THE BONE CHILLING TRUTH: BUYING AND SELLING HUMAN SKELETAL REMAINS ON THE INTERNET

by

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ABSTRACT

Human skeletal remains have been venerated in human society for hundreds of thousands of years. They have deep ritual and cultural significance around the world as well as being invaluable as a teaching resource for medical, dental, and forensic science purposes. With the proliferation of the internet and globalization, there has been growing popularity in buying and selling human skeletal remains on the web by private parties. In the U.S., there are no laws that prohibit the buying and selling of human skeletal remains except for in Georgia, Tennessee, and Louisiana. The only legal repercussions that exist is when sellers violate the terms of the Native American Graves Protection and Repatriation Act (Huxley and Finnegan, 2004), a law designed to repatriate Native American skeletal remains and grave goods unearthed during Federal construction projects. Aside from Native American remains and antiquities recovered from Federally funded project sites, there are no issues with owning or selling human skeletal remains in the majority of the U.S. The ethics of this practice are pulled into question as human skeletal remains are being sold for thousands of dollars with little to no background on where they came from with reference to if they were legally acquired or stolen. The most popular bone sold is the skull, with prices ranging from \$2,000 for a medical/nonpathological skull, to \$20,000 for a modern hand carved skull. The accessibility for purchasing human skeletal remains spans from private websites marketed toward medical anatomy, to eBay auctions, to selling human skeletons on Instagram for art and popularity. One of the main unaddressed ethical issues surrounding this practice is the concept of consent and whether these people consented to having their bones bought and

sold. This paper provides a literature examination, methodological survey of bones for sale, and discussion of the buying and selling of human skeletal remains on the internet.

INTRODUCTION

Veneration of the dead has been a significant facet of human culture for hundreds of thousands of years. The earliest purposeful human burial (that we know of) dates back to somewhere around 130,000 years ago. The remains were found in Israel and represent the remains of both modern humans and Neandertals (Ronen, 2012.) Throughout history, different cultures have different burial practices and each practice shows a great amount of respect for the deceased.

In modern times, human skeletal remains are used in a variety of ways from medical research to anthropological research. In the medical fields, cadavers are treated with respect and medical students are taught not to disrespect them (Ghosh, 2017). Here in the Texas State Forensic Anthropology program, we are taught to value all of the skeletal remains very carefully and not to do anything that would disrespect them. Given the inculcation of respect and values towards handling human skeletal remains, why would we want to do anything to jeopardize that respect?

The selling, buying, and trading of human skeletal remains is legal in the U.S. except in Georgia, Tennessee, and Louisiana. Furthermore, besides those 3 states, there are not any laws or regulations regarding sourcing, pricing, handling, or care of skeletons. There is only one real exception to this, and it is when it comes to the skeletal remains of people of Native American descent. According to the Native American Graves Protection and Repatriation Act (NAGPRA), human skeletal remains, Native American artifacts, or any other objects of cultural significance found on federal lands are to be repatriated to the communities in which they belong to (Ousley et al., 2005). So, beyond the terms of NAGPRA, other human skeletal remains are free reign to buy and sell.

Although there may be no legal implications, what about the ethics of the situation? Some see no ethical issues in buying and selling human skeletal remains, but to others, it is seen as a huge problem regarding selling skeletal remains since the dead cannot give consent to being bought and sold, and the source of those human skeletal remains is largely unknown. These ethical issues will be focused on in this research via analysis of the buying and selling of human skeletal remains on the internet.

With the rise of the internet and the easy access it provides to online sellers and marketplaces, the sale of human skeletal remains has been booming. In the past 2 decades, the most popular place to sell was on the online auction site eBay. In a research study conducted by Christine Halling and Ryan Siedemann on eBay in 2016, they found over 400 listings for human skulls. Most of these listings had little to no information on where the skulls were sourced from, what ethnicity or country they came from, or any general information whatsoever. Shortly after the Halling and Siedemann study was published, eBay added a clause to its rules and guidelines banning the trade of human



Figure 1: Skull for sale on eBay that the author found on October 6th, 2020 at 1:29 pm.

skeletal remains in its marketplace (Hugo, 2016.) To counteract the listings that people still try and post on the online marketplace, eBay now has bots and tracking software that limits people posting skeletal remains by blocking them as soon as they are posted (Huffer and Graham, 2018). These filters use certain visual cues in the listing images to identify what is in the image. If the filter detects one of the items, they have banned from the site, the filter will let the site know, and they can remove it (Huffer and Graham, 2018). But these bots are not perfect and cannot catch everything. The picture in Figure 1 is a listing that I found within 10 minutes of searching using the search term "real human skull." I found this posting less than 24hrs after it was posted. The listing was posted October 6th, 2020 at 1:29 pm. In the pictures listed with the skull, it is clear that this was an anatomical model that was used for teaching as evidenced by the hinges on the skull cap. In the description of the item, there is no reference to where it came from, if it was legally acquired, or any background information on the skull. This seems to be a common theme among skulls sold on the internet, but on eBay in particular.

A publication by Seidemann, Stojanowski, and Rich (2007), concluded that a skull, seized by the Louisiana Department of Justice through an eBay sale was of a middle aged female Native American. Many Native American skulls for sale on the black market are a result of looting and grave robbing Native American burial sites (Redman, 2016). The aforementioned skull could not be determined which exact community or tribe it came from and so it was buried in a protected cemetery, at the request of the Louisiana Native American community since the skull came from Louisiana. There was no description of the identity of the individual anywhere in the posting, most likely because the seller also had no background info on the person. The lack of identifiable

information is a common theme among listings for selling human skeletal remains. The sex of the individual is often listed, but any other identifying markers of the biological profile (including ancestry/ethnicity) are absent entirely, potentially because nonmedical unprovenanced human skulls for sale in the United States may actually be from looted Native American graves. This is evident in the scouring that I have done in many different areas of the internet; across marketplaces like eBay or Etsy, social media sites such as Facebook or Instagram, and private seller websites, the biological profile remains empty.

