property than an operative document").

41 UNESCO Convention, supra note 37, at art. 5. The Getty's CEO James Cuno recently asserted that the unilateral dominion over antiquities that UNESCO establishes for the modern states in which these objects are found has abetted ISIS' recent sacking of Assyrian archaeological monuments in Iraq. See Letter to the Editor, Deploring ISIS, Destroyer of a Civilization's Art, N.Y. Times, Mar. 11, 2015, at A24, <http://www.nytimes.com/2015/03/11/opinion/deploring-isis-destroyer-of-a-civilizations-art.html>.

42 See Efrat, supra note 37, at 115.

43 Paul M. Bator, An Essay on the International Trade in Art, 34 Stan L. Rev. 275, 371 (1982).

44 See id. The United States has virtually no regulations curtailing export of its cultural property and does not, therefore, benefit from this shared obligation. The only significant United States cultural property export regulation deals with Native American artifacts as protected by the Native American Graves Protection and Repatriation Act, [25 U.S.C. §§3002-3007](#) (2000). Moreover, this obligation compels the United States to enforce foreign cultural property ownership laws that are inconsistent with its own. See Podesta, supra note 40, at 458 (discussing how Italian law governing ownership of antiquities found by an Italian farmer on his land is much more restrictive than those of market nations). See also Barbara Hoffman, International Art Transactions and the Resolution of Art and Cultural Property Disputes: A United States Perspective, in *Art and Cultural Heritage: Law, Policy, and Practice* 159 (Barbara Hoffman ed., 2006).

45 See Efrat, supra note 37, at 123 (discussing specific objections made by Netherlands, Sweden, Britain, West Germany, and Japan to the draft convention). Britain's financial and political clout petered out with the demise of its Empire. London has remained, however, one of the world's largest markets for art and antiquities even though the native citizens, and similarly cash-strapped national museums, do not have the means to purchase the top-drawer works now sold in London galleries and auction houses. As Efrat notes, "Britain is an important transit country for antiquities." Efrat, supra note 37, at 155 (emphasis added). The English middlemen who sell these works to wealthy foreigners make significant commissions from these sales, and Britain did not want to jeopardize these profits through greater governmental oversight of this market as obligated by the UNESCO Convention. Although Britain joined the Convention in 2002 "its budgetary constraints and favorable attitude toward the dealers have resulted in a less-than-wholehearted commitment to the efforts to protect the archaeological heritage." Efrat, supra note 37, at 173. In other words, while prosecutions under the UNESCO Convention hold the potential to suppress Britain's antiquities market, the country's civil service has averted this potential development through prosecutorial inaction. See also David Whyte, The Paradox of Regulation: The Politics of Regulating Global Markets, in *Criminology and Archaeology* 127 (Simon Mackenzie and Penny Green eds., 2009) (noting that UK regulatory reforms aimed at controlling the art market have failed and may even have worsened conditions they were meant to ameliorate).

46 Neither the 1954 Hague Protocol, nor the UNESCO 1970 Convention ... [is] retroactive: i.e. they do not apply to cases which occurred before the entry into force of the legal instrument concerned." Lyndel Prott, UNESCO and Unidroit: a Partnership against Trafficking in Cultural Objects 68 (1996), Unidroit, <http://www.unidroit.org/english/conventions/1995culturalproperty/articles/s70-prott-1996-e.pdf>.

47 In her discussion of the origins of major European antiquities collections, Jeanette Greenfield observes, "The United Kingdom was not alone in this; all the European countries which maintained colonial interests abroad mounted archaeological expeditions and amassed collections containing items which are of special cultural significance in their homeland. These countries included France, Belgium, Germany, Holland Italy and Denmark. Often objects were collected in the spirit of intense competition and rivalry, and this only hastened the destruction or removal of countless treasures." Greenfield, supra note 12, at 91. See also Alan Riding, Why "Antiquities Trials" Focus on America, N.Y. Times, Nov. 25, 2005, at A16, <http://www.nytimes.com/2005/11/25/arts/design/why-antiquities-trials-focus-on-america.html> (quoting the previous director of the Louvre, Henri Loyrette's slippery explanation of the legitimacy of the Louvre's collections based upon them having been "acquired in a legal way according to the practice of the time").

48 The UNESCO Cultural Diversity Convention (2005) was motivated by similar resentment of the domination and wealth of the American entertainment industry. See Carol Balassa, America's Image Abroad: The UNESCO Cultural Diversity Convention and U.S. Motion Picture Exports (Vanderbilt University, Curb Center for Art, Enterprise & Public Policy, 2008) (noting that in promoting the Convention the French government, in particular, begrudged not only the financial power of Hollywood, but also the fact that its products, avidly consumed by French citizens, marginalize French culture and traditions).

49 The fact that market nations were severely under-represented, separately and jointly contributed to the nationalistic bias and resulting Convention. The ensuing Articles placed most of the blame for the siphoning of cultural artifacts on the (absent) market nations, and therefore, gave them more responsibility to temper the flow." Podesta, supra note 40, at 469.

50 See Efrat, supra note 37, at 134 (noting that one of the most important concerns of the United States - that was ultimately not accommodated - was the excision of the requirement that every exported item of cultural property would require a government-issued certificate). Paul Bator, who participated on behalf of the United States in the drafting negotiations in Paris in 1970, prepared a detailed - and unintentionally comical - account of the process. His description of the scene in Paris could be easily applied to a Marx Brothers movie or an opera buffa: "The proceedings on the floor were themselves confused and disorderly. Everything took place in four languages simultaneously Earnest and intense arguments completely bypassed each other, or were simply unintelligible to some participants Many of the most important votes were extremely close; their outcome was thus often heavily influenced by the fact that a given delegate was absent that day, or had stepped out or was busy talking, or had simply failed to understand what was going on (very few delegations were large enough to keep the floor "manned" at all times). The vote tallies, too, were based on a disorderly and highly casual show of hands" See Bator, supra note 43, at 375.

