

# Twitter Analysis of Pseudoarchaeology and Conspiracy Theories in Archaeology

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## Abstract

General understanding of archaeology arises from mainstream news and entertainment alongside academic sources. However, there is increasing concern over the presence of pseudoarchaeology-claims that narrow history and are often based off circumstantial evidence. Online engagement can draw greater public support and attention for pseudoarchaeological claims. Those claims then act as fodder for supremacist ideas- often reattributing the accomplishments of ancient populations to the supernatural. In this paper, I approach Tweets about several archaeological conspiracies through network analysis. Network analyses facilitate broader study of discourse and the relationships between topics in a conversation, especially in online contexts. Analyzing the network structure provides a broad understanding of tweeted topics and how other online interests are connected to conspiracies and pseudoscientific material. By looking at the larger picture of archaeology in combination with specific Tweet examples, I characterize pseudoarchaeological engagement and affiliation on Twitter. I find that pseudoarchaeology related Tweets employ anti-institutional sentiment and draw on rhetorical themes in support of a historical white supremacy. This rhetoric breeds harmful notions about ancient and modern Indigenous populations while detracting from the goals of sincere archaeological research.

**Keywords:** archaeology, pseudoarchaeology, Twitter, disinformation, network analysis

## Introduction

Misinformation and hoax news proliferate the modern public consciousness. For almost any current issue, from climate change to health policy, one is likely to encounter as much rumor and falsehood as fact-checked publication. This is also true for public engagement with archaeology. For as long as the past has fascinated us, history's unknowns attract interest in myths that lack archaeological basis and consensus from scholars. Some mysteries, like that of Atlantis, have sustained their intrigue long enough to generate whole narratives of their own. Though the enthrall of ancient conspiracies is not new, the methods used to disseminate them have changed dramatically. Popular media, like the famous *Ancient Aliens* TV show and discourse on social media have warped archaeological evidence to argue for unsubstantiated theories. *Chariots of the*

*Gods* by Erich von Däniken not only inspires many of the episodes in *Ancient Aliens*, exemplifies the production of pseudoarchaeological content. In this paper, pseudoarchaeology is defined as claims that assert a very precise course of history, often supported by fallacy or weakly linking separate historical, geographical, and archaeological evidence. However, as this paper will demonstrate, these examples of pseudoarchaeology are not simply independent creations but stem from a longer history with roots in white supremacy and imperialism.

User behavior and the structure of social platforms drives the popularity of pseudoarchaeology and conspiracies. Social media today has strengthened the accessibility and scalability of networks, often uniting members through a common interest or goal. Those who push pseudoarchaeological claims have found audiences on spaces like



Twitter, where any amount of dubious information will go uncensored. These interactions can be observed through a network that encapsulates many users and tweets, painting a picture of the larger community engaged in archaeological or historical conspiracies. It also can tell us the range of topics that are connected to pseudoarchaeology or how a user may discover a claim by following linked accounts or hashtags. For instance, a user interested in #AncientAliens may look through that tag on Twitter and see another hashtag they want to explore, like #archaeology or #JoeRogan. By examining pseudoarchaeology discourse via the lens of Twitter networks and language, the breadth of its impact can be measured and potentially addressed. Background literature in pseudoarchaeology and the sociology of disinformation online informs this paper's analysis. From this research, I discuss how false or unsupported information associated with archaeology spreads, and what is distinct about the online language of pseudoarchaeology. Pseudoarchaeological speech on Twitter employs anti-institutional sentiment and draws on white supremacist rhetoric. Pseudoarchaeology and ancient conspiracies then engender harmful notions about Indigenous populations while detracting from the goals of sincere archaeological research.

## Background

### Pseudoarchaeology: Historical Background

It is true that claims within archaeology are not necessarily fact, and that there is not final confirmation as to what occurred in the ancient past. The frameworks used to produce archaeological knowledge continue to be challenged and re-written, most recently through feminist and decolonial lenses. Pseudoarchaeologists often blame elite academia for unjust exclusion of their work or censorship of "the truth" and frame their efforts as upending the status quo (Fagan, 2006). While these institutions do undervalue perspectives that do not originate from an established, often elite point of view,

which has been rightfully critiqued, the work of pseudoarchaeology does not fit this scenario. To compare challenges to the frameworks of archaeology from scholars that do not represent the norm to that of pseudoarchaeology is a fallacy. Pseudoarchaeology does not broaden the space from which claims can emerge or further democratize the field, as pseudoarchaeologists would like to argue, but is instead a purposeful misrepresentation of the facts that arranges archaeological evidence into a narrowed view of the past (Fagan, 2006). One common theory posits that aliens were the true architects of the pyramids. To support this theory, *Ancient Aliens* relies on "striking" coincidences as its evidence, like the pyramids aligning with parts of constellations (Djokic & Thompson, 2017). This departs from both the historical and material record that support ancient humans who worked to plan, design, and construct the pyramids.