As a result, online marketplaces
like eBay now limit the sales of human
skeletal remains, what about social media
sites like Facebook and Instagram?
Instagram is a place where people can
share information about their lives



Liked by and others

Did you miss out on the human skulls we

Don't stress! We've just added 3 more antique specimens to

our website!

These specimen have beautiful patina and would be perfect for any anatomical or art reference use.

They can be shipped to respectful homes worldwide, anywhere the ownership of human osteology is legal.

They start at \$1025CAD (~777USD), buy them now on YOU CAN NOW CHOOSE CURBSIDE PICKUP!

Figure 2: Skull for sale found on Instagram by author using hashtag "skull for sale"



Liked by

1d others

Beauchene style human skull lamp headed

to it's new owner tomorrow. This was handcrafted in brass with some antique parts mixed in. The cranium tilts back to show the inner surfaces of the bone, while the maxilla and mandible open outward and can adjust up and down on the main support rod, as well as be taken off for closer study of the dissected dentition to the right side. A brass and marble base support the specimen and it's hardware to illuminate the walls with a really unique jagged pattern cast by the suture edges of the bone.

Figure 3: Exploded skull found on Instagram using hashtag "realhumanskull"

through photos. However, it also remains a site where goods can be bought and sold. Like eBay, Instagram also uses filters to analyze pictures and captions (Huffer and Graham, 2017.) They use these filters to locate posts that they think violate their community guidelines. However, unlike eBay or Etsy, there is not any official ruling that selling human skeletal remains is banned from their platform. In 2017, a social media analysis was completed to determine how one could buy human skeletal remains on Instagram (Huffer and Graham, 2017). They used the searching of hashtags to be able to see posts that have skulls or human skeletal remains tagged. Using this technique demonstrated in the article, I was able to find several posts of my own that advertised human skulls (see Figures 2 and 3). I was able to find 2 main types of posts, one that advertises the price in the caption as well as where to buy it (often their own websites), and one where the price isn't advertised in the caption but buyers are advised to contact them directly for price (these tended to be smaller sellers without their own websites).

One community on Instagram is comprised of sellers that often incorporate bones to into their art. In a National Geographic article written by Kristin Hugo in 2016, she discusses her experiences talking to people on Instagram who deal in the human skeletal remains trade. She emphasizes that many of them aren't worried about their trade being shut down on Instagram as they believe they will be able to "bony art" elsewhere. Many sellers also advertise human skeletal remains as "oddities" or "curios" to keep in your possession or to use in your art as a "goth/morbid" art style.

Aside from social media, there are several different private store websites that sell human skeletal remains. Most of these sites cater towards the medical and academic community, but some of them cater towards the general population. The Bone Room

(www.theboneroom.com) advertises their human specimens for academic use but have no verification policy for buyers. They also clarify that their bones came from old anatomical models or from India and China before the export bans went into place and have a more in-depth biological profile for their specimens than eBay or Instagram. Meanwhile, Skulls Unlimited, an Oklahoma based store that caters to academic and medical professionals, offers skeletal remains of several species of animals as well as human skeletal material. The difference on this site though is that to buy human skeletal remains, one must upload proof of being a medical professional, academic, professor, etc. Members of the public cannot buy human skeletal remains off of their website as evidenced by their written policy:

"In order to honor the donors who have graciously made this material available to the educational community, Skulls Unlimited will only place these specimens with medical or educational professionals such as college professors, teachers, doctors, nurses, dentists, and optometrists."



Figure 4: Opening Banner of the SkullStore

Other types of websites cater to people who want to collect skeletons as a hobby or find human skeletal remains an "oddity" or "curio". One of the sites I found that exemplifies this trait is the Skull Store, which is based in Toronto, Canada.

In their website description they also use the word "giftshop" to describe themselves (Figure 4). Unlike the more medically focused bone selling websites, they don't really have a detailed biological profile on any of the human skeletal remains listed (Figure 5).

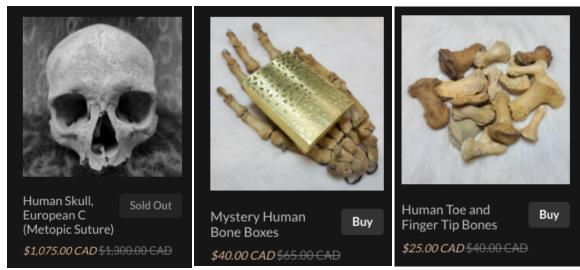


Figure 5: Listings for human remains found on the SkullStore

Another website similar to this is Realhumanskull.com, which focuses on carved human skulls that represent certain art styles. The artist, Zane Wylie, who owns the store carves all the skulls himself (note: he does sell replicas in addition to real human skulls) and sells the real human skulls for thousands of dollars. Like other human skeletal remains encountered on bone selling websites, little to no biological profile information is listed.

One of the main questions that I am interested in for this research is where do the bones come from? This can be a controversial question to answer, as most sellers don't know. On the websites they say they were disarticulated from old anatomical models and

then sold, and private sellers provide "additional info upon request." Anatomical skulls can be distinguished by the fact that they have been modified for teaching purposes (e.g., anatomical points are painted on, areas are labeled, there may be cut-away areas to demonstrate features, and there is metal hardware such as screws and hinges and clasps present). Even if these skeletal remains were from old anatomical models, where did the anatomical models come from?

The answer to this question can be found in the book "The Red Market" by Scott Carney (2011). Carney writes about his time in India, searching out the sources of different bone markets and collections throughout the country. He would visit "skeleton preppers" that find bodies (often illegally from the recent dead) and take all the skin and muscle off of them and prepare them for medical or spiritual use. Many of these "skeleton preppers" conduct their business in small little huts on the sides of rivers, since bodies floated from down the rivers as a result of Hindu burial ceremonies, or the they contract with grave robbers to steal the bodies from cemeteries. Pre-1985, bodies were prepped and articulated in India and then exported to medical professionals around the world, especially in the United States. In 1985, India enacted a ban on the sale of human skeletal remains internationally. There are still ways of getting human skeletal remains from India, but it is illegal and often highly scrutinized as well. Now, Indian people still collect bones, but prep them for ritualistic purposes and sell them to monks to use in religious ceremonies.