51 See Bator, supra note 43, at 328 (discussing the United States' objection to the original draft of the Convention and its sweeping obligations including imposition of disciplinary and penal sanctions, and the prohibition of reservations by signatories).

52 Convention on Cultural Property Implementation Act, Jan. 12, 1983, [19 U.S.C. §§2601-2613](#) [hereinafter CCPIA]. The CCPIA was signed into law by President Reagan in January, 1983. See Efrat, supra note 37, at 136 (discussing the lengthy and contentious legislative process involving the State Department's efforts to obtain buy-in from archaeologists, art dealers, museums and private collectors). An inherent paradox in market nations' accession to the UNESCO Convention is the fact that it enables source nations to capitalize upon market nations' prohibitions on the importation of cultural objects - with no corresponding imposition on the source nation - by simply

selling export certificates to the highest bidder among Convention signatories. Of course no signatory would overtly engage in conduct flagrantly at odds with an agreement whose objective is to suppress the illicit transfer of cultural property among its member states. UNESCO Convention source nations do, however, covertly capitalize on market nations' adherence to the Convention - the United States in particular - by maintaining corrupt customs administrations whose officers accept financial bribes to facilitate illegal exports. These exported objects could later become the subject of repatriation claims based upon their illegal export, lodged, remarkably enough, by the same source nation whose customs officials obtained payment under the table for legitimizing their export.

53 See CCPIA, supra note 52.

54 It does not authorize proactive action on the part of the President, and specifically prohibits it in cases involving "emergency conditions." See CCPIA, supra note 52.

55 CCPIA, supra note 52, § 2605.

56 Many source nations have abdicated their obligation under the UNESCO Convention to safeguard cultural monuments. While Italy, for instance, is relatively wealthy compared to most source nations, its government is strikingly stingy in funding protection of the nation's cultural monuments. In 2008, for instance, barely a quarter of a percent of the national budget was dedicated to cultural property heritage protection. See Steven Urice, *Between Rocks and Hard Places*, [40 N. Mex. L. Rev. 123, 128 n.26 \(2010\)](#). The Italian government recently announced an initiative to make its museums and monuments more profit-driven and self-sustaining. See Josephine McKenna, *Italy Looks Abroad for New Colosseum Director in Museum Shake-up*, *The Telegraph* (Dec. 22, 2014), <http://www.telegraph.co.uk/news/worldnews/europe/italy/11309051/Italy-looks-abroad-for-new-Colosseum-director-in-museum-shake-up.html/>. See also Gaia Pianigiani & Jim Yardley, *Corporate Medicis to the Rescue*, *N.Y. Times*, July 16, 2014, at C1, <http://www.nytimes.com/2014/07/16/arts/design/to-some-dismay-italy-enlists-donors-to-repair-monuments.html> (discussing the Mayor of Rome's unabashed pursuit of Saudi money to pay for the restoration of public monuments in Italy). With respect to the dilapidated condition of Rome's Coliseum, Italian Culture Minister Dario Franceschini recently remarked, "The state has very limited resources unfortunately This is an opportunity for a big company to sponsor an extraordinary project, which will capture the world's attention. It would be scandalous if no one comes forward." McKenna, supra. By ignoring - intentionally or otherwise - UNESCO's requirement that its signatories take proactive measures to safeguard their cultural property, source nations may obliquely furnish modest livelihoods to some of their citizens, typically indigent agricultural workers employed by middlemen compatriots, who eke out a living through their unauthorized "excavations" on public lands.

57 It is a melancholy observation that, although the UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property was adopted as long ago as 1970, the destruction of archaeological sites through looting has increased rather than diminished in the thirty succeeding years." Colin Renfrew, *Foreword to Trade in Illicit Antiquities: The Destruction of the World's Archaeological Heritage* xi (Neil Brodie et al. eds., 2001). See also Judith Church, *Evaluating the Effectiveness of Foreign Laws on National Ownership of Cultural Property in U.S. Courts*, 30 *Colum. J. Transnat'l L.* 179, 180 (1992) (noting the increase in illegal trafficking of cultural artifacts since the establishment of the UNESCO Convention in 1970 and a doubling of the total value of objects sold in this market annually between 1972 and 1990).

58 In 1972 the Convention had three states parties; today it has 128. States Parties to 1970 Convention, Unesco, <http://www.unesco.org/new/en/culture/themes/illicit-trafficking-of-cultural-property/1970-convention/states-parties/> [<http://perma.cc/6KBX-TKPC>] (last visited Oct. 8, 2015). See Urice, supra note 56, at 128 (noting the minimal effectiveness of patrimony statutes in reducing illicit trafficking in antiquities because of a lack of allocated resources and corrupt governments).

59 See infra note 110 and accompanying text. This surge may also have been generated in part by the development, since World War II, of more efficient means by which to remove and transport archaeological artifacts, and a consequent augmentation of the illicit market in these objects. "Even more than the tomb robber, the bulldozer imperils our archaeological heritage." Karl E. Meyer, *The Plundered Past* 197 (1973).

60 See Bator, supra note 43, at 280 (identifying the "Maya crisis" as a catalyst for United States initiatives for the protection of Mexican cultural artifacts).

61 See Efrat, supra note 37, at 131 (noting that in 1969 Mexico approached the State Department seeking assistance for the protection of its archaeological heritage in exchange for Mexico's assistance in the recovery and return of American automobiles).

62 [18 U.S.C. §§2311-2323](#) (2012); [16 U.S.C. §§470aa-470mm](#) (2012). Even after the United States' accession to, and eventual implementation of, the UNESCO Convention, the Justice Department has continued to prosecute foreign cultural property claims under the National Stolen Property Act. This policy may, paradoxically, provide source nations an incentive not to seek the imposition of import restrictions in the United States under UNESCO, but rather to allow objects to leave the country and then seek to recoup them under United States law. UNESCO requires source nations to compensate good-faith buyers whose property is repatriated. By pursuing repatriation under the NSPA, however, a source nation could benefit not only by recovering the cultural property at issue, but also by having its citizens pocket the funds paid by the collector for the subsequently returned property.