### Pseudoarchaeology: Supremacist and Alt-Right Ideology

Steph Halmhofer (2021) writes about the connection between Ignatius Donnelly's writings about Atlantis and the Theosophical Society, founded by Helena Blavatsky, which began the spread of many Atlantis theories containing supremacist sentiment. A key facet of Blavatsky's *The Secret Doctrine* publication is that the superior "Aryan" race is descended from the Atlantean people. When conspiracists point to Atlantis as an idealized, highly advanced society, it speaks to a greater sentiment of white superiority over other peoples. It relays the idea that only those of white, European origin could possibly be responsible for the level of achievement ascribed to the population of Atlantis. It then appears unsurprising that a state that was chartered on white supremacy would also take an interest in the people of Atlantis: within Nazi Germany, officials were involved in researching Atlantis and finding evidence for Blavatsky's claims (Halmhofer 2021).

Several Atlantis or Atlantis adjacent theories position Atlanteans as a race that existed before native peoples, and often attribute parts of or all ancient society's accomplishments to this

Atlantis civilization. Halmhofer (2019) references a moment from a graphic novel that posits Atlanteans existing before Native Americans in North America. These notions, no matter their fictitiousness, can have serious impact on today's Indigenous communities descended from these societies. In the 19th century, American settlers believed in a lost race of white origin responsible for the country's large mound structures. It was believed that the Indigenous population encountered by colonists were incapable of achieving such a feat (Watkins, 2013). Native Americans were viewed as a barbaric people that had eliminated the previous, civilized white race. President Andrew Jackson utilized this myth in favor of Manifest Destiny, facilitating the Trail of Tears and backing the genocide of Native Americans (Zaitchik, 2018).

### **Pseudoarchaeology: Contemporary Dynamics**

The digital age has further shifted how archaeology and pseudoarchaeology discourse are realized. Online spaces allow people to make connections based on common interest while transcending geographic divide or social background. Lorna Richardson (2013) notes the emergence of a "digital public archaeology" that is fostered by internet use. For archaeology in particular, the virtual world has the potential for increased public engagement from those with an interest in archaeology. Improved accessibility to archaeological findings online encourages a greater diversity of public participation in archaeological discourse. However, Richardson also observes limits to archaeological engagement, including skews in demographic and the restraints on platform content. The affordances of a social platform, like word count, the formats in which content can be shared, and exposure to other users, are just some factors in archaeology-related discussion online (2013). Many archaeologists run a blog or site that allows greater freedom to publish work or comment on other's pieces, but the Internet is far too vast for an average person to discover an archaeology blog as compared to following an account on Twitter or Instagram. The few places that are dedicated to archaeological

findings among communities often become soundboards for pseudoarchaeological claims (Costopoulos 2018). Online users can easily turn to pseudoarchaeology, where its domain on the internet has greater reach.

### **Twitter and Network Analysis**

Twitter creates a unique environment for sharing information, and has become an unlikely news source tool, like Facebook and other social media (Darius & Urquhart, 2021). Twitter's infrastructure thus becomes the determiner of how that news disseminates, from language choices motivated by character limits to trending topics driven by algorithms (Visentin et al., 2021). In recent years, concern has grown over the filtering of content based on political bias on Twitter and their impact on a user's political activity. Algorithms on social media may heighten cognitive biases because platforms have an interest in showing you related content to maintain high levels of engagement (Kitchens et al., 2020). A user is more likely to see relevant content on an account that is followed by the people they currently follow, and subsequently agree with that content. Twitter's algorithms and how users respond to the infrastructure of Twitter are relevant to the Tweets centered around conspiracy theories and how they reach their audiences on the platform.

Network analysis offers insight into the social and technological forces that may drive the proliferation of archaeological hypotheses. Such computationally driven analyses also increase the scale of possible study to look at larger patterns of online behavior as it relates to archaeology. In previous research, this has ranged from tracking networks of Twitter users from a scholarly community (Grandjean, 2016), political or social action movements (Jackson et al., 2020), to misinformation spread (Vosoughi et al., 2018). Zappavigna (2012) speaks to the use of social media as its own dataset within linguistics for analyzing the unique features of social media language. Tweets are "microposts" that share many of the personal features of a blog but are limited by a short character count. In addition to mining a text corpus from Tweets, data from

Twitter can also contain relationships between posts and users.