Carney also describes how anatomical skeletons came from China and Europe but the market in those regions weren't as highly producing as India. In fact, just like India, China put a ban on the sale of human skeletal remains internationally in the early 2000's. As a result, the world-wide supply of real human skeletons has been dwindling and relies on used anatomical skeletons and the donation of bodies to science after someone has died.

Another sourcing dilemma for skeletal remains is that of cemetery grave robbing and grave looting. In the U.S., this is strictly against the law and will land you in jail, usually under "abuse of corpse" desecration statutes. In an article on LiveScience, Owen Jarus talks about the looting industry in private Facebook groups for bone selling. One individual looted a human skull out of the Sousse catacombs in Tunisia, brought it back with him, and sold it in a Facebook group for roughly \$600 and told about his looting adventures (Jarus, 2006.) While this individual explicitly told people that he looted the skull, how many skulls and other skeletal remains have been sourced in the same way that we don't even know about it?

LITERATURE REVIEW

In reviewing the literature, I provide a formal review of six key research articles. This is because they helped form my main pool of knowledge when it came to researching my topic. Throughout my paper, I reference several more articles and publications as well as my own examples of data mining to support my argument that the human skeletal remains market on the internet and social media sites is thriving and without regulation.

The Insta-Dead

One of the most important articles I used to survey the Instagram skeleton trade was the article "The Insta-Dead: The rhetoric of the human skeletal remains trade on Instagram" by Damien Huffer and Shawn Graham (2017). In their research, they tracked hashtags on Instagram as a way of viewing the buying and selling of human skeletal remains on Instagram.

They initially searched for the hashtags #humanskull, #humanbones, #oddities, #curiosities, #realbone, and #trophyskulls. Using the first 2 hashtags listed, they were able to find over 13,000 posts with that hashtag. They then had to cross-examine posts with those hashtags with posts that contained the words "for sale" or "sale" to determine which of the posts were selling the human skeletal remains instead of just posting about them. From this, they were able to find 166 posts in total from 2013-2017 (the earlier days of Instagram) that were selling human bones that totaled around \$102,000. With this data, they were also able to see an increase in price and an increase in the number of posts that were advertising human skeletal remains for sale.

Also, they commented on the fact that a lot of these posts were accompanied by words with negative connotations like "curio" and "oddities" and "macabre" instead of positive connotations. They also found that posts that were brief in caption performed better than ones that had a lot of information about the body part that was selling.

Overall, they noted that as Instagram has been a popular source of human skeletal material, the clientele has mainly been people who collect these things as a hobby. People collect human skeletal remains like it is an aesthetic rather than a valuable tool for anthropological, medical, or dental research.

This article is very useful in my research, as it directly tracks the sale of human skeletal remains on social media. I have used this article's hashtags on my own for this research paper and have been able to find posts that use said hashtags to sell human skeletal remains.

The Red Market

"The Red Market" is a book that was written by Scott Carney (2011). I'm specifically focusing on using chapter 2 for my research. In this chapter, Carney travels to India, where he views the preparing a selling of human skeletons. Most of the skeletons that are collected in India were from grave robbing, random deaths, and people that were found floating on the Ganges river (as part of a burial ceremony).

He notes in his book that a lot of the Indian skeletons before 1985 were being anatomically prepared and shipped to western countries for anatomical use. But in 1985, India passed a law that skeletons were no longer able to be sold internationally. This made it more difficult for the sale of human skeletal remains to occur. However, through

a series of back door operations, skeletons do make it outside the country for international sales. It's a series of small-scale operation that requires many accomplices to transport them. Often, the transaction requires the buyers pay in cash. Carney explains that the processing facilities for the bodies (where the flesh is removed from the skeletons and the bones are cleaned and degreased) are nothing more than small huts along the river where people strip the body of the flesh and then clean the bones with hydrochloric acid.

Carney also gives a brief background into historic graverobbing in the United Kingdom and illustrates that the bodies that were most typically grave robbed were the lower class and people of color. The graves of higher-class white people were typically not looted since their families had the money to pursue legal action if a body had been stolen.

Overall, Carney's chapter is useful as a resource to be able to understand where the skeletons that are sold come from, what they have been used for, and a review of the process of collecting and preparing of skeletons that goes on in other countries to be sold in places like the United States.

eBay Skull

The article "The Identification of a Human Skull Recovered from an eBay Sale" by Ryan Siedemann, Christopher Stojanowski, and Fredrick Rich (2009) identifies the biological profile of a skull that was taken from an eBay listing. The eBay listing was from a seller that was based in Louisiana. eBay took down the listing since the buying and selling of human skeletal remains is illegal in Louisiana. NAGPRA officials were

notified in case there were any ties to a Native American origin. The seller allowed investigators from the Louisiana Department of Justice to come and search his house for other possible Native American artifacts. He stated that he had just bought the house and did not want to do anything illegal.

The skull underwent measurement testing using anthropological testing methods. They estimated the sex of the individual using methods from Buikstra and Ubelaker (1994). They also measured certain aspects of the cranium and input them into FORDISC 2.0 (a computerized discriminant function program to estimate ancestry) by Jantz and Ousley (2005). The individual was revealed to be a Native American woman. Since the skull was unprovenanced and there was no geographic area to tie the skeleton back to, they could not repatriate the skull to any specific Native American tribe. Instead, they donated it back to the State of Louisiana to be kept in a Native American keep-safe cemetery.

This article was extremely useful to me as it directly shows the ancestry of a skull that was taken from an eBay listing. The only reason this was possible was that the skull that was listed was from Louisiana, where it is illegal. It begs the question though, should all other skeletons that are being bought and sold on the internet go through this kind of analysis? Should other states also prohibit the sale of human skeletal remains?

Tracking Online Statistics

The article "Fleshing Out the Bones: Studying the Human skeletal remains Trade with TensorFlow and Inception" by Damien Huffer and Shawn Graham (2018) discuss in

detail how visual photo tracking software can be used to identify posts that contain human skeletal material for sale.

