

# MANAGING ARCHAEOLOGY'S INFODEMIC LESSONS FROM SURVEYS ABOUT ATLANTIS AND ANCIENT ALIENS

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*The SAA Archaeological Record*

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# MANAGING ARCHAEOLOGY'S INFODEMIC LESSONS FROM SURVEYS ABOUT ATLANTIS AND ANCIENT ALIENS

**Lisa C. Young and Hannah G. Hoover**

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## The COVID-19 Infodemic

In early 2021, conspiracy theories about the COVID-19 pandemic sparked discussions about potential remedies to this epidemic of misinformation, or what the World Health Organization and others (2020) has called an “infodemic.” These discussions are especially critical given the life and death consequences of misinformation about science and its rapid spread in the digitally connected twenty-first century. The ease of sharing and the incredible volume of information we are bombarded with daily creates an additional problem that psychologists call the “repetition-induced truth effect” (Unkelbach et al. 2019). Essentially, the more an individual is exposed to misinformation, especially if presented in an easily digestible and captivating way, the more likely they are to accept it as true.

Archaeologists have long grappled with the question of how to engage with the public's fascination with “alternative” interpretations of the past (Anderson 2019)—the most prevalent form of misinformation that our field faces. Given the incredible persistence of these ideas (Colavito 2019), they represent archaeology's own infodemic. In this article, we examine how surveys about beliefs in Atlantis and ancient aliens provide insights into strategies that we can use to help the public become better consumers of archaeological information.

## Monitoring Beliefs in Atlantis and Ancient Aliens

Claims about Atlantis and ancient aliens have become so popular that statements about these claims are commonly included in surveys used to assess Americans' beliefs in the paranormal. For example, Chapman University (2018) assesses Americans' fears using a self-administered web survey. Over 1,000 adults, representing a cross section of the American public, have taken this survey annually, starting in 2014 (Rapoport et al. 2017). During several years, this survey also included beliefs in the paranormal, including the following statements:

- Ancient, advanced civilizations, such as Atlantis, once existed.
- Aliens have visited Earth in our ancient past.

Using a Likert scale, participants were asked to rank their level of agreement from strongly agree to strongly disagree. Between 2016 and 2018, the proportion of people who agreed or strongly agreed with these statements increased over 10%. By 2018, a whopping 57% of respondents agreed that Atlantis existed and 41% agreed that aliens visited earth in the past. David S. Anderson (2019) has argued that this increase was the result of recent promotions of these claims by talk shows and convention culture.

In his multiyear survey of college students at various institutions of higher learning, Kenneth L. Feder (2020) posed similar statements but with slightly different wording and answer choices. Feder asked students whether they agreed, disagreed, or were undecided (“don't know”) with the following statements:

- There is good evidence for the existence of the Lost Continent of Atlantis.
- Aliens from other worlds visited the Earth in the prehistoric past.

In 2018, roughly 17% of the students agreed with the statement about Atlantis and nearly 22% agreed with the statement about alien visits to earth in the ancient past (Feder 2020:5). Since 2009, there has been a decline in the proportion of students who agree with both statements (Feder 2020:Figure 1.2). The proportion of students who agreed with these claims is lower than the Chapman University survey, but Feder was surveying students in introductory archaeology courses. Given this context, these students may be predisposed to be more skeptical of these claims.

## University of Michigan Fantastic Claims in Archaeology Course Survey

Inspired by the course survey developed by Feder, Lisa C. Young created a survey assignment for an introductory archaeology course at the University of Michigan that focuses on pseudoarchaeology claims. Instead of giving this survey to the students in the course, she asks the students to administer the survey to at

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least two of their friends or members of their family. The results are recorded anonymously using the online survey software Qualtrics. Typically between 200 and 250 respondents complete the survey. The answer choices are the same as those in Feder's survey (i.e., agree, disagree, don't know), but the wording of the statements differs slightly:

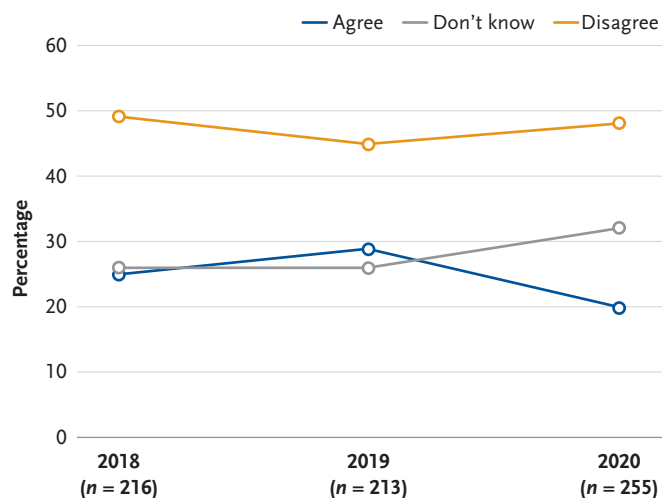
- Archaeologists have found evidence of the lost civilization of Atlantis.
- Extraterrestrials visited earth in the ancient past, and we see traces of their interactions with people at archaeological sites.