Social networks such as Twitter have especially pushed forward research within network analysis. D'Andrea, Ferri, and Grifoni (2010) outline the history of methods used with social networks and the growth of the field. Because of the diversity of uses for social media, many kinds of relationships can be studied over a wide range of content. The online social network subsequently has several definitions based in as many perspectives, including the sociological, technological, and economic. The “socio-centric” category of social network analysis focuses on relationships among the nodes (points) of a network as “social collectives” as opposed to the “ego-centric” strategy of looking at connections to a specific actor or set of actors in a network (2010). The socio-centric method of analysis builds this paper’s study to help understand the overall behaviors within pseudoarchaeology related Tweets and they ways they are connected via hashtags. Hashtags also go beyond a single user or users and instead brings many Tweets together under one category. Through this, I analyze comprehensive discussion topics, rather than the interactions of a few pseudoarchaeology accounts.

## Methodology

The resulting networks represent three hashtags: #ancientaliens, #ancientastronaut, and #atlantis, all related to pseudoarchaeological claims and conspiracy theories. The hashtags #ancientaliens and #ancientastronaut focus on the TV show *Ancient Aliens*. Atlantis refers to the myth first featured in one of Plato’s works and is popularly known now as a lost, underwater city with an advanced society. These tags refer to some of the most popular conspiracies associated with archaeology as well as being mainstream concepts. Each of these topics is largely accessible to an individual without archaeological education or interest in other conspiracies. Not only would the hashtag serve as discussion point in a pseudoarchaeology Tweet, but it can also be how a

user may discover more about archaeology online. To limit the amount of data and set a specific date range, Tweets collected were limited to the past decade running from 2012 to 2022.

By looking at a network of hashtags related to archaeological conspiracies we can get a big picture representation of its subtopics and the ways those topics intertwine with each other. Hashtags are used in promotional aspect since users can use hashtags to search for Tweets, helping to signal the target topic of this paper. Many Tweets will use multiple hashtags, often because they are of a similar subject or the user who created the Tweet wants to connect their post to other topics, which can be represented a link between two hashtags. In these networks, there is an “ego” hashtag node to which all other hashtags are connected. For example, we can collect Tweets with the #ancientaliens tag and subsequently catalog all the other hashtags that appear in those Tweets. An edge (link) will exist between two hashtags if they appear in a Tweet together. So other hashtags in the #ancientaliens network will connect to that node, but we can also see relationships among the subtopics of #ancientaliens. Colored groupings are determined by greater connectivity with other nodes, meaning that two hashtags that share the same color are more likely to appear in Tweets together compared to different colored tags. The sizing of nodes indicates degree, meaning the number of edges towards the node. For instance, #ancientaliens appears the largest in its own network since it appears in all the Tweets.

By getting an idea of the smaller segments within conspiracy theories, we can understand more about the potential motives, sentiments, and rhetorical strategies of Tweets within a pseudoarchaeology network. To create such a network, I collected Tweets containing the hashtag of reference using a Twarc command. This is a tool used in the computer’s command line to connect a user to the Twitter API. Twarc has specified commands that can harvest Tweets and their metadata, along with account information and other user data. As part of the data preprocessing, Twarc also allows for a time frame and maximum number of Tweets to be

collected, helping filter down to relevant Tweets. The collected nodes and connections can then be visualized on software programs like Gephi. For this data collection, the data collected is purposely limited to pseudoarchaeology hashtags, but there are additional biases based on the demographics of users likely to be on Twitter as well as platform exposure to the hashtags.

Gephi is a free software that allows users to create new network data in a Gephi file or upload already created data. For the graphs in this paper, a few major features of Gephi were utilized. First, many of the hashtags in the original data were filtered out using the Giant Component and Degree Range filters. These allow the user to focus on the largest connected component of the graph and filter out hashtag nodes that are less popular. The term “degree” for these networks refers to the number of connections a node has- in this case how often it appeared in Tweets with the target hashtag. This was key for focusing on the hashtags with the most usage. This aspect of degree was also utilized to select the sizing of the nodes. Nodes that are highly connected in the network become larger, so the target hashtag becomes the largest sized. Lastly, a Modularity Class algorithm was run on the nodes to create rough color organization. This algorithm calculates a given number of “communities” in a network based on what hashtags most often appear in Tweets together. Hashtags that appear together can convey a connection amongst subjects, current news, or a user’s own interest. If Tweets are organized into a community together, they receive the same color. Using Gephi, I’ve outputted several network images for this paper.