They first identify that the sale of human skeletal remains is a very lucrative black-market business. However, since it is a relatively new sector of trafficking, there has not been much research devoted to the topic. They indicate that new research is "bringing to light issues of damage to archaeological and ethnographic knowledge, vandalism of cemeteries historic and modern, theft from collections, (dealer) alleged complacency of professional scholars, loss of Indigenous cultural memory, and violation of the rights of descendent communities" (Huffer and Graham 2018: p. 56).

To collect research, the authors used a computer program called TensorFlow. This software allowed them to analyze images posted on Instagram and other selling websites and sort them into clusters based on like images including images such as skulls, price tags, and other skeletal remains. They mainly surveyed Instagram but referenced that eBay uses similar software to identify postings that might be against their listing requirements.

This article was helpful to me because it provides me the knowledge that social media sites and the internet can easily comb through posts and identify which ones are selling human skeletal remains using image identification software. Even though selling remains in some states is legal, technology like this can help in the future if it ever does become illegal in the other 47 states. It can also help students like me start their own research because it allows me to see what I can do to identify images and search on social media platforms to find these types of postings.

Bones of Contention

The article "Bones of Contention: The Online Trade in Archaeological, Ethnographic, and Anatomical Human skeletal remains on Social Media Platforms" by Damien Huffer, Duncan Chappell, Nathan Charlton, and Brian Spatola (2019) serves as an excellent ethnographic exploration of the human skeletal remains trade on social media. They highlight some of the ethical and legal issues, as well as including examples of trade activities.

Huffer and colleagues go into detail about the "tricks of the trade" and the dynamics of what it is like to sell human skeletal remains online. They highlight some of the key points in their attempt to map the human skeletal remains sale online. First, most of the material that is being sold online are "leftovers" from medical and anatomical models from the 1940s-1980s. Once big sourcing countries like India and China banned the export of skeletons in the '80s and '90s, the selling and trading pool dwindled and was put to a halt. Second, they explain that the circulation of body parts can potentially be hiding evidence in criminal investigations or can also be products of grave robbing.

Lastly, they also identify how using this information can spur further research as well as how this kind of trade clashes with a 2 basic codes of ethics. They stress that one code of ethics that is being violated is the right to investigation. They develop this idea by explaining that there are many sets of skeletal remains in private collections that may have been looted illegally or are the remains resulting from a murder or criminal activity that will never get their right to justice. Another code of ethics that is being violated is the code of bodily autonomy and consent. Did those remains ever consent to being bought and sold/displayed in a private collection?

I find this useful in my paper because it discusses the ethics of the sale of human skeletal remains.

They Sell Skulls Online?

The article "They Sell Skulls Online?! A Review of Internet Sales of Human Skulls on eBay and the Laws in Place to Restrict Sales" by Christine Halling and Ryan Siedemann (2016) uses statistical findings to analyze both buyers and sellers of human skeletal remains on eBay.

They identified 454 distinct postings from 237 sellers. Each of these postings was a listing for a skull specifically. They used biographical information on the postings for the sellers and was able to determine where in the United States most of the skulls were being sold. They also identified that the skulls were being sold in a price range of \$700 to \$5500 dollars each.

In addition to viewing where in the United States skulls were being sold, they also included figures of where internationally skulls were being sold. Halling and Siedemann noticed that the skulls that came from international countries were more likely archaeological or forensic, whereas the ones from the United States tended to be cleaner, more highly processed, medically prepped skulls.

They also surveyed the difference in selling frequency and price differences in pathological skulls vs. non-pathological skulls. What was observed is that the non-pathological skulls tended to go for more money. They hypothesized that this might be because they are seen as "more perfect" but there is no statistically significant evidence to show that sellers lowered the prices on pathological skulls.

This article provides the greatest amount of information of any of the other articles I am using in my research. It provides as a visual analysis, geographically, of where these sales are happening. This is invaluable because it allows for a geographical tracking ability that some of the aforementioned articles haven't been able to provide.

METHODOLOGY

Halling and Siedemann, in their 2016 study on eBay with human skulls and crania, provide an excellent model by which I conducted my research. Their study looked at a total on 464 posts across eBay from a variety of different sellers. They tracked the ID and country of origin stats of each seller, as provided in the seller info on their eBay pages. They were also able to obtain buyer information and where the buyer was located.

In addition to gathering country of origin statistics, they also gathered information on the types of skulls/crania that people were buying and separated them into two categories: teaching skulls and non-teaching skulls where "the distinction between anatomical/teaching skulls versus archaeological/forensic skulls was largely an assessment of observable taphonomic factors: staining, the presence of dirt/matrix, the presence of springs and pins, the presence of autopsy cuts, fracturing, and breakage expected from skeletal remains derived from archaeological contexts" (Halling and Siedemann, 2017: p. 1323).

Shortly after this article was published, eBay banned the sale of human skeletal remains (Hugo, 2016). This made it nearly impossible to do research of my own on eBay, but I was still able to find one post (Figure 1, in the Introduction).

For this research, I followed the methodology that was described by Huffer and Shawn Graham (2017) using hashtags on Instagram. They data mined on Instagram using a series of hashtags to find posts and listings that contained human skeletal remains. The most common hashtags they used were "#skulls" and "#humanbones" and "#realbone." I searched all 3 of these terms, with varying luck between the hashtags.

RESULTS

The "#skulls" hashtag had 4.3 million posts. Most of the posts that were tagged with this were of many things including pictures of skulls, replica skulls, artwork of skulls, and Halloween related posts. I ruled this hashtag out for finding listings because of the sheer number of posts I would have had to go through.

The "#humanbones" hashtag had 17.9 thousand posts, which is still a lot but not nearly as much as the "#skulls" hashtag. I was much more successful findings listings in this hashtag, finding several with no effort at all. The majority of the bones for sale that I found were human skulls, but I also found several posts that advertised human femora, tibiae, humeri, scapulae, as well as partial articulations of the spine and pelvic girdle.

The hashtag "#realbone" had 5.3 thousand posts, a smaller number compared to the other hashtags that were searched. I didn't find much human bone listing here, most of the for-sale posts were actually for animal bones! This wasn't surprising to me as the hashtag did not specify human skeletal material, and I know that animal bones are a popular medium in gothic and death culture art.

