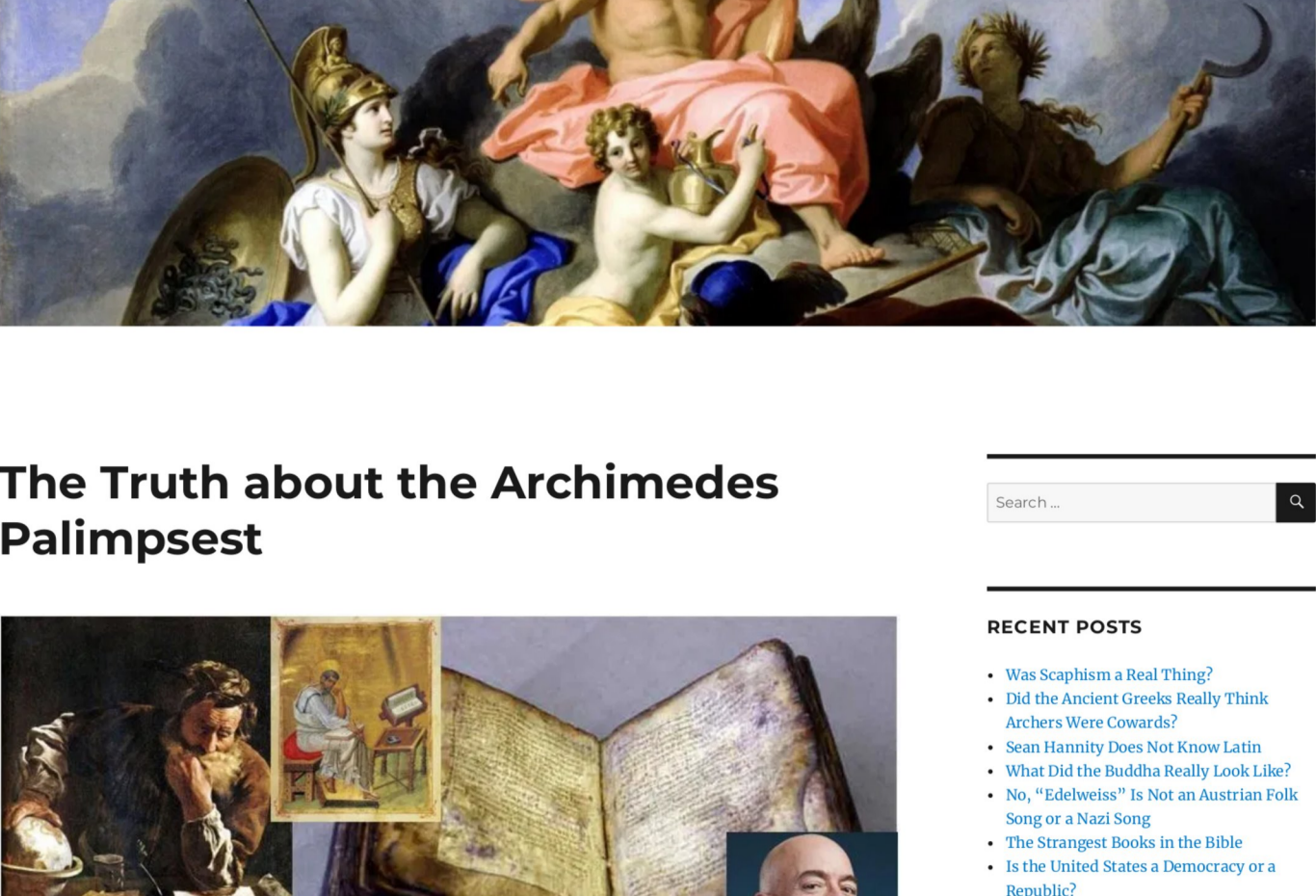
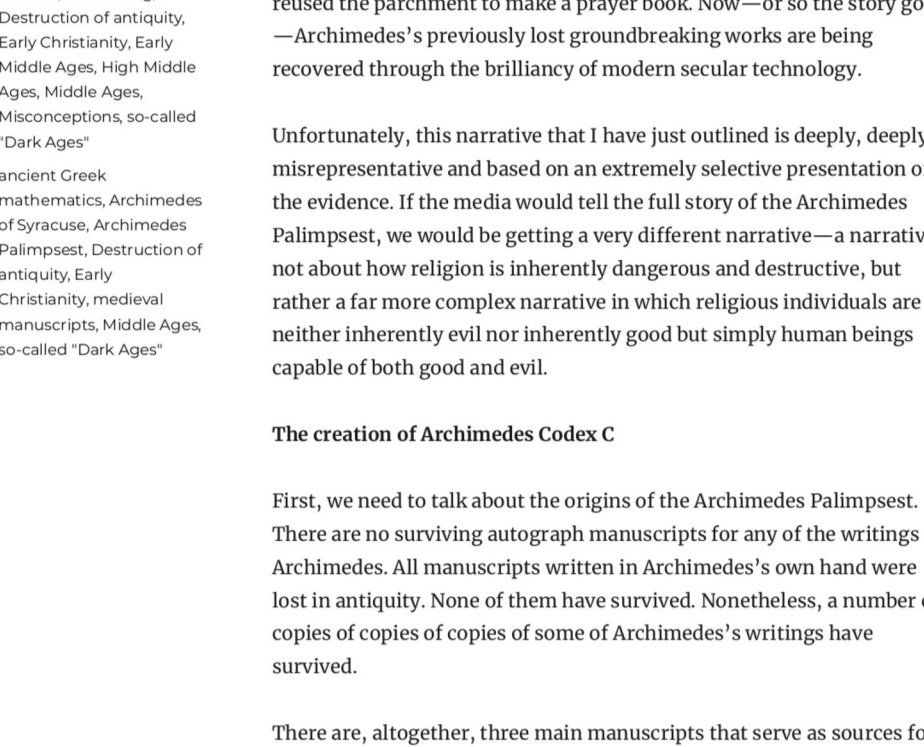