Similar to the other surveys, this assignment is a simple assessment of the popularity of these claims since students administer the survey before they learn to evaluate the evidence commonly used to support them. The purpose of the assignment is to help students gain an understanding of the types of claims their friends and family are intrigued by. The assignment also lays the foundation for subsequent discussions about how to have a conversation about these claims with their friends, family, or anyone else intrigued by them.

Though this survey has been administered in various forms since 2013, data from the 2018, 2019, and 2020 fall semesters are presented here (Figure 1). These are the most recent years, and the wording of the statements is consistent. During these semesters, 20%–29% of respondents agreed that archaeological evidence of Atlantis has been found, while 18%–23% agreed that ancient aliens (i.e., extraterrestrials) visited earth and left traces at archaeological sites. Interestingly, 26%–32% of respondents were unsure about the Atlantis statement, while the percentage of those unsure about the aliens statement was much lower (15%–18%). As such, 59%–68% of respondents disagreed with the statement about aliens while only 45%–49% disagreed with the statement about Atlantis. Uncertainty about and disagreement with the Atlantis statement increased from 2018 to 2020, while responses to the ancient aliens statement varied across this range, with a slight overall increase in agreement and uncertainty and a slight decrease in the percentage of those who disagreed.

Generally, the results are similar to those from the survey of the students in Feder's course. Typically less than 25% of respondents agree with these statements and there is no dramatic temporal increase—a marked contrast with the Chapman University (2018) results. Why these differences? One possible explanation is the survey participants. The survey by Young's students and the survey of Feder's students were either administered or taken by students pursuing degrees in higher education. As a result, many of these participants may have been more skeptical of these claims or generally more willing to critically evaluate media stories (Epstein et al. 2021). In contrast, the number of participants in the Chapman survey was higher than the other two surveys.

a. Atlantis statement: "Archaeologists have found evidence of the lost civilization of Atlantis."



b. Ancient aliens statement: "Extraterrestrials visited earth in the ancient past, and we see traces of their interactions with people at archaeological sites."

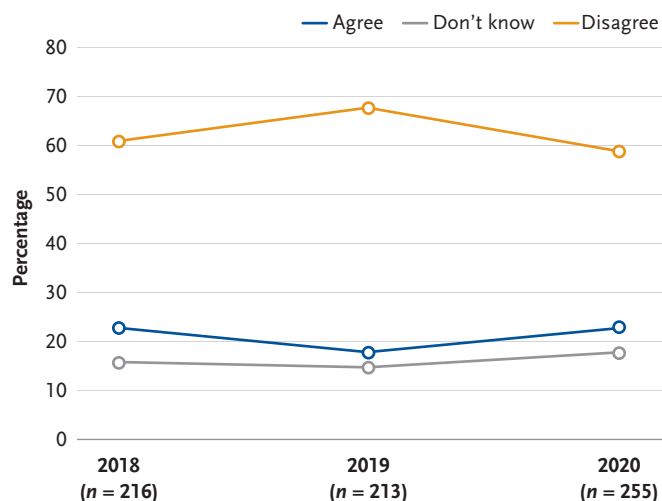


Figure 1. Percentage of respondents in the 2018, 2019, and 2020 surveys who chose "disagree," "agree," or "don't know" to the statements about Atlantis and ancient aliens in the survey developed by Young.

The Chapman survey intentionally recruited participants that represented a cross section of the US public.

Another important difference, however, is the wording of the statements in the surveys and the answer choices. The Atlantis statement in the surveys developed by Feder and Young use the word "evidence," while the Chapman survey statement is about

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the existence of Atlantis. In the survey developed by Young, the statement about ancient aliens includes an additional sentence about traces at archaeological sites—or archaeological evidence. Moreover, in the Chapman Survey, respondents were given four answer choices: strongly agree, agree, disagree, or strongly disagree. This survey does not include an option to be undecided or have no opinion. In contrast, the surveys by Young and Feder included a “don’t know” option.