## Results

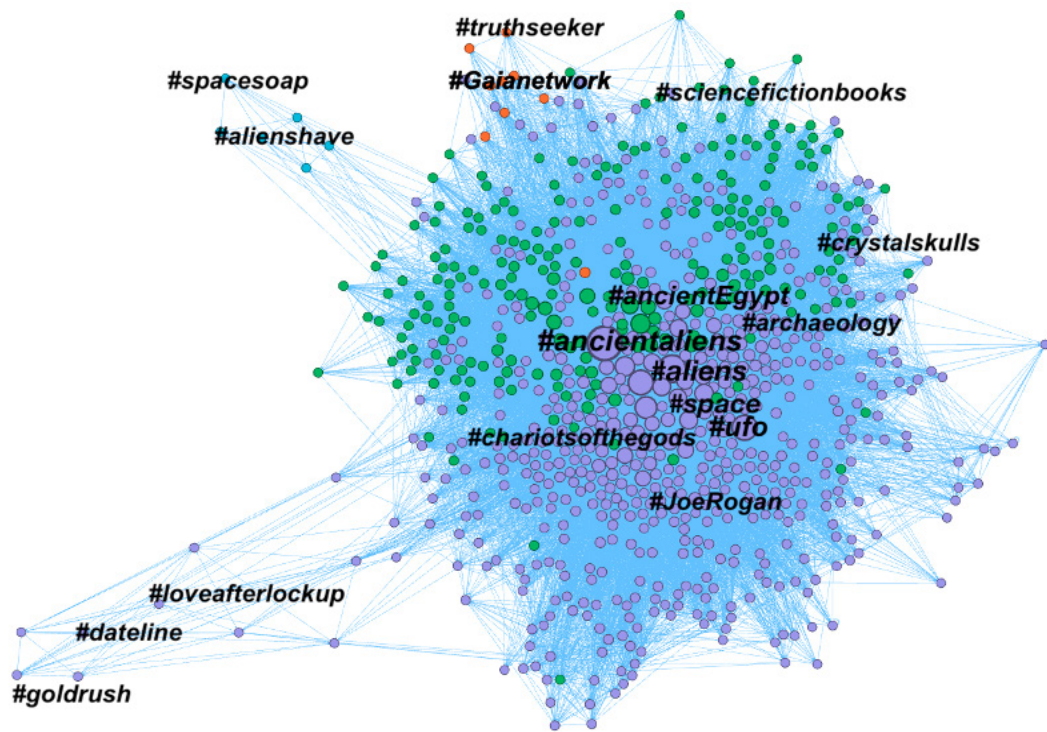
The network graphs of #ancientaliens and #ancientastronaut summarize an online discussion closely linked to space, aliens, and UFOs, while bringing in common topics from history or archaeology. Both networks also include subjects from alien conspiracies and reference popular sources of pseudoarchaeology, pointing to an online sphere that frequently finds

connection between the ancient world and the extraterrestrial. They also expose links to sources that connect back to the ideologies of the alt-right or are consistent with supremacist content. The network of tags for #Atlantis, in comparison, is less narrow. A range of ideas follows Atlantis, touching on fictional renditions or even travel destinations. It also reveals the variety of conspiracy theories about Atlantis, including alien gods and advanced societies. Overall, the pseudoarchaeological world of Twitter is one that consistently associates the efforts of ancient humans and archaeological research with the supernatural, forming a view of the world that devalues indigenous existence and academic findings.