63 See Andrew Adler & Stephen Urice, *Resolving the Disjunction Between Cultural Property Policy and Law: A Call for Reform*, [64 Rutgers L. Rev. 117 \(2011\)](#). "The NSPA was never intended to address the unique issues surrounding cultural property." *Id.* at 119. "Although Congress expressly intended ARPA to apply only to archaeological resources originating within the United States, federal prosecutors have nonetheless applied it to foreign archaeological resources in the United States." *Id.* at 135.

64 See *id.* at 139 (describing the CCPIA as "the most comprehensive and definitive statement of cultural property policy in the United States").

65 *Id.* at 120.

66 See CCPIA, supra note 52.

67 See CCPIA, supra note 52, § 2602(a)(1).

68 In 2009 the United States accommodated China's request for the establishment of import restrictions on Chinese artifacts, including coins. The Ancient Coin Collectors Guild challenged the legitimacy of these restrictions noting that China's formal request made no mention of coins, and that the State Department fabricated the addition to the request of this category of artifacts. See Adler & Urice, supra note 63, at 158. See also James Fitzpatrick, *Stealth UNIDROIT: Is USIA the Villain?*, [31 NY.U. J. Int'l L. & Pol. 47, 76 n.88 \(1998\)](#) (discussing USIA documentation revealing that the USIA encouraged Canada to be a "guinea pig" in making the first request under the CCPIA).

69 See Bator, supra note 43, at 327-28 (discussing United States objections to a general ban on cultural property imports in the initial draft of the UNESCO Convention). See also Peter Tompa, "The Cultural Property Implementation Act: Is it Working?," *Cultural Property Observer*, <http://culturalpropertyobserver.blogspot.com/2011/03/cultural-property-implementation-act-is.html> [<http://perma.cc/7RJ6-YFJX>] (noting that "the CPIA was meant to provide a rifle-like response to the problems of looting. Instead, State has used it like a shotgun").

70 See CCPIA, supra note 52, § 2605. Former members of the CPAC have claimed that the State Department has "stacked" the Committee with members with an archaeological bias, and perceives the Committee as a rubber stamp for the Department's pre-determined policy. See Tompa, supra note 69. Moreover, after the publication of an expose alleging the CPAC's dereliction of its statutory mandate, "the State Department perversely responded by eliminating transparency with respect to its implementation of the CCPIA[.]" an action that "borders on lawlessness." Adler & Urice, supra note 63, at 146-147 (citing James F. Fitzpatrick, *Stealth UNIDROIT: Is USIA the Villain?*, 31 N.Y.U. J. Int'l L. & Pol. 47 (1998)).

71 Cultural Property Procedural Reform Act, S. 1696, 106th Cong. (1999). Promoting the legislation, Senator Schumer argued, "We are introducing legislation that is intended to clean up the CPAC - to make the process open, fair, transparent, and accountable The need for cloak and dagger, spy vs. spy, CIA level secrecy over the importance of Peruvian pottery escapes me." 145 Cong. Rec. 24. 139 (1999) (statement of Sen. Schumer).

72 U.S. Department of State Organization Chart, State.gov, <http://www.state.gov/r/pa/ei/rls/dos/99494.htm> [<http://perma.cc/76R8-WWH9>] (last visited Oct. 13, 2015). The CPAC was originally administered by the United States Information Agency (USIA). When the USIA was dissolved in 1999, CPAC was placed under the auspices of the State Department's Bureau of Educational and Cultural Affairs.

73 Maria P. Kouroupas, *Preservation of Cultural Heritage: A Tool of International Public Diplomacy*, in *Cultural Heritage Issues: The Legacy of Conquest, Colonization and Commerce* 325 (James Nafziger & Ann Nicgorski eds., 2009).

74 See Efrat, supra note 37, at 141-42 (discussing opposition to the United States' accession to the UNESCO Convention by art dealers who claimed this action would enable State Department accommodations that would be given "as a sop to any Third World nation for more immediate important goals, trade goals, such as oil or arms"). But see Asif Efrat, *Protecting Against Plunder: The United States and the International Efforts Against Looting of Antiquities* 23 (Cornell Law Faculty Working Papers, Paper No. 47, 2009), http://scholarship.law.cornell.edu/clshops_papers/47/ [<http://perma.cc/5X29-EUTB>] (opining that the "primary motivation underlying the US support for protecting archaeology through international regulation was not self interest Rather, the American goal was to help foreign countries protect their archaeological heritage."). See also Bator, supra note 43, at 282 n.16 (discussing the State Department's establishment in 1969 of a panel to investigate the political and legal problems stemming from the illicit antiquities market). See also William G. Pearlstein, *Cultural Property, Congress, the Courts, and Customs: The Decline and Fall of the Antiquities Market?*, in *Who Owns the Past? Cultural Policy, Cultural Property, and the Law* 11, 12-13 (Kate Fitz Gibbon ed., 2005) (noting that there is no incentive for the United States "to tolerate, much less promote, the importation of cultural property if the result would be to antagonize foreign governments that might, in consequence, withhold cooperation on matters of greater concern to the US government"). See also Adler & Urice, supra note 63, at 161 (claiming that the State Department has distorted the purpose of the CCPIA by using it not to assist foreign nations with protection of their cultural artifacts, but rather "for more self-serving purposes, such as securing long-term loans and unrelated diplomatic concessions").

75 See Pearlstein, supra note 74, at 10-11.

76 See Adler & Urice, supra note 63, at 125 (discussing government-compelled forfeitures in disputes involving various antiquities and a French automobile).

77 [991 F. Supp. 222 \(S.D.N.Y. 1997\)](#).

78 [United States v. An Antique Platter of Gold](#), 184 F.3d 131 (2d Cir. 1999).