### Thinking about Evidence as an Accuracy Nudge

Although there are multiple factors that influence a participant’s choice to agree with the statements about Atlantis or ancient aliens, the inclusion of the idea of archaeological evidence is important to consider in light of recent studies about the spread of misinformation. Gordon Pennycook and colleagues (2021) found that after Twitter users were asked their opinion on the accuracy of a headline, they were less likely during the next 24 hours to share stories that contained inaccurate content. Their interpretation of this behavior was that the question about the headline prompted these Twitter users to briefly reflect on the accuracy of news stories they subsequently encountered. They argued that this question served as an “accuracy nudge” that helped focus people’s attention on the issue of misinformation before they decided to share an article.

Including the idea of archaeological evidence in the survey statements about Atlantis and ancient aliens may also serve as a type of accuracy nudge. Introducing the idea of evidence may prompt some of the respondents to pause and reflect on the accuracy of the statement before choosing to agree with it. Comments made by students in Young’s course provide anecdotal support for this idea. After giving the survey to their friends and family, students interviewed them about their responses and submitted a summary of these conversations for participation points. Comments about supporting evidence were a common theme in the student summaries. As one student wrote, “One discussion that came up with every single one of my friends was what ‘evidence’ meant for Atlantis. It could be some evidence, but not necessarily good evidence or actual proof.”

### Conversations about Pseudoarchaeology

In the September 2019 issue of the *Record*, David S. Anderson emphatically called on archaeologists to acknowledge that the public has been fascinated by claims about Atlantis and ancient aliens for decades. In fact, for many, these pseudoarchaeology claims are their introduction to our discipline. Anderson implored archaeologists to engage in constructive conversations with the public that include an acknowledgment that these claims can be quite captivating.

As any archaeologist who has been asked about a pseudoarchaeology claim knows, these conversations are not easy. Many of us try to avoid them or focus on critiquing the information used to

support these claims. What if we, instead, viewed these conversations as an opportunity to ask questions that encourage the public to pause and think about the evidence used to support these claims? This perspective shifts the conversation from a debate about facts to a discussion about how archaeologists use material culture to learn about people who lived in the past. In other words, conversations focus on how we, as archaeologists, know what we know, rather than focusing on how archaeologists know claims about Atlantis or ancient aliens are wrong.

In these conversations, we clearly do not have the time to discuss the complexity of archaeological evidence covered in introductory archaeology courses, but we can focus on the processes we use to understand the past and to emphasize how archaeological investigations differ from pseudoarchaeology. One strategy that we use in the University of Michigan course is to introduce students to the idea of testing as a critical step in the process of scientific inquiry and one that is neglected in pseudoscience claims. Testing can be fairly easily reframed as a brainstorming activity using if/then statements. For example, “If ancient aliens visited earth in the past, then we would expect to find \_\_\_\_\_ at an archaeological site.”

An essential part of this conversation is to focus on new evidence, rather than recycling information that has already been used to make the claim. Take, for example, the case of the Nasca lines in Peru. Instead of focusing on the shape of the trapezoidal geoglyphs that, when taken out of context, can look like runways, we refocus the conversation on developing ways to discover how the lines were used. If the Nasca lines were used as runways, what type of material evidence would support this interpretation (e.g., pieces of the spaceships that broke off during landing, a ground surface that is hard enough for a ship to land on, skid marks, etc.)? When structured in this way, this brainstorming activity can also lead to a discussion of archaeologists’ interpretations of the Nasca lines and the creative approaches they have developed to test various ideas about their use (Curry 2007). The goal of these conversations is not to win an argument but rather to help the public pause and think about archaeological evidence in more nuanced ways.

It is also important to remember that at least 25% of the respondents in the surveys conducted by Young and Feder said they did not know if evidence for Atlantis had been found. Conversations that emphasize testing may be a particularly useful way to help people who are undecided think more critically about archaeological evidence, rather than getting caught up in romantic ideas about a lost civilization. It is imperative for us to engage in these types of conversations because the claims about Atlantis, ancient aliens, and many other “alternative” interpretations are commonly built on implicit assumptions about the capabilities of ancient peoples that are founded on racist ideas (Bond 2018; Colavito 2019; Halmhofer 2021; Kurnick 2020).

### Conversations as a Type of Inoculation against Misinformation

With this reframing, such conversations may help the public develop more realistic ideas about what archaeologists actually do and the processes we use to interpret the past. Interjecting questions about testing claims using archaeological evidence can act as an accuracy nudge. More generally, the process of systematically testing interpretations by collecting new evidence is a critical distinction between science and pseudoscience. These nudges, in turn, may help inoculate the public against the epidemic of misinformation not only in archaeology but in science more generally. Although these conversations will not eradicate archaeology's infodemic, they may decrease the infection rate and slow its spread in the future.

### Acknowledgments

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On the cover: Chaco Culture National Historic Park, New Mexico. Photograph by Tanachy Bruhns.