I also searched on hashtags that were not in the Huffer and Graham (2017) research protocol. The two other hashtags I searched were "#bonesforsale" and "#humanbonesforsale". The first hashtag had 1.6k posts, and the second hashtag had less than 300 posts. These hashtags allowed me to narrow down the search field to bones that were for sale and to include human skeletal materials, which is what I was most interested in.

One thing that helped in expanding my research was people had their private selling websites linked in their Instagram posts. I visited a couple of these websites to see

what they were selling. Most of them were not selling human bone, rather they sold a lot of animal bone material. I was still able to find some that were still selling human bones, and I was able to see what bones were selling and for how much.

In the Literature Review and Methodology sections of this paper, I introduced some articles that had done research on selling and buying online, as well as following the methodology of said studies and employing them on social media of my own.

The three graphs below are from the article "They sell skulls online?! A Review of Internet Sales of Human Skulls on eBay and the Laws in Place to Restrict Sales" by Christine Halling and Ryan Siedemann (2016). Figure 6 shows skulls for sale in the states of Arizona to Michigan (including "Unspecified." Figure X continues with skulls for sale from Minnesota to Wyoming. Figure X shows geographical locations outside the United States for skull sales, demonstrating the number of skulls bought in each state as well as internationally. Halling and Seidermann used two categories of skulls; teaching model skulls and non-teaching or archaeological/forensic skulls.

These graphs tell us that most of the skulls on eBay that were tracked were from the United States. They also show that a majority of the skulls bought are teaching skulls in both the United States and internationally. They also compared the prices of the skulls that were listed on eBay. They ranged anywhere from \$600 to \$5500. When comparing the prices of the teaching skulls to the non-teaching skulls, Halling and Siedemann commented "When comparing these samples, it is apparent that sellers perceive the cleaner, prepared skulls to be worth more" (2016, p. 1324).

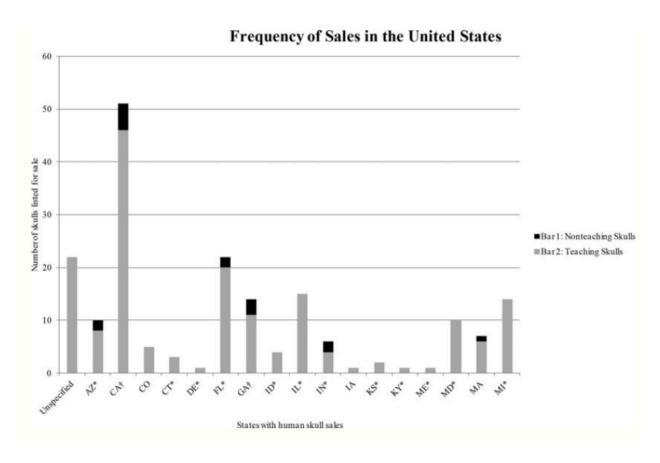


Figure 6: Frequency of Sale in the United States from Halling and Siedemann (2016).

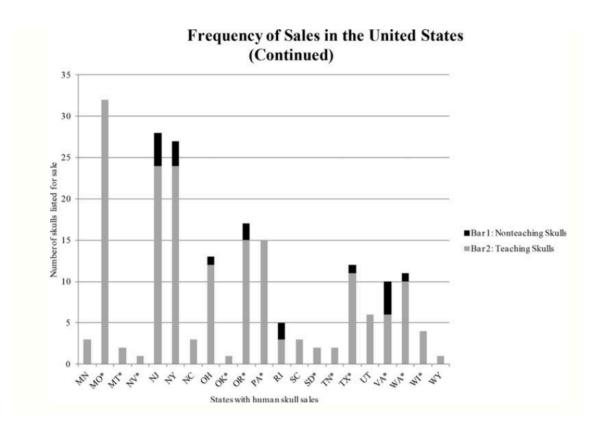


Figure 7:Frequency of Sale in the United States from Halling and Siedemann (2016).

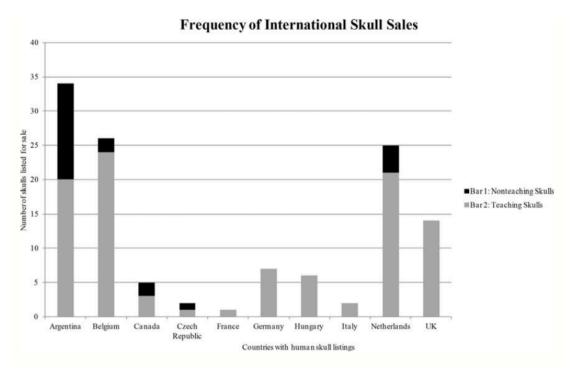


Figure 8: Frequency of International Skull Sales from Halling and Siedemann (2016).

Since eBay now restricts the sale of human skeletal remains, I did my research on Instagram. Figure 9 are screenshots and photos that I found using the methods outlined in the previous methodology chapter before this.

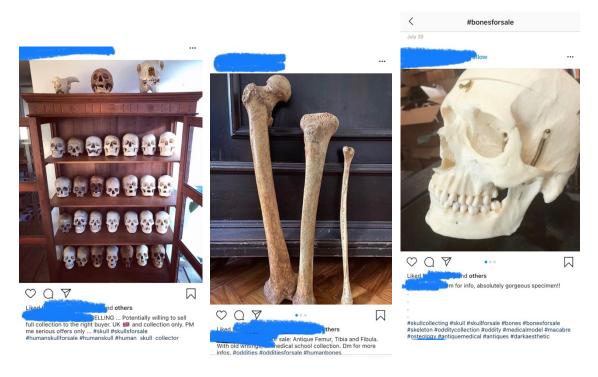


Figure 9: Examples of Human skeletal remains found on Instagram by Author

I also combed through the internet to find private sellers that were selling human skeletal remains, some of which I found from a quick Google search, and some of which I found through my Instagram searching as well. Figures 5 and 10 are screen shots showing some of these findings.