79 [An Antique Platter of Gold](#), 991 F. Supp. at 231.

80 See Pearlstein, supra note 74, at 25.

81 See Pearlstein, supra note 74, at 26. See also Carol Kino, *Trading Places*, Slate (July 28, 2003), http://www.slate.com/articles/arts/culturebox/2003/07/trading_places.html [<http://perma.cc/JJ9Q-4QHT>] (noting that the United States has become an attractive venue for foreign cultural property claimants by accommodating them in its courts). See also Tom Mashberg & Graham Bowley, *Islamic State Destruction Renews Debate Over Repatriation of Antiquities*, N.Y. Times, Mar. 31, 2015, at C1, <http://www.nytimes.com/2015/03/31/arts/design/islamic-state-destruction-renews-debate-over-repatriation-of-antiquities.html> (quoting Timothy Potts, director of the Getty Museums: "It has become an article of faith that any form of trade in cultural items is bad.").

82 See Alexander A. Bauer, *New Ways of Thinking About Cultural Property: A Critical Appraisal of the Antiquities Trade Debates*, 31 *Fordham Int'l L. J.* 690, 694-95 (2008) (noting that even one of the loudest opponents of the antiquities market acknowledges that looting and destruction of archaeological sites has worsened since the establishment of the UNESCO Convention).

83 See Gordon Lobay, *Border Controls in Market Countries as Disincentives to Antiquities Looting at Source?*, in *Criminology and Archaeology* 75 (Simon Mackenzie & Penny Green eds., 2009). See also Podesta, supra note 40, at 464 (claiming United States implementation of the UNESCO Convention by which "only one party is punished for the wrongs of multiple partners in crime has no negligible impact on those escaping punishment. It simply encourages their continued wrongdoing[;]" and that "placing all responsibility on the receivers of illicit goods will ... only send the market further underground").

84 See Jordana Hughes, *The Trend Towards Liberal Enforcement of Repatriation Claims in Cultural Property Disputes*, 33 *Geo. Wash. J. Int'l L. & Econ.* 131, 133 (2000) (arguing that absolute prohibition on the transfer of cultural artifacts inflates prices for these materials and thereby encourages black market transactions). See also Efrat, supra note 37, at 145 (noting that the American Association of Museum Directors has established that unilateral imposition of import restrictions by the United States has not checked looting, but has simply re-routed the trade in looted objects to other market countries).

85 See Mashberg & Bowley, supra note 81 (noting that collectors who balk at the current orthodoxy surrounding repatriation have been "attacked as apologists for colonialism and "cultural racketeering").

86 One of the best known of the many examples of such capitulation is the Metropolitan Museum's giving to the Italian Government in 2008, its Euphronios Krater. See Michael Kimmelman, *Stolen Beauty: A Greek Urn's Underworld*, N.Y. Times, July 7, 2009, at C1, <http://www.nytimes.com/2009/07/08/arts/design/08abroad.html> (noting that upon the urn's public installation in Rome that the "Italians didn't seem to care much The media mostly gave the event a pass. The gallery was empty the other afternoon").

87 See Geoff Edgers, *A Detective's Work at the MFA*, Boston Globe, Dec. 11, 2011, at N1, <https://www.bostonglobe.com/arts/2011/12/11/detective-work-mfa/6iaei4YOOQj83s9u3YfDXO/story.html>. See also Tom Mashberg, *Sending Artworks Home, but to Whom?*, N.Y. Times, Jan 4, 2014, at C1, <http://www.nytimes.com/2014/01/04/arts/design/denver-museum-to-return-totems-to-kenyan-museum.html> (the objects are tribal artifacts, but were given to the National Museums of Kenya that has no idea which one of the many nomadic tribes produced a particular piece among the group of works given them).

88 See, e.g., Katherine Jane Hurst, *The Empty(ing) Museum: Why a 2001 Agreement Between the United States and Italy is Ineffective in Balancing the Interests of the Source Nation with the Benefits of Museum Display*, 11 *Art Antiquity & L.* 55, 74 (2006) (discussing the limitations with the loans prompted by the 2001 United States-Italy bilateral agreement and suggesting changes to same).

89 See Statement of the Association of Museum Directors Concerning the Proposed extension of the Memorandum of Understanding between the Government of the United States of America and the Government of the Republic of Italy Concerning the Imposition of Import Restrictions on Categories of Archaeological Material Representing the Pre-Classical, Classical, and Imperial Roman Periods of Italy, as Amended, Meeting of the Cultural Property Advisory Committee (Apr. 8, 2015) (noting the deterioration of Italy's efforts to protect its cultural patrimony as required by the Cultural Property Implementation Act, and Italy's non-compliance with its obligations under the MOU to lend cultural works to United States museums). See also Kaywin Feldman, Director and President of the Minneapolis Institute of Arts, Statement to the Cultural Property Advisory Committee Regarding the Interim Review of the Italian Memorandum of Understanding, at 3 (Nov. 13, 2009), <http://aamd.org/advocacy/documents/TestimonytoCPAC110909.pdf> ("We have found almost no evidence of long-term loans to large [American] museums, except for the institutions that have individual agreements resulting from the transfer of works. The Italian loans made as a result of American museums transferring objects to Italy are not truly long-term loans since these loans are not made to satisfy Article II of the MOU, but instead to satisfy an agreement with an individual museum.").

90 See supra note 81 and accompanying text.

91 See generally Lawrence Rothfield, *The Rape of Mesopotamia: Behind the Looting of the Iraq Museum* (2008).

92 See Donadio, supra note 18 (quoting James Cuno of The Getty).

93 Despite its obvious vulnerability, impermanence, and unequal access by digital heritage source nations and digital heritage consuming nations, the economic value of information about cultural property has become enormously greater than the value of the cultural property itself In an effort to secure the economic future of nations, institutions, and collectivities of all kinds, the data tail now wags the cultural property dog." See Neil A. Silberman, *From Cultural Property to Cultural Data: The Multiple Dimensions of "Ownership" in a Global Digital Age*, 21 *Int'l J. Cultural Prop.* 365, 368-70 (2014).