Tales of Times Forgotten

Retelling obscure stories from the distant past



The Truth about the Archimedes Palimpsest



Spencer Alexander McDaniel
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Ancient artifacts, ancient Greek mathematics, ancient Greek scholarship, ancient Greek science, ancient Greek technology, Ancient literature, Archimedes of Syracuse, Byzantine Empire, Classics, Debunking, Destruction of antiquity, Early Christianity, Early Middle Ages, High Middle Ages, Middle Ages, Misconceptions, so-called "Dark Ages"

ancient Greek mathematics, Archimedes of Syracuse, Archimedes Palimpsest, Destruction of antiquity, Early Christianity, medieval manuscripts, Middle Ages, so-called "Dark Ages"

If you have an interest in ancient science or mathematics, chances are you have probably heard at some point about the Archimedes Palimpsest. According to the narrative that New Atheist writers and media outlets keep pushing, the ancient Greek groundbreaking Archimedes of Syracuse (lived c. 287 – c. 212 BC) wrote groundbreaking mathematics treatises that were millennia ahead of their time.

Then, according to the standard narrative being pushed, in the thirteenth century AD, ignorant, obscurantist Christians who did not care about science or mathematics erased the best of the manuscript containing the last known copies of several of Archimedes's treatises and reused the parchment to make a prayer book. Now—or so the story goes—Archimedes's previously lost groundbreaking works are being recovered through the brilliancy of modern secular technology.

Unfortunately, this narrative that I have just outlined is deeply, deeply misrepresented and based on an extremely selective presentation of the evidence. If the media would tell the full story of the Archimedes Palimpsest, we would be getting a very different narrative—a narrative not about how religion is inherently dangerous and destructive, but rather a far more complex narrative in which religious individuals are neither inherently evil nor inherently good but simply human beings capable of both good and evil.

The creation of Archimedes Codex C

First, we need to talk about the origins of the Archimedes Palimpsest. There are no surviving autograph manuscripts for any of the writings of Archimedes. All manuscripts written in Archimedes's own hand were lost in antiquity. None of them have survived. Nonetheless, a number of copies of copies of copies of some of Archimedes's writings have survived.

There are, altogether, three main manuscripts that serve as sources for the surviving treatises of Archimedes: Archimedes Codex A, Archimedes Codex B, and Archimedes Codex C. All three of these codices were produced during the Middle Ages as copies of earlier manuscripts. Of these three manuscripts, Codices A and B were both lost centuries ago. We do not have the original manuscripts, but we do have the texts from them, which have been printed and published ever since the Renaissance. Archimedes Codex C is the only one of the three codices that has survived to the present day.

Archimedes Codex C is a Greek parchment codex that was copied by an anonymous Byzantine Christian scribe in Constantinople in around the middle of the tenth century AD. At the time when the manuscript was copied, the Byzantine Empire was in the midst of the so-called "Macedonian Renaissance," a period when arts and culture flourished under the rule of the Macedonian Dynasty (ruled 867 – 1056 AD).

The study of Archimedes's works in particular was flourishing in Constantinople at this time because there was a school there focused on mathematics and philosophy that had been founded by Leon the Geometer (lived c. 790 – after c. 869 AD), a renowned mathematician and philosopher. Leon was heavily involved in the hierarchy of the Greek Orthodox Church; he was a cousin of the patriarch of Constantinople and had previously served as archbishop of Thessaloniki himself.