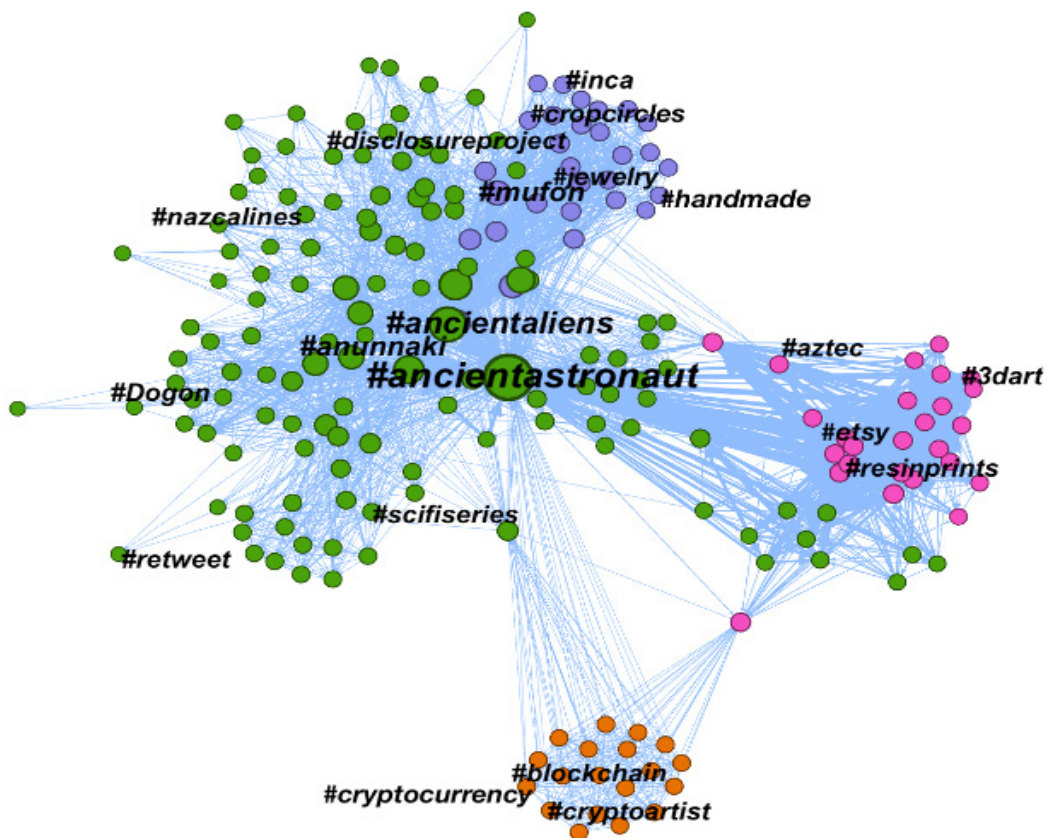
### Ancient Aliens on Twitter

In the decade following 2012, the term “ancient aliens” has been tweeted or retweeted more than 1.1 million times. The use of ancient aliens in Tweets has steadily increased since 2017 and peaked at the start of the COVID-19 pandemic, based on frequency of mentions. Findings presented on the *Ancient Aliens* show, like the theory of an asteroid that wiped out the societies of ancient North America or another that claims the Earth is hollow, have also seen increases in engagement on Twitter, though with significantly fewer Tweets than the broader category of ancient aliens. Along with the fervent fans of ancient alien theories, skeptics of such historical claims also have a Twitter presence. Terms like “pseudoarchaeology” and “pseudohistory” rapidly increase in Tweet mentions after 2017 and 2018.

The hashtag #ancientaliens and the hashtags featured in the same Tweets indicate topics related to the TV show or discourse around alien conspiracies. Observation of its hashtag network showcases these relationships (Figure 1 below). Some of the most popular companion hashtags are #aliens, #ufo, and #space. Other hashtags reference the past, like #ancientEgypt and #archaeology. A few hashtags reference the media that discusses pseudoarchaeology, like the Erich Von Daniken book *Chariots of the Gods*, Joe Rogan’s radio show, and spiritual site Gaia. The hashtag #ancientastronaut also works as a signal



**Figure 1:** Network representing hashtags that appear in Tweets using #ancientaliens.



**Figure 2:** Network representing hashtags that appear in Tweets using #ancientastronaut.

regarding conversation about belief in aliens influencing the past, along with other claims in supernatural history. Since it is not as explicitly tied to the *Ancient Aliens* show, fewer Tweets are promotional of the show or tied to its production.

The network graph for #ancientastronaut (Figure 2 above) again illustrates relationships between topics similar to #ancientaliens. The network's colors provide a starting point to organizing the topics within #ancientastronaut. The green nodes constitute a majority of the graph and do not have an obvious category compared to smaller, more precise groupings. Several of the hashtags allude to archaeological sites, artifacts, or terms, like the Peru's Nazca Lines or the indigenous Dogon people in Mali. The light purple nodes are also a looser grouping and include a few different broad categories of hashtags. These are #alienlife and #cropcircles, or some that appear more distant, like #jewelry and #handmade. Other craft-related hashtags appear more strongly in the nodes grouped in pink, which also include #resinprints, #etsy, and #3dart. The orange cluster consists of hashtags like #blockchain, #cryptocurrency, and #cryptoartist. Many of the orange hashtags originate from a single Twitter account. Since the user will use the same grouping of hashtags, they will produce many instances of the hashtags appearing together in a Tweet, thus placing them into the same color category.