94 This is true not only of original expression but also useful products. The ingredients that comprise a new pharmaceutical, for example, may have little value until they are compounded according to a specific formula that may have a great deal of value, and that may have taken years and millions of dollars to develop. This investment, and typically substantial profit, is recovered by the developer of the formula that monopolizes the production and sale of the pharmaceutical for the term of the formula's patent.

95 Precious materials may, however, be stripped of their worth by becoming less rare. The value of naturally occurring pearls, for instance, plummeted once it became relatively easy to produce cultured pearls that are indistinguishable from their naturally occurring counterparts. See generally Stephen G. Bloom, *Tears of Mermaids: The Secret Story of Pearls* (2009).

96 See David Itzkoff, *Missing Moore Sculpture May Have Been Sold for Scrap*, *N.Y. Times ArtsBeat* (May 19, 2009, 11:45 AM), <http://artsbeat.blogs.nytimes.com/2009/05/19/missing-moore-sculpture-may-have-been-sold-for-scrap/> (reporting that, in 2005, an abstract bronze sculpture by Henry Moore worth several million dollars was stolen and sold for \$ 2,300 as scrap metal).

97 This is especially true today given museums' practice of keeping visitors at arm's length from displayed works and, in many cases, putting works behind glass so visitors cannot touch them or even breathe upon them.

98 See Walter Benjamin, *The Work of Art in the Age of Mechanical Reproduction*, in *Illuminations* 3 (Hannah Arendt ed., Harry Zohn trans., 1969).

99 *Id.* at 4.

100 In the case of the Parthenon, some believe the stones do speak, or at least cry. See supra note 23.

101 Hitler's and Churchill's paintings are surprisingly similar topically and stylistically. Both politicians created representational and sentimental pictures of landscapes, monuments, churches, etc.

102 See James McDonald, *Churchill Beats Hitler at Another Game*, *N.Y. Times*, June 6, 1943, at SM8. See also Frank Simon, *German Auction House Putting Hitler Watercolor on Market*, *Reuters* (Nov. 19, 2014, 9:50 AM), <http://www.reuters.com/article/2014/11/19/us-germany-hitler-painting-idUSKCN0J220M20141119> [<http://perma.cc/8RT6-GFDR>] (discussing the auction house's response to criticism that it is tasteless to auction Hitler's works, "generally considered to be of limited artistic merit").

103 The tooth, preserved in the improbably named city of Kandy in Sri Lanka, and the beard, are among the most revered religious relics. See Kayla Webley, *Something to Remember Me By*, *Time Magazine* (Apr. 19, 2010), http://content.time.com/time/specials/packages/article/0,28804,1983194_1983193_1983101,00.html.

104 This question is particularly relevant to situations wherein the accretions to the object, barnacles, were removed to restore the object as closely as possible to its initial condition.

105 The worth of Plymouth Rock, and similar cultural objects bearing no imprint of human intelligence, is generated entirely by its aura. In the case of Plymouth Rock, it is based on the erroneous belief that it was the first solid surface the Pilgrims touched when they arrived in America. See Bill Bryson, *Made in America: An Informal History of the English Language in the United States* 2 (1994) (observing that no prudent sailor would bring a ship alongside such a boulder in a rough December sea).

106 See Tom Lutz, *Finding this Lost City in Honduras Was the Easy Part*, *N.Y. Times*, Mar. 20, 2015, at A29, <http://www.nytimes.com/2015/03/20/opinion/finding-this-lost-city-in-honduras-was-the-easy-part.html> (noting that archaeologists' intransigence on the question of moving objects from their find spots can leave artifacts more vulnerable to looting).

107 See Elizabeth Dillinger, *Mutilating Picasso: The Case for Amending the Visual Artist Rights Act to Provide Protection of Moral Rights After Death*, 75 *UMKC L. Rev.* 897 (2007). The late Paul Bator asserted that "nobody would suggest that a painting be cut into pieces in order to make it 'go around' further, since (like the child in Solomon's judgment) mutilation destroys the entity It is the most distasteful aspect of the current art trade that on this question aesthetics and economics sometimes part company, and that the physical mutilation of certain types of art is rendered profitable because a respectable and lucrative market can be found for fragments no

matter how brutally obtained." See Bator, supra note 43, at 296 (1982).

108 Plagiarism and forgery may be unethical but, unlike copyright infringement, they are not illegal per se.

109 See Aviva Briefel, Sacred Objects/Illusory Idols The Fake in Freud's "The Moses of Michelangelo", in *Fakes and Forgeries* 27 (Peter Knight & Jonathan Long eds., 2004).

110 The prevalence of fakes is the venereal disorder of the illicit art market - the punishment for excessive desire and bad judgment. When a piece is exposed as a fake, the usual museum practice is to hide it away, as if its mere presence would infect the worthier works around it - and in the process, years of scholarly labor may be wasted in arguments over the virtue of an object." See Meyer, supra note 59, at 108.

111 See Jonathan Lopez, *The Man Who Made Vermeers: Unvarnishing the Legend of Master Forger Han van Meegeren* (2008).

112 At the end of World War II van Meegeren was charged as a Nazi collaborator for having traded with Goring for one of his "Vermeers" (called "Christ and the Adulteress"). Van Meegeren's successful swindle rendered him a hero. *Id.* at 1-2.

113 *Id.*

114 The same is true of Wolfgang Beltracchi, the German forger who created dozens of paintings that he sold as originals by important German Expressionist artists. Despite his boast that he could imitate any painter, including Leonardo, Beltracchi appears to have limited his forgeries to artists known for nonrepresentational works, a fact that prompts one to wonder whether it is not only easy to copy the works of nonrepresentational artists like Max Ernst, but to create them in the first place. See Beltracchi: *The Art of Forgery* (Tradewind Pictures, 2014).