In any case, Codex C contains the texts of seven different treatises by Archimedes. These seven treatises were deliberately selected by the scribe who copied them from a larger number of treatises that he had access to because he deemed these seven treatises as being especially significant and worthy of study. The codex contains the treatises *On Planes in Equilibrium*, *On Spirals*, *On the Sphere and Cylinder*, and *On the Measurement of the Circle*. Greek versions of all four of these treatises are known from other manuscripts.

The codex, also, however, contains the treatise *The Method of Mechanical Theorems*, which is not known from any other manuscripts. It also contains Greek versions of Archimedes's treatises *Stomachion* and *On Floating Bodies*. Versions of both these treatises have survived in Arabic, but Archimedes Codex C contains the only known surviving versions of them in Greek. Additionally, since the surviving Arabic translation of the *Stomachion* is incomplete, we can also say that it contains the only complete surviving version of the *Stomachion* in any language.

ABOVE: Byzantine ivory relief dating to c. 945 AD depicting Jesus blessing Emperor Konstantinos VII Porphyrogenetos (ruled as sole emperor 944 – 959 AD), during whose reign Archimedes Codex C may have been copied

The creation of the Archimedes Palimpsest

The period of crisis and culture that produced Archimedes Codex C, however, could not last forever. In 1204, a large army of Crusaders from western Europe sacked the city of Constantinople, the capital of the Byzantine Empire, and effectively dismantled the entire empire. Although the Byzantine Empire was eventually reestablished later in the thirteenth century under the emperor Michael VIII Palaiologos (ruled 1261 – 1282), who managed to recapture the city of Constantinople in 1261, the period from 1204 to 1261 was nonetheless predominately one of relative chaos when the Byzantine Empire effectively did not exist.

In the midst of this period of chaos following the fall of Constantinople, Archimedes Codex C was somehow transported to Jerusalem, where it fell into the possession of a Christian priest by the name of Ioannes Myronas. Myronas was apparently short on parchment, but he wanted to make a prayer book, so he decided to reuse the parchment from Archimedes Codex C, along with the parchment from six other codices, including a collection of speeches by the Athenian orator Hyperides and a commentary on Aristotle's *Categories*, to make his prayer book.

In 1229 AD, under Myronas's ownership, Archimedes Codex C was rebound, the text was completely scraped off, and the pages from it were reused (along with pages from the six other manuscripts), to make a Christian prayer book. This prayer book is known as the "Archimedes Palimpsest." The underlying texts are still there and still visible even to the naked eye; they were not completely destroyed. They were, however, partially erased and written over.

ABOVE: Painting by the French Romantic painter Eugene Delacroix depicting how he imagined the Sack of Constantinople on the 12 April 1204 AD by the Crusaders might have looked. If it was in the aftermath of the Sack of Constantinople that the Archimedes Palimpsest was most likely transported to Jerusalem.

A problematic narrative

Now, New Atheist writers often point to the partial erasure and overwriting of the texts by Archimedes in the Archimedes Palimpsest as evidence that Christian anti-pathy—or at least apathy—towards classical texts almost destroyed the only known Greek versions of multiple important treatises by Archimedes forever. There are a number of problems with this idea, however.

First of all, you wouldn't know this from listening to what certain New Atheists say about it, but the original Archimedes Codex C that was reused for the making of the Archimedes Palimpsest was actually originally copied by Christian Byzantine scribes in the tenth century AD. If it were not for those scribes who copied it, we would not have it. The very fact that the codex ever existed to begin with proves that at least some Christians cared about Archimedes's work and were interested in preserving it.

Second of all, it is important to remember that Archimedes Codex C is just one manuscript containing the texts of seven treatises by Archimedes and that, of those seven treatises, only one of them is not known in any form from any other manuscripts. Codex C happens to be the only known surviving manuscript of that treatise now, but we should not assume that it was the only surviving manuscript of that treatise at the time when it was erased and turned into a prayer book.

At the time when the Archimedes Palimpsest was created, there may very well have been perhaps as many as several dozen other manuscripts containing the Greek texts of Archimedes's *Method of Mechanical Theorems*, *On Floating Bodies*, and *Stomachion* that may very well have still been floating around and being used. Those manuscripts, if they existed, must have been lost or destroyed over the course of the nearly eight hundred years that have passed since the Archimedes Palimpsest was produced.