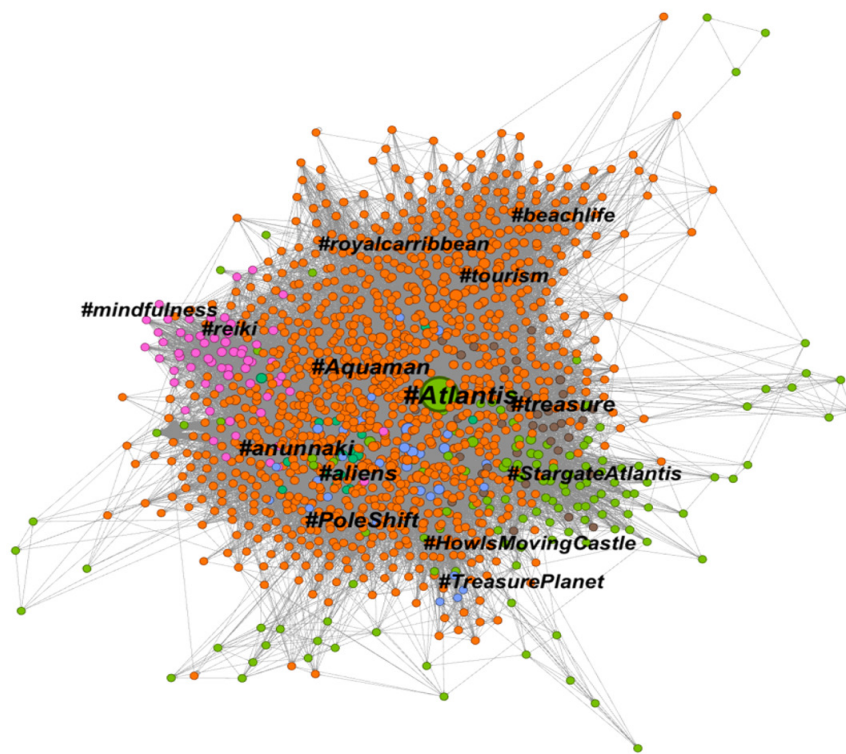
Some archaeology conspiracy and ancient history related hashtags are also connected to one another within the #ancientastronaut network. #Annunaki also appears in Tweets with the hashtags #Maya, #Ziggurat, #Nibiru, and #Nephilims. Annunaki, or sometimes spelled Anunnaki, refer to Babylonian gods, while the Nephilim are a race of people from the Bible. Both have been appropriated to refer to ancient extraterrestrial beings treated as gods (Flaherty, 2011). Several theories about the Annunaki circulate through Tweets or tweeted blog posts, like one linking to a post about the "Igigi," another set of aliens rebelling against the Anunnaki extraterrestrials, who apparently created humans to serve as laborers (UFO- AC Research Group, 2020). As their evidence, they

reference texts like the Epic of Gilgamesh, or use images of Mesopotamian reliefs that appear to depict their hypotheses. Many of these originate from New Age religions that seek out evidence of alien influence on Earth through biblical and other ancient texts. Nibiru, another hashtag, was thought to be the Babylonian name for Jupiter, but is the apparent home planet of the Nephilim (Flaherty, 2011). The ziggurat, a type of temple with levels of platforms, is a notable example of Mesopotamian architecture (Seymour, 2011). On Twitter, conspiracists use them as evidence of the alien Annunaki's achievements, even using doctored photos of a similar looking structure on the planet Mars (Twitter User 1 2021).

Tweets related to ancient societies use a variety of visual aids to enrich their claims. One Tweet uses pictures of Mesoamerican artifacts, interpreted to have alien-like features, with some clearly faked to showcase stereotypical sci-fi alien anatomy. The Tweet author calls the images "incredible discoveries," remarking that they "haven't seen these in the news" as well as tagging #QAnon and #DeepState (Twitter User 2 2019). A few Tweets also exhibit what the authors find to be striking similarities across cultures, both past and present. One compares reliefs of Mesopotamian hairstyling with the curled wigs worn by British parliament as well as a sphinx carving with an image of a sphinx on a present-day church signboard (Twitter User 3 2019). Another tweeted out images comparing instances of long-horned, often female figures, spanning Spanish cave drawings to a type of Mongolian national dress (Twitter User 4 2022). Both Tweets connect various cultures and time periods by jumping to a supernatural explanation, without considering the sociological reasons for how similar customs can originate in different places. Such Tweets often lack direct statements about the connection between alien and human history, but instead imply their intention by tagging #ancientastronaut, letting the hashtag add additional meaning to their post. Since these come from accounts heavily invested in conspiracy theories or alien evidence, they imply the larger goal of proving ancient alien existence.

The idea that aliens are kept hidden by the government frequently appears on Twitter. A rather prolific example shows an image of Trump and states “I would love the one good thing #DiaperDon ever did in office to be revealing massive historic #UFOCoverUps by USA” (Twitter User 5 2020). The hashtags #stevengreer and #disclosureproject also appear in conjunction with #ancientaliens. A recent February Tweet questioned the removal of the Giorgio Tsoukalos and UFO-enthusiast Steven Greer episodes from Joe Rogan’s Spotify podcast, wondering why aliens would deserve censorship (Twitter User 6 2022). Greer’s claims include that several public figures, including President Kennedy, were killed for sharing information about extraterrestrials, and that alien technology retrieved from UFO’s

motivated innovations in human invention (Lewis-Kraus, 2021). Several Tweets using the #disclosureproject tag attach videos of blurry proof of alien UFOs, and feature #mufon, which stands for Mutual UFO Network. Like #Annunaki and #Ziggurat, hashtags related MUFON or alien cover-ups draw readers into a rabbit hole of conspiracies that seemingly connect the dots through human history. This is another example of how pseudoarchaeology does not follow a typical evidentiary argument, but instead tries to convince the reader that such coincidences in history are not possible, thus aliens or other supernatural forces must be at play. to convince the reader that such coincidences in history are not possible, thus aliens or other supernatural forces must be at play.