115 I borrow the Tinkerbell analogy from Robert Berring, who used it to illustrate how legal information resources garner authority. Robert Berring, *Chaos, Cyberspace, and Tradition: Legal Information Transmogrified*, 12 *Berkeley Tech. L. J.* 189, 193 (1997).

116 Lopez, supra note 111, at 140.

117 Lopez, supra note 111, at 10 (referring to the "Supper at Emmaus" as a "defanged cobra," now merely a source of popular curiosity at the Boijmans Museum).

118 A descriptive catalogue arranged according to subjects, or branches of subjects; hence generally or loosely, a classified or methodical list." *Oxford English Dictionary*, <http://www.oed.com/view/Entry/28714> [<http://perma.cc/9UD4-2379>] (last visited Sep. 16, 2015).

119 See Lorne Manly, *Art of a Flip: \$ 5,200 to Millions*, *N.Y. Times*, Mar. 8, 2015, at A1 (discussing the sale of a painting for 1,000 times the price for which it had sold a year earlier, after it had been authenticated as a work of John Constable).

120 The irrationality of favoring an original work over its copy is the subject of the Dulwich Gallery (London) 2015 exhibition *Made in China: A Doug Fishbone Project*, in which visitors are challenged to identify a Chinese made copy of one of the Gallery's Old Master paintings that has been substituted for the original. See also Jason Caffrey, *America's Most Generous Con Artist*, *BBC World Service* (Mar. 31, 2015), <http://www.bbc.com/news/magazine-31818367> [<http://perma.cc/CZ6T-A79G>] (discussing Mark Landis's forgeries of works by well-known artists, which he donated to museums that displayed them as genuine works).

121 Why is "Balloon Dog," the large construction currently atop the Metropolitan Museum roof, said to be by Jeff Koons? Mr. Koons did not conceive the original balloon figure of a dog, nor did he create the gigantic finished piece, made by Carlson & Company Mr. Koons simply found something to duplicate and suggested making it big and shiny." Peter E. Rosenblatt, *Letter to the Editor, Questioning Creativity*, *N.Y. Times*, May 4, 2008, at AR4.

122 Jean-Jacques Neuer, *What is the Authenticity of a Work of Art in the Era of 3D?*, *Huffington Post* (Jan. 12, 2015, 5:57PM), http://www.huffingtonpost.com/jeanjacques-neuer/the-authenticity-of-a-work-of-art-in-the-era-of-3d_b_6395958.html [<http://perma.cc/2XV3-XPEB>].

123 Lee Siegel, *Against the Machine* 142 (2008). See also James Barron, *The Auction Aftermath: Was It Worth the Price?*, *N.Y. Times*, Apr. 28, 1996, at 35 (noting one dealer's valuation of Jacqueline Onassis's household effects as "a load of rubbish"). A funeral home in Fort Worth recently attempted to sell the exhumed coffin, in which Lee Harvey Oswald was initially buried, for \$ 87,468. David Montgomery, *In a Texas Court, a Fight for Lee Harvey Oswald's Coffin*, *N.Y. Times*, Dec. 12, 2014, at A20, <http://www.nytimes.com/2014/12/12/us/in-a-texas-court-a-fight-for-lee-harvey-oswalds-coffin.html>.

124 Benjamin, supra note 98, at 218.

125 See Lisa Hargrove, et al., *The History of Plaster Casts*, *George Mason University History & Art History Department*, http://chnm.gmu.edu/courses/mattusch/plaster/index_files/Page418.htm [<http://perma.cc/W567-QCB6>] (last visited Sept. 19, 2015). See also Pamela Born, *Canon is Cast: Plaster Casts in American Museum and University Collections*, 21 *J. Art Libr. Soc'y N. Am.* 8, 9-10 (2002) (noting the decline in enthusiasm for plaster casts in the twentieth century).

126 In the nineteenth century the Metropolitan Museum, the Louvre, and the British Museum had large collections of plaster casts. However, in the latter part of the twentieth century possession of these collections became slightly embarrassing. Plaster cast collections embodied a heavy pedagogical and aspirational message that museums wanted to temper for fear of patronizing their visitors. They also ran the risk of signaling to Italy and Greece a sense of cultural inferiority - after all, Italian and Greek museums were not collecting casts of Druid relics or American Indian arrowheads - and only originals became worthy of collection and display in the now-glamorous Metropolitan, Louvre, and British Museum.

127 Some manufacturers offered complementary plaster fig leaves that demure buyers could attach to strategic portions of the statues. Born, supra note 125, at 11.

128 See Hargrove, supra note 125.

129 See Giorgio Vasari, *The Lives of the Artists* (Julia Conway Bondanella trans., Oxford University Press 2008).

130 See Picturing Machines 1400-1700 (Wolfgang Lefevre ed., 2004).

131 See Paolo Cignoni & Roberto Scopigno, Sampled **3D** Models for CH Applications: A Viable and Enabling New Medium or Just a Technological Exercise?, 1 ACM J. on Computing & Cultural Heritage 2:1, 2:3 (2008).

132 It is even possible to create a **3D** scan of a long-playing sound recording ("LP" or "vinyl") that accurately replicates not only the shape of the original LP, but also the sound waves etched into its grooves. Joren De Wachter, **3D Printing** and Intellectual Property, TradeSecretsLaw.com (Jan. 21, 2013), <http://www.tradesecretslaw.com/2013/01/articles/trade-secrets/3d-printing-and-intellectual-property> [<http://perma.cc/8ZB6-EJUW>].

133 For an example of a practical implementation of this technology see, e.g., Lithias: Pierre, Art & Ornaments Exceptionnels, <http://www.lithias.fr/sauvegarde-3D.html> [<http://perma.cc/R2DH-7FAW>] (last visited Sep. 29, 2015).