Figure 10: Screenshot of Human Remains listing found on SkullStore by Author

In my own data mining on Instagram and on private websites, the most common human skeletal remains that I've seen sold is the skull. Similarly, to Halling and Siedemann's findings (2016), I have also found that most skulls range from \$1000 to \$5000 each. In addition, hand bones, vertebrae, foot bones, ribs, and other smaller post-cranial bones fetch between \$20 to \$50 each. Postcranial long bones such as the femur, humerus, and tibia fetch anywhere from \$50 to \$100 each.

DISCUSSION

Body Autonomy and Consent

Merriam-Webster dictionary defines autonomy as "the quality or state of being self-governing" and consent as "to give assent or approval." In this day and age, most things that involve bodily manipulation require prior consent. This gives someone autonomy and control over their own body. Medical procedures require consent. Many of the simple questions that people ask from day to day are expressions of consent. You can go to jail for violating bodily autonomy and consent, such as grave robbing and rape.

Bodily autonomy and consent are violated when human skeletal remains are sold without explicit permission from the deceased or their next of kin to do so. Most of the skeletons that are being bought and sold on the market today are from countries like India and China. Many of these skeletons were taken from graves or in the case of India, were found dead and floating down the Ganges River (Carney, 2011). The dead did not give consent to have their bodies dismembered and then sold to wealthy buyers and institutions in the United States or other western countries.

Nowadays, body donation programs such as those in medical schools are required to have a number of legally executed documents from the decedent, authorized guardian, or legal next of kin giving consent to a facility or program to use their body in the name of science. An example of a program like this that accepts whole body donations under a legal framework is the Forensic Anthropology Center at Texas State University (FACTS). They require a self-donor's signature (or their legal next of kin) and a signature of 2 witnesses as agreement to use their body in forensic anthropological

research. Copies of the consent and agreement forms can be found in Appendix A. In addition to consent, they require a donor to complete paperwork that details ethnicity, race, health and medical documentation, occupation data, drug and alcohol usage, and other biological information that could be helpful in future research projects.

This kind of detailed consent is important in establishing an ethical research program using human skeletal remains.

Artistic License and Expression

One of the sub-cultures that is involved within the sphere of buying and selling human skeletal remains is incorporating human skeletal remains into artwork. This involves carving pictures and messages into a skull, encased bones in resin, bedazzling human skeletal remains in crystals or rhinestones, and painting them with various different kinds of paints. This is not an exhaustive list, and this also does not include bones that have been sacrificed and adorned for religious or cultural purposes, but instead focuses on using bones as a medium in contemporary art.



Figure 11: Screenshots of Macabre art involving Human Remains found on Instagram by Author

Instagram is a big place to find and sell artwork like this, as Instagram's community guidelines have not banned the sale of these objects. Figure 11 shows examples of these types of carved skull artwork that I was able to find with a quick search.



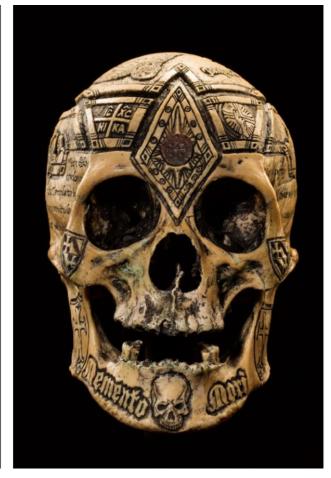


Figure 12: Carved Skull by artist Zane Wylie. Not for Sale.

In recent years, the human skull and human bones have become popular icons.

Human skeletal remains have become an emblem that most people wear, produce artwork, or get tattooed. In a National Geographic article, the artist Zane Wylie tells of how he got started in his craft of carving images and expressions onto real human skulls. He expresses that (in carving skulls) "I was inspired by some of the Tibetan kapalas

[ritual skull cups] I saw and wanted to do something similar" (Hugo, 2016). On his website, Wylie lists several skulls with hand-carved pictures, some that often tell a story of symbolism of some kind. He lists these skulls anywhere from \$8,000 to \$22,000 each. He includes a detailed background of the iconography emblazoned on the skulls he carves, but no background on the biological profile of the skull itself. Figure 12 is an example of Wylie's carved skull artwork. While the skull presented is not for sale, Wylie often sells similar pieces for \$15,000-\$20,000 dollars.

Are there ethical lines being crossed in this? One of the main ethical issues surrounding the marketing of human skeletal remains is the issue of consent. Did the artists get consent from people to incorporate their body parts (many illegally procured) into their art? The answer is most likely no. In all of the research I conducted, I was not able to find any disclaimers or information on Instagram or private websites indicating that sellers had obtained consent. Furthermore, without legislation or laws requiring consent, sellers would not publish this information.

Ethnicity and Marginalization

Most of the human skeletal remains that circulate through internet outlets are not of recent origin. Most of the remains are old teaching or anatomical skeletons from decades ago, dating back to the 1940's. Any newer teaching or anatomical skeletons are most likely result from graverobbing and other means of skeleton stealing. Prior to 1985, most human skeletal remains on the market were illegally procured from India and China. There were large scale operations in which people would prey on unattended skeletons or unwatched graves, in order to take the skeletons to sell to buyers in Western countries.

This means that a lot of the skeletons that we have in circulation today are from ethnic minorities and marginalized people who did not give consent (Carney, 2011).

By the 1930's the discipline of Physical Anthropology was booming and there was a need for human skeletons for teaching purposes. It is likely that many of the human skeletal remains used then were of Native American origin. The graves of African Americans were also looted to obtain bodies for teaching purposes. Major institutions like the Smithsonian fully engaged in these practices. Bone collecting was "a common intellectual, cultural and social pursuit... gathered with more systematic intent—carefully removed from cemeteries or other archaeological sites." (Redman, 2016).

Looting cemeteries and graverobbing also had a socioeconomic component. Those that could afford it were able to purchase graves and burial plots in nice cemeteries in better areas of town, and they tended to not be grave robbed. It was the people who were socioeconomically poorer who were often the most targeted (Halperin, 2007). The bodies were used as cadavers and teaching skeletons in medical schools, and once they were not useful anymore, they could be sold private collectors or academic professionals for personal use (Halperin, 2007).