**Figure 3:** Network representing hashtags that appear in Tweets using #Atlantis.

### Atlantis on Twitter

In the Atlantis hashtag network (Figure 4), there are several unexpected subtopics, like animated movies, spirituality and meditation, and tourism. The 2001 film *Atlantis: The Lost Empire* is likely connected to Tweets related to animation or Disney, including #TreasurePlanet and

#HowlsMovingCastle. There’s also a set of hashtags that include #mindfulness and #reiki, which are terms from a modern spiritualism associated with meditation and crystals. The website Gaia is well known for this strain of spiritualism, and features in a hashtag from the #ancientaliens network. Some Tweets features #larimar, a type of vibrant blue

stone used in jewelry that Twitter users associate with Atlantis (Twitter User 7 2020). #Aura and #Reiki accompanies various “Atlantean gemstone” advertisements, used by accounts to publicize the crystals or crystal creations they sell. One Tweet even alleges that Atlantis people used quartz for “communication devices” and “sources of energy” (Twitter User 8 2022). In this case, the advertising pull of Atlantis lies with the notion of Atlanteans being extremely advanced and stewards of an ancient knowledge. Crystal healing and parts of spiritualism are known for their rejection of the institutional, often branded alternative medicine. Much of this discussion around healing, spiritual beliefs, and the work of aliens comes together on the Gaia website (Gaia, Inc, 2022).

Accounts that aim to give proof of Atlantis’s existence often refer to maps that show its potential location, as well as locations of related “lost civilizations” like Lemuria or Mu. One tweeted map places Atlantis as a large land mass in the Atlantic and Lemuria as another giant one that spans the Pacific Ocean, accompanied by hashtags like #WorldMap and #Truth (Twitter User 9 2021). As in many Tweets, their sources for this information are unclear or nonexistent. One user posted what appears to be screenshots from an interview about aliens and their connection to earth history, claiming that not only did Atlantis exist, but that it was an alien creation (Twitter User 10 2022). Alongside the many outlandish statements, one user notes the connection between Atlantis and Charles Brasseur de Bourbourg, who helped inspire Ignatius Donnelly’s writings on the legendary city and facilitated a growing mythology around lost societies (Twitter User 11 2022, Halmhofer 2021). Even to the present day, discussion of Atlantis is linked to authors of supremacist ideas, promoting the features of the Atlantis myth rooted in proving the existence of an “advanced race.” Some of the ideas featured in #ancientastronaut and #ancientaliens also appear in this network, like #anunnaki, #StargateAtlantis, and #PoleShift, which is a reference to one of the *Ancient Aliens* theories about catastrophic natural disasters due to shifts in Earth’s poles.

## Discussion

### Pseudoarchaeology as Disinformation

The growth of engagement with conspiracy and pseudoarchaeology online coincides with a reworking of the Information Age. Andrew Marantz (2019) discusses in his book *Anti-Social* the rising role of Twitter and viral social media posts in politics, particularly in the 2016 election. Marantz identifies a growing community of anti-establishment Twitter influencers aligned with the alt-right movement. What Marantz sees as key to their political capability is not just that they often support populist and nationalistic viewpoints, but that they created posts that are purposefully vitriolic to draw attention and a following. Marantz’s concerns with their use of social media posts are also echoed among conspiracist Twitter users. As Marantz argues, they cannot be granted political legitimacy because they reject dialogue. This is the danger of pseudoarchaeology and its growth in these spaces- its disseminators refuse to consider the potential of other solutions in understanding the vibrance of human history, often with a purpose to invoke distrust of authority. They sow further rejection of “mainstream media” or institutional sources, like government agencies, or in this case, the world of academia.

A considerable element of many Tweets that try to prove alien presence, existence of Atlantis, or other lost civilization hypotheses, would be the use of visual material. Whether that be in a map, selected artifacts, or even self-created art depicting their claims, visuals can affirm their Tweet or add more information about what the Twitter user would like to imply. Some images are real elements of archaeological sites, and yet conspiracists come to vastly different conclusions about them. One of the clearest examples is Erich von Daniken’s analysis of the tomb of Pakal in Palenque, associated with ancient Maya culture. Often regurgitated in ancient alien Tweets, Daniken concluded that the tomb carving represented an ancient astronaut (Evans, 2012). We can see similarities between alien or Atlantis conspiracists with Tweets from the alt-right, as both try to vilify establishment science or perceived authority over subject matter,

while also fabricating supporting evidence meant to seem obvious to the Tweet's reader.

Several of this paper's hashtags appear unrelated to archaeological or extraterrestrial fields but instead share the sentiment of going against the mainstream or fighting back against a perceived establishment. Cryptocurrency, and other topics related cryptocurrency's technology, like #blockchain and #nft, are also present in the hashtag networks. Cryptocurrency is known for being an unregulated currency, with limited attachment to governments or a central institution. It is no surprise that figures in supremacist movement invested in crypto in its early stages, then capitalized on it to fund campaigns outside of government purview (Hayden & Squire, 2021). Several hashtags also reference the site Gaia or terms related to spiritualism. On Gaia's own website they tout their many web series about "topics you won't find in the mainstream medium" (Gaia, Inc, 2022). When people enter the Twitter space around *Ancient Aliens* or the Atlantis myth, they consistently encounter a worldview that vilifies established institutions.