134 Cignoni and Scopigno, in their discussion of the potential of digital technologies for the reproduction of works of cultural heritage, found that although color is a vital component of most of these visual works, the available technology to record information on the color of a work is not as advanced as that used to record information on its shape. Cignoni & Scopigno, supra note 131, at 2:4.

135 See Raphael Minder, Unlocking Sight, With Touch, at the Prado, N.Y. Times, Mar. 7, 2015, at C1, <http://www.nytimes.com/2015/03/07/arts/design/at-museo-del-prado-blind-visitors-can-touch-masterpieces.html>.

136 See generally K. Eric Drexler, Engines of Creation 2.0: The Coming Era of Nanotechnology (2006).

137 See infra note 160 and accompanying text for a discussion of these aesthetic and economic concerns.

138 See The Frieze, Acropolis Museum <http://www.theacropolismuseum.gr/en/content/frieze-0> [<http://perma.cc/6U4P-MJDT>] (last visited Oct. 7, 2015).

139 Id.

140 The Acropolis Museum has also used digital technology to recreate the original appearance - albeit only in virtual form - of the frieze, with colors and metal accouterments like swords and bridles. See Chris Leadbeater, Brightening the Past: Acropolis Museum in Athens "Restores" Parthenon Friezes to Their Original Colours by Using Digital Technology, Daily Mail (July 1, 2014), <http://www.dailymail.co.uk/travel/article-2676413/Atheness-Acropolis-Museum-celebrates-fifth-anniversary-digital-programme-colour-Parthenon-Marbles.html>.

141 See [35 U.S.C. § 154](#) (2012).

142 See id. §§17 and 173.

143 See id. § 271.

144 See Lanham Act § 43(a), codified at [15 U.S.C. § 1125\(a\)](#) (2012).

145 See Joel Reese, Defining the Elements of Trade Dress Infringement Under Section 43(a) of the Lanham Act, [2 Tex. Intell. Prop. L. J. 103 \(1994\)](#) (discussing proximity of the products within the market as one of the elements required to obtain trade dress protection, and those needed to establish infringement of it).

146 See 5 J. Thomas McCarthy, McCarthy on Trademarks and Unfair Competition, § 27:91 (4th ed. 2015).

147 [17 U.S.C. § 101](#) (2012).

148 Id. at § 106.

149 See [Feist Publ'ns. Inc. v. Rural Tel. Serv., Inc., 499 U.S. 340, 345 \(1991\)](#) (identifying originality, at least a "spark" of creativity, as the sine qua non of copyright protection).

150 The Spirograph, a toy popular in the 1970s, enabled drawing of geometric patterns using gears. See Wikipedia, <http://en.wikipedia.org/wiki/Spirograph> (last visited Oct. 7, 2015).

151 [Meshwerks, Inc. v. Toyota Motor Sales U.S.A., Inc., 528 F.3d 1258 \(10th Cir. 2008\)](#).

152 Meshwerks's connection with the deep-pocketed defendant Toyota was highly attenuated. Saatchi & Saatchi, Toyota's ad agency, subcontracted a portion of its Toyota work to a smaller agency that, in turn, subcontracted the **3D** scanning work to Meshwerks. [Id. at 1260](#).

153 [Id. at 1261, 1270](#).

154 [Id. at 1268-69](#).

155 Toyota designers created the designs, and design patents owned by Toyota protected the automobiles at issue in this case. See [id. at 1266, 1268](#).

156 [Id. at 1269](#) (quoting [Burrow-Giles Lithograph Co. v. Sarony, 111 U.S. 53, 59 \(1884\)](#)).

157 [Osment Models, Inc. v. Mike's Train House, Inc., No. 2:09-CV-04189-NKL, 2010 WL 5423740, at 6](#) (W. Dist. Mo. Dec. 27, 2010) (citing [Meshwerks, 528 F.3d at 126](#)).

158 See id. at 2, 6-7.

159 Id. at 7.

160 Id. at 7.

161 Aggressive restoration - e.g., enriching faded color, adding lost appendages like digits and noses of statuary - might produce a more accurate version of the creator's intent than does a timid restoration whose maker dares not presume to know what the author intended.

162 Heard at the end of a concerto movement, aria, etc., cadenzas provide the soloist an opportunity to display improvisational and technical facility. See "cadenza", Oxford Companion to Music (online ed., 2011); Ludwig van Beethoven, Kadenzen und Eingänge zu Klavierkonzerten (Henle ed., 2012).

163 German copyright law, on the other hand, provides a twenty-five year term of "neighboring rights" protection to publishers of public domain works. See Urheberrechtsgesetz [UrhG] [Copyright law], Bundesgesetzblatt [BGBl. I] 51, § 71 (Sept. 9, 1965) (Ger).

164 In a similar vein, to obtain the greatest profit, artists who make multiple copies of a work - like Rodin, or the creators of "numbered" **prints** - balance the potential proceeds they will make by selling a large number of copies against that generated from the sale of a small number whose value is enhanced by exclusivity and scarcity.

165 This seems true especially since the original has been relocated from the location in which it stood for over 300 years in the Palazzo della Signoria, to the Galleria dell'Accademia.

166 Where no labor or creativity whatever is expended, where one is simply the proprietor of an artifact that embodies data or ideas of the sort that the courts have so jealously reserved to the public, no notion of a public realm exists. On the contrary, such objects - and, in consequence, what is contained within them - are left entirely to the dominion of the owner, with no duty to make them accessible to an interested public, or otherwise to protect them." Joseph L. Sax, Playing Darts with a Rembrandt: Public and Private Rights in Cultural Treasures 3 (1999).

167 Partage" is derived from the French partager, "to share."

168 See generally James Cuno, Who Owns Antiquity? Museums and the Battle over Our Ancient Heritage (2008).

169 See, e.g., Silvia Beltrametti, Museum Strategies: Leasing Antiquities, [36 Colum. J. L. & Arts 203 \(2013\)](#) (considering potential benefits of leasing ancient classical artifacts from Italy and Greece to United States museums).