ABOVE: Photograph of a page from the Archimedes Palimpsest, showing Archimedes's text written underneath the text of the prayer book

Even if Archimedes Codex C was the only surviving Greek manuscript of those treatises at the time when it was erased, Ioannes Myronas had no way of knowing that. There were no authorities at the time keeping track of all the manuscripts that existed in the entire world. Myronas probably (quite reasonably) assumed that there were other manuscripts of those treatises out there. If he had known that Codex C was the only surviving manuscript containing *The Method of Mechanical Theorems* (which, again, it may not have been at that time), he might not have tried to erase the text and reuse the parchment.

Finally, it cannot be emphasized enough that erasing texts and reusing the parchment from them was by no means just a Christian thing; the ancient Greeks and Romans did it too. Erasing and reusing old papyrus or parchment was basically the ancient world equivalent of recycling. It was a new way of reducing costs by reducing paper. Instead of buying a bunch of new paper, you could just scrape the writing off some old paper that you were planning on blowing away otherwise.

If you are going to blame medieval Christians for creating palimpsests, then you also have to blame the classical Greeks and Romans, because they did the exact same thing. If you only consider something an abomination when Christians do it and not when anyone else does it, then you are probably applying a double standard.

ABOVE: Photograph of a page from the Codex Niriensis, another example of a palimpsest

Rediscovery

The Archimedes Palimpsest was kept in the Mar Saba monastery near Jerusalem until at least the sixteenth century. At some point prior to 1840, the manuscript was transported the Metochion of the Holy Sepulchre, a library in Istanbul owned by the Greek Orthodox Patriarchate of Jerusalem. In 1899, a Greek scholar working at the Metochion named Papadopoulos-Kerameus was cataloguing the manuscripts in the Metochion's collection. He was translating a number of lines from the underlying text of Archimedes from the Archimedes Palimpsest and published them.

The Danish scholar Johan Ludvig Heiberg (lived 1854 – 1928), a world-renowned expert on Archimedes, read the lines transcribed by Papadopoulos-Kerameus and immediately realized the text they came from was a manuscript of a previously unknown text by Archimedes. Heiberg travelled to Istanbul to examine the manuscript. Using only a magnifying glass and a camera, Heiberg was able to pretty much recover the complete text of Archimedes's *Method of Mechanical Theorems*, which he published in full in 1907. Heiberg, however, only published the text of Archimedes; he did not even try to read the texts of the previously unknown speeches of Hyperides or the previously unknown commentary on Aristotle's *Categories* that were also included in the palimpsest.

ABOVE: Photograph from 1918 of Johan Ludvig Heiberg, the scholar who published the text of Archimedes's *Method of Mechanical Problems* in 1907

Stolen, damaged, and sold

The Archimedes Palimpsest remained in the Metochion in Istanbul until around 1920. All things considered, the Greek Orthodox Patriarchate of Jerusalem generally took very good care of the manuscript. They kept it in a relatively safe environment and they even allowed scholars like Heiberg to study it. Then, in the midst of the Greco-Turkish War (lasted 1919 – 1922), when the Greek Orthodox Church was being harshly suppressed in Turkey, the palimpsest was stolen from the Metochion's collection.

No one knows exactly how the Archimedes Palimpsest was stolen. It is possible that, in the chaos of the war, someone just took it from the Metochion's collection. It is also possible that someone working at the Metochion may have illegally sold it without obtaining permission from the Greek Orthodox Patriarchate of Jerusalem, who still owned the manuscript.

In any case, after it was stolen, the Archimedes Palimpsest went missing for decades. During the time when it was missing, it suffered even greater damage. It was left for years in a damp cellar, where it was severely damaged by water and mold. Rusty objects were placed in the palimpsest's pages, which got rust on the pages. Someone at some point tried to "repair" the binding of the codex using Elmer's wood glue, which is—regardless to say—not good for medieval manuscripts.

Meanwhile, at some point, an owner of the codex had seven pages removed and had forged Byzantine-style illustrations that mimicked four of them in apparent effort to increase the manuscript's sale value. The four pages with the forged illustrations were returned to the palimpsest, but the three other pages that were removed were never returned, and, to this day, no one knows what happened to them. They have probably been destroyed or at least irretrievably lost.

ABOVE: Image of one of the forged Byzantine-style illustrations that were added by one of the owners of the Archimedes Palimpsest at some point during the middle of the twentieth century

Somewhat or another, the stolen manuscript came into the possession of a man named Marie-Louis Sireix, who is probably responsible for some of the damage the manuscript suffered. In 1956, Sireix died and the Archimedes Palimpsest was inherited by his daughter Anne Guerson and her husband Robert. In around 1970 or thereabouts, Guerson began trying to privately sell the stolen manuscript but her father had left sitting in his collar. No one wanted to buy it, so, in 1998, Anne Guerson put the manuscript up for public auction through Christie's Auction House.