### **Impact on Indigenous Communities**

Credit to achievement in history matters. Antiquities that are perceived as accomplished are assigned a high degree of intelligence, craftsmanship, and civility, often tied to connotations of the labels "primitive" versus "advanced or complex." That perception confers esteem to the modern population regarded as closest to them (whether or not that should be the case). The structures around approaches to science and politics in the West today were specifically chosen out of an admiration for the Greek and Roman democracies and republics. But for the peoples that do not belong to this euro-centric perspective, their history and current ontologies are consequently othered. European and white histories act as the basis upon which other cultures are compared, centering white perspectives over others. For North American native groups, this has led to misrepresentation in museums and a lack of respect for the Indigenous past, causing greater susceptibility to cultural appropriation

and removed agency over artifacts and ancestral remains. It also seeps into broader disputes over land and self-governance for modern native groups. Indigenous knowledge and ontologies are considered secondary to the scientific approaches that originate from societies viewed as white and European. One alt-right blogger accuses the *Ancient Aliens* show of attributing Peruvian cranial remains to aliens when it should instead be the white race praised for establishing complex structures and states across the globe (Chouinard, 2017). Both the show and site author, of course, completely disregard Peruvian indigenous cultures, yet while recognizing that history bestows status in the modern world and is necessary to formulate supremacist arguments.

### **Perception of Archaeology on Twitter**

Archaeology can already find depictions in classic media that lack the nuance and a full picture of a site's archaeological evidence. Social media can even more easily warp archaeology news and exposes such misinformation to a larger audience. The abundance of sources on social media means those entities must vie for the reader's attention. The need to appeal to an audience has allowed fake news to capitalize on an emotional response from consumers (Giusti & Piras, 2020). Posts with false information or conspiracy theories then increase in popularity. Increasing regulation from social media platforms comes with little recompense. The more a userbase is attracted to a platform and stays on the app the more lucrative advertisement spots can be. Platforms are then reluctant to over-police their communities, with Twitter being the most notorious for this. For many years, Twitter famously did not ban hate speech from its platform until around 2016, causing several incidents involving gender and race-based harassment (Jeong, 2016).

Archaeologists need to be aware of the growing presence of pseudoarchaeology on these platforms lest they further develop into the main perception of archaeological work rather than its outlier. Drastic consequences occur if "alternative" histories are left unchecked. Russia famously interfered in the 2016 U.S. election by strategically

dispersing large amounts of fake content. It was not simply to persuade consumers of a theory or claim, but instead facilitate widespread distrust in the institutional (Brantly, 2020). When Twitter users come across hashtags about ancient aliens, much of the content misrepresents or presents false archaeological evidence. When much of the public's exposure to archaeology are shows like *Ancient Aliens* or mythical places like Atlantis, their access to the field begins with misleading evidence and conspiracies that invalidate histories of real people. Popular media such as these is generally more accessible than discussions that are almost exclusively held in academic spaces. It is often the exclusive nature of academia that makes *Ancient Aliens* or conspiracy threads more appealing, even exciting, to their consumers. Once on Twitter, tags like #ancientaliens open a rabbit hole of connected theories that promote a pseudoarchaeological worldview. With Tweets that seek to subvert academic sources or institutionalized science, academia is viewed as either a gatekeeper of conspiracy evidence or elitists that staunchly reject any opposing view.

## Conclusion

The issue with conspiracies in archaeology is not that they potentially pose risk to the hardline knowns of the past and our perception of "fact," but they situate themselves into a far stricter line of reasoning than they accuse current science of instituting. Their arguments often rely on a single identified pattern, like matching shapes in ancient monuments or contrived star alignments, when the reality of the world is far richer. Pseudoscientific arguments consider only a single perspective from the material record out of the many possibilities about the past. Network analysis of pseudoarchaeology on Twitter uncovers this web that surrounds popular conspiracies and demonstrable how reachable it is from mainstream media. Exposure to the notion that archaeology and our understanding of history is dynamic and draws on many frameworks can help subvert the inclination towards conspiracy or pseudoarchaeology. Archaeological academia

must increase their participation on social media and more deeply investigate how it impacts archaeological perception. Archaeology will inevitably be discussed online, so having more archaeologists that add their own posts can start building a community with the standards that we seek for discussion. By approaching pseudoarchaeological arguments with a worldview that looks beyond one alignment of dots, a far more interesting universe of constellations can be revealed.

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