In the United States, grave robbing is not federally illegal, but it is rather left up to the states to determine legality. In most states, corpse theft is considered a felony; while in other states it is only considered a misdemeanor. In addition to action from the government, families of the deceased can sometimes sue the person who has desecrated a grave site for material as well as property damage (Davis, 2018).

Popularity Contest and Money Making

In recent years, there has been a rise in popularity in the sale of human skeletal remains, no doubt owing to the rise to the internet as well as the accessibility to online marketplaces. The popularity in human bone sales went up from 3 posts on Instagram in 2013 to 77 posts selling bones in 2016 (Huffer, 2017).

The bone trade has made it onto other social media platforms such as TikTok. TikTok is a video sharing platform where creators can share videos that are up to a minute long. A critical reason that spurred my passion and interest in writing this paper was because I saw a creator on that platform selling human skeletal remains on his website. He has gained a very large audience and he is known as the "Bone Man." He says that buying and selling bones is his business. Looking at his website, his prices are similar to the prices that we have seen so far of \$1000 for a skull, and \$30-\$80 for other miscellaneous bones.

This is ethically problematic because of the fact that they most likely do not have the individual's consent to sell those bones and they are possibly from ethnic minorities and marginalized people whose bodies were taken advantage of and monetized. In my eyes and probably most others, it seems wrong to make a living off of selling people's body parts that were acquired under dubious and unethical means.

How can we fix this?

How can we make this thriving human bone market on the internet morally sound? How do we redress past injustices in how human skeletons were acquired? The answer is there is no way to regulate the ethics of this situation. Since the bone trade right now is so big and non-ethically sourced human skeletal remains are constantly in

circulation despite the bans from India and China, it can never be 100% fixed. The only "real" solution is to get rid of all the material that is being circulated now and has ever been circulated. That is obviously is not going to occur, since in addition to private individuals buying and selling human skeletal remains, institutions such as museums and universities hold collections of human skeletal remains that serve as invaluable teaching and research material for medical schools, dental practice programs, and biological anthropology departments.

Because there will never be a moratorium on "owning" human skeletal remains in light of their teaching and research potential, my solution would be to institute small changes to improve the overall ethics of the human skeletal remains trade. I think that it should be made illegal to buy and sell human skeletal remains for art, hobby, and sensationalist purposes.

Educational and medical institutions should also adjust how they acquire and maintain their skeletal remains. Gross human anatomy training requires the use of donor bodies for hands on practice, which is invaluable. For an anthropology student like myself, there is no way that I could have learned as much as I have about human osteology without real bones to touch and to study. Therefore, there should be ethical guidelines set up for medical and educational professionals and institutions that include a verification system so that the chance of selling to a non-professional is limited.

I also think Instagram should adopt similar policies from eBay to make selling human skeletal remains on the platform against the community guidelines. Since Instagram is a hot platform for buying and selling skeletal remains, the adoption of these policies would limit the sales of human skeletal remains in the ethically gray area. I

propose this as an ideal solution, but not a practical one. As an anthropology student that tries to understand all people and their situations, I understand that this kind of sale is a livelihood for some people. If this practice were made illegal, people would lose their jobs and their sources of income.



Figure 13: Screen Shot of a Human Hand articulated and displayed for sale on Instagram

For this project, I wanted to

be able to bring light to this situation, without harming anyone in the process. I think the most ideal solution would be for people to understand the ethics and dark history behind the sale of human skeletal remains every time they make a listing, carve a skull, or use a human hand as a disturbing coffee table centerpiece (see Figure 13).

CONCLUSION

On the surface, the sale of human skeletal remains on the internet seems to be non-harmful, but once you understand the different ethical facets that apply, the reality of potential harm is clear. With the rise of social media in only the last ten years or so, there is not a lot of research being conducted to examine the relationship between social media and human skeletal remains. The aim of this paper was to explore previous research that has been done and dive into the potential ethics of the situation. My hope in the future is to continue this exploratory research project to propose real solutions that 1) honor the dead, 2) uphold the ethics of consent and bodily autonomy in human skeleton acquisition, and 3) repatriate any remains that are of Native American, African American, or other marginalized population to their descendant communities for proper burial.

APPENDIX A:

Forensic Anthropology Center at Texas State

Living Donor Paperwork

FACTS BODY DONATION DOCUMENT

or its designee, for educational and research pur next-of-kin, executor or the physician who co	(name), do hereby dispose of and University, for the use by the Forensic Anthropology Center, rposes. I request, authorize, and instruct my surviving spouse, ertifies my death to notify Texas State University, Forensic vailability of my body immediately after my death.			
Vitness my hand and seal this(day) of	(month), 20(year) in(city/state)			
Donor's Signature				
Printed Name				
Donor Address, City, State, County				
Donor Phone	Donor Email			
I permit my remains to be used for trauma ar medicolegal, and anthropological communi	nd other advanced research that benefits the biomedical, ities.			
WITNESSES:				
On this(day) of(r (donor's name) signed this Body Donation Do his/her presence and in the presence of each of	cument in our presence and we, as attesting witnesses, and in			
Signature of Witness 1	Printed Name of Witness 1			
Address of Witness 1				
Signature of Witness 2	Printed Name of Witness 2			
Address of Witness 2				