Christie's was immediately sued twice by the Greek Orthodox Patriarchate of Jerusalem, who claimed that the manuscript had been stolen from their collection and that it was rightfully theirs. A United States judge for the Southern District of New York ruled that the Greek Orthodox Patriarchate of Jerusalem had made enough effort to find their manuscript over the past seventy-eight years since it had been stolen, they had forfeited all right to the ownership.

The Archimedes Palimpsest was sold at Christie's in 1998 for two million dollars to an individual identified only as "Mr. B." who was described by her representative as "a private American" who worked in "the high-tech industry" who was "not Bill Gates." It is widely suspected that the "Mr. B." who currently owns the Archimedes Palimpsest, is none other than Jeff Bezos, the founder, chief executive officer, and president of Amazon, Inc., who is currently the richest person in the world.

The identification of Jeff Bezos as "Mr. B." remains officially unconfirmed, but all the evidence strongly points to Jeff Bezos as the current owner of the palimpsest. The reason why Jeff Bezos is not openly admitted to being the owner of the Archimedes Palimpsest is probably because he is aware of the manuscript's shady history.

ABOVE: Photograph from the *Encyclopædia Britannica* of Jeff Bezos, who is currently the richest man in the world and probably the current owner of the Archimedes Palimpsest

The Archimedes Palimpsest project

Whatever his other faults may be, the enigmatic "Mr. B." has allowed the Archimedes Codex to be extensively studied by a whole team of scholars from a variety of different fields. This is the first time in nearly a century that the Archimedes Palimpsest has been available to scholars to be studied.

"Mr. B." has also allowed the Archimedes Palimpsest to be digitized and all the images of it are [posted online on a website](#) under a Creative Commons license. It is obvious that he is doing this in deliberate effort to increase the manuscript's fame and therefore its resale value, but it is nonetheless nice to have these images freely available to everyone.

Unfortunately, the manuscript is so badly damaged from the terrible conditions under which it was kept during the nearly eighty years that passed between when it was stolen from the Greek Orthodox Patriarchate of Jerusalem in around 1920 and when it was purchased by "Mr. B." in 1998 that it has had to undergo extensive efforts by conservationists to reverse some of the damage that it has suffered. Even these efforts, though, can never reverse the serious damage that was inflicted on the manuscript after it was stolen.

ABOVE: Image of the homepage for the Archimedes Palimpsest Project

Conclusion

The Archimedes Palimpsest is, unfortunately, often misrepresented as evidence that medieval Christians hated classical learning and mathematics. The exact opposite is actually true; the Archimedes Palimpsest is an excellent example of texts being preserved through the dedication of Christian copyists. If it had not been for the Christian scribe who copied Codex C to begin with, we would not have the text of Archimedes's *Method of Mechanical Theorems* at all.

The original Archimedes Codex C wasn't totally destroyed either; the writing on it was incompletely erased and the parchment was reused to make a prayer book. Because the writing is still there and still legible (even to the naked eye in most cases), scholars have been able to recover the full texts of all the treatises by Archimedes that the palimpsest contains, including the one that is not known from the other manuscripts at all and the two that are only known from other manuscripts in Arabic translations.

Furthermore, the Archimedes Palimpsest only contains seven treatises by Archimedes, most of which are known from other manuscripts, and, by the thirteenth century, the vast majority of the mathematical information contained in those treatises was widely available through other sources. The Archimedes Palimpsest contains no new mathematical information that modern mathematicians did not know prior to its rediscovery. Its value is, rather, historical, because it can tell us more about what Archimedes knew concerning mathematics in the thirteenth century BC.

The reason why the Archimedes Palimpsest is important is because of the amazing texts that it has preserved for us to study—not the texts that could have been lost if the erasure had been more complete. Ironically, it is actually a tremendous boon for historians and for fans of Archimedes that the Archimedes Codex was erased and reused because, if it had not been reused, it probably would have just been thrown out. Ironically, the manuscript's erasure and reuse is probably the main reason why we have it today at all.

ABOVE: Photograph of a page from the Archimedes Palimpsest, showing the incomprehensibly tiny script of Archimedes written over by the text of the prayer book

Author: Spencer Alexander McDaniel
Hello! I am Spencer Alexander McDaniel. I am currently a student at Indiana University Bloomington pursuing a double major in classical studies and history. I am obsessed with the ancient world and I write about it constantly. My main area of study is ancient Greece, but I also write about other areas of history as well. [View all posts by Spencer Alexander McDaniel](#)

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