170 Michael Kremer & Tom Wilkening, Protecting Antiquities: A Role for Long-Term Leases? (Harvard University Department of Economics, Working Paper, 2014), http://scholar.harvard.edu/files/kremer/files/antiquities_qje_draft_feb6_2014.pdf?m=1392050812 [<http://perma.cc/DXX8-PBAM>] (suggesting that export prohibitions promulgated pursuant to the UNESCO Convention, particularly in nations lacking the resources or will to enforce them may, in fact, promote the destruction or illegal sale of these objects).

171 Id. at 3.

172 Both premises were used, for instance, by University of Glasgow researcher, Neil Brodie, in his presentation on the state of cultural property protection in Syria today. Neil Brodie, Keynote Lecture at the University of Chicago Neubauer Collegium: Archaeological Looting: Realities and Possibility for New Policy Approaches (Feb. 28, 2015).

173 See supra Introduction.

174 Id.

175 See Silberman, supra note 93, at 367.

176 In Leonardo's time painting was considered "vulgar to its very roots ... a work and a labor of the body rather than of the mind and, more often than not, exercised by the ignorant." James Gardner, Culture or Trash? A Provocative View of Contemporary Painting, Sculpture, and Other Costly Commodities 1 (1993) (quoting Leonardo's contemporary, the classical scholar Mario Equicola).

177 While cultural monuments like tombs and temples were generally intended by their creators to remain moored to a particular location, the aesthetic and informational worth of moveable objects like paintings and statuary often does not depend upon their presence at a particular location. Coins are an obvious example of cultural property that is created with the intention that it be circulated.

178 See John Simon, For Preventing Theft Japan Temple Worships **3D Printed** Buddha, 3ders (June 4, 2015), <http://www.3ders.org/articles/20150604-for-preventing-theft-japan-temple-worships-3d-printed-buddha.html> [<http://perma.cc/E4RY-TH99>] (noting that over 160 original statues in public temples have been replaced with **3D** replicas); Jonathan Webb, "Cyber-archaeology" Salvages Lost Iraqi Art, BBC News (May 19, 2015) <http://www.bbc.com/news/science-environment-32742622> [<http://perma.cc/7LEE-62KR>] (discussing crowd sourcing of photos of now-destroyed artifacts that allows for the creation of **3D** images of these objects).

179 Marc Levoy, The Digital Michelangelo Project, <http://graphics.stanford.edu/projects/mich/> [<http://perma.cc/G8MV-8W5D>] (last visited Apr. 13, 2015).

180 Marc Levoy, The Digital Michelangelo Project? Archive of **3D** Models, <http://graphics.stanford.edu/data/mich/#Obtaining%20the%20data> [<http://perma.cc/L33X-22UA>] (last updated July 21, 2009). The project was funded by Stanford and the Paul Allen Foundation.

181 Id. Marc Levoy, author of the access restrictions, claims that they reflect terms he negotiated with Italian authorities. He declined the author's request to review a copy of the agreement between Stanford and the Italian government because of "the delicate nature of my relationships with the Italian government." E-mail from Marc Levoy to **Charles Cronin** (Oct. 12, 2014) (on file with author). The posted restrictions to, and use of, the data may very well reflect the terms of an agreement struck

between Marc Levoy and the Italian authorities. One wonders, however, whether Stanford authorized a member of its computer science faculty both to negotiate on its behalf with a foreign government the terms of use of public domain work data obtained by a team of students and faculty members funded by the University, and also to control access to, and use of, what appears to be mainly the intellectual property of Stanford and the University of Washington.

182 ¶ See David Waldstein, Bumgarner, a Three-Ring Master, Leads San Francisco to Its Third Title in Five Seasons, N.Y. Times, Oct. 30, 2014, at B14, <http://www.nytimes.com/2014/10/30/sports/baseball/world-series-2014-giants-beat-royals-in-game-7-to-win-title.html>.

183 ¶ The author admits to having experienced a flutter of pride upon learning that his college's (Oberlin) football team is known for having maintained one of the longest losing streaks in collegiate athletics. Football (or soccer) hooliganism is found worldwide. See Football Hooliganism, Wikipedia, http://en.wikipedia.org/wiki/Football_hooliganism.

184 ¶ Once again proving the accuracy of H. L. Menken's observation that "nobody ever went broke underestimating the taste of the American public," the Henry Ford Museum recently paid \$ 905,000 for an "Apple-1 Computer with exceptional provenance and in beautiful working condition." Press Release, Bonhams, The World's Most Expensive Apple (Oct. 23, 2014), http://www.bonhams.com/press_release/17720/ [<https://perma.cc/8ANJ-6ZJW?type=image>].

185 ¶ In 2012 there were 13,410 visitors to the museum in Aidone. See Hugh Eakin, Citing Inequity, Sicily Bans Loans of 23 Artworks, N.Y. Times, Nov. 27, 2013, at C1, <http://www.nytimes.com/2013/11/27/arts/design/citing-inequity-sicily-bans-loans-of-23-artworks.html>. This is less than half the number of visitors to the same museum two years earlier. See Donadio, supra note 18 (noting the effects of Sicily's "renowned ... political corruption," and lack of reliable public transportation on the ability to access cultural monuments). In 2014 there were almost 1.8 million visitors to the Getty museums. James Cuno, 2014 by the Numbers, Getty Museum (Dec. 15, 2014), <http://blogs.getty.edu/iris/2014-by-the-numbers/> [<http://perma.cc/4PS7-69AT>].

186 ¶ See Mark Townsend, The Dealer \$ 10m, and the Missing Art Treasures, The Guardian, (Sept. 12, 2006), <http://www.theguardian.com/artanddesign/2009/sep/13/antiques-art-business-robin-symes>. A Ford Fiesta, 2015 model, costs about \$ 14,000; Aidone has a population of about 5,000.