Living Donor Paperwork v3.3

^{**}This form does not need to be notarized**

Donor Information						
First Name:	Middle Name:	Maiden Name	(if applicable):	Last Name:		
Date of Birth:	SSN:	Diago of Diuth	(City County	and State).		
Date of Birth:	2214:	riace of Birth	(City, County,	and State):		
Sex (check one):	Race:			Hispanic Origin?		
□ Male	□ White		☐ Victnamese	□ No		
□ Female	☐ Black or African American ☐ Chinese			☐ Yes: Mexican		
☐ Intersex	☐ American Indian or	r Alaska Native	☐ Filipino	☐ Yes: Mexican American		
Other:	□ Native Hawaiian		☐ Japanese	or Chicano		
Oulei	☐ Guamanian or Cha	morro	□ Korean	☐ Yes: Puerto Rican		
	☐ Asian Indian		□ Samoan	☐ Yes: Cuban		
	☐ Other Pacific Island	der	□ Other Asian	☐ Yes: Other		
	☐ Other		□ Unknown	□ Unknown		
	Specify Other:			Specify Other:		
Marital Status:	Highest Education	Level:		Gender:		
☐ Never Married	☐ 8th Grade or Less		rade, No Diplom	a Male		
☐ Married	☐ High School Gradu	ate GED		☐ Female		
☐ Divorced	☐ Some College	☐ Associa		☐ Transgender		
☐ Widowed	☐ Bachelor's Degree		-	☐ Other		
☐ Divorced &	☐ Doctorate/Profession	onal Unknow	vn	Specify Other:		
remarried						
Mother's First Name:		Mother's Middle Name:		Mother's Maiden Name:		
Father's First Name:		Father's Middle Name:		Father's Last Name:		
Given birth to children? □Yes □No H		How Many Births?				
Number of full-term pregnancies: Number of legal children:						
		Branch and S	Branch and Serial #:			
Employer Name:		Occupation (life-long):			
Ever a Texas Peace Officer? Yes No						
Your Home Address	s:		Coun	ty:		
City:	State:	Zip Code:	Is the home	inside city limits?		
			☐ Yes	□ No □ Unknown		
Your Phone Number:		Your Ema	il Address:			
Spouse First Name:	Spouse Middle Nam	ne: Spouse Ma applicable):	iden Name (if	Spouse Last Name:		
Is your spouse:	☐ Living	☐ Deceased	□ Unk	nown		

Living Donor Paperwork v3.3

FACTS Questionnaire					
Is anyone else in your family a registered donor to our program?					
If yes, name and relation: Height:	Weight:	Waist circumference (at belly button)	Blood Types		
neight	weight:	Walst circumference (in semy sumon)	Blood Type:		
Is this estimated?	Is this estimated?	Is this estimated?			
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	□ + □- □ UNK		
Has your weight changed	Are you obese?	Handedness:	Eye Color:		
dramatically in your lifetime?	☐ Y ☐ N If yes, how long in years?	□ R □ L □ Ambidextrous	☐ Brown ☐ Hazel ☐ Blue ☐ Grav		
□ Y □ N	If yes, now long in years:		☐ Blue ☐ Gray ☐ Green ☐ Other		
Natural Hair Color (before	Ancestry:	Is ancestry from a DNA	Tattoos: DY DN		
graying): Blonde shades		company? (e.g., 23andMe)	If yes, descriptions:		
☐ Brown shades		□ Y □ N			
☐ Red/Auburn ☐ Black					
Body Piercings: Y N	Have you had braces?	Have you had a bridge?	Have you had dentures?		
If yes, descriptions:	\square_{Y} \square_{N}	□Y □N	□ Y □ N		
	If yes, what ages?	If yes, what age?	If yes, what age(s)?		
Alcohol Use: Never Fe	ormer Yes, current	If yes, please specify amount:			
		Number per □ day □	week ugear		
If yes, please specify type(s):		If a former drinker, how many year			
□ Beer □ Wi		What year/age	lid you quit?		
Tobacco Use: Never		If yes, please specify amount:			
If yes, please specify type(s):			week upgear		
If yes, please specify type(s): ☐ Chewing tobacco ☐ Cigar/Pipe ☐ Cigarette If a former smoker, how many years did you smoke? What year/age did you quit?					
Recreational drugs: Never Former History of injection drug use Yes, current					
If former or current, please specify type(s):					
Exercise: Nonc Mo		☐ Cardio ☐ Weights			
Please specify type/frequency of workouts:					
Dietary habits: Vegan or V	egetarian □ Y □ N	If yes, please specify type or he	ow long:		
No. I. William Annual and autom	A DVDN Kees	t			
Mobility: Are you sedentary? □ Y □ N If yes, how many years? Do you have mobility restrictions? □ Y □ N If yes, what type of restrictions and how many years?					
Do you have moonity restrictions? Li T Li N II yes, what type of restrictions and now many years?					
Socio-Economic Status (SES)					
Childhood SES: Lower Lower-Middle Middle Upper-Middle Upper					
Adult SES: Lower Lower-Middle Middle Upper-Middle Upper					
Occupational History					
Please describe your job history, how many years you worked in that position/field and the year of					
retirement if applicable. Please attach additional sheets if necessary. Job Title/Field Number of Years Year of Retirement Manual Labor? Y or N					
200 Interior	- Number (of I car of recirculation	Ividitudi Edoor: 1 or		

FACTS Questionnaire Continued						
Medical History (please attach additional sheets if necessary)						
Condition	Year(s)	Conditi			Year(s)	
	of onset				of onset	
Cancer, specify:		Anemia				
Anorexia/Bulimia		Arthritis, location(s):				
Cardiovascular Disease, specify:		Other Joint Problems, specify:				
Chemical/Alcohol dependency		Osteopenia/Osteoporosis				
Crohn's Disease		COPD/Emphysema, specify:				
Depression		Dementia/Alzheimer's, specify:				
Other Mental Illness, specify:		Diabetes (☐ Type I ☐ Type II ☐ Gestational)				
Gout			1C)			
Sexually Transmitted Disease, specify:		Stroke/TIA, specify:				
Seizure disorder/Epilepsy, specify:		Thyroid Disease, specify:				
Tuberculosis		HIV/AIDS				
MRSA Have you fractured any bones? ☐ Y ☐ 1		Plastic Surgery, specify:				
Have you had any amputations? ☐ Y ☐	N If yes, speci	fy bone and age (if possible):				
		hic History				
Geographic location where you s	spent the first 15	15 years years of their life. Please be a th the information in the same		possible.		
Address		City State	Zip Code	Start Age	End Age	
Last 20 years Geographic location where you spent the last 20 years of your life. Please be as detailed as possible. If you need more space, please attach the information in the same format.						
Address		City State	Zip Code	Start Age	End Age	
Address		State State	Zip Code	Start Age	and Age	
			 			

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