

ARCHAEOLOGY

Beliefs in aliens, Atlantis are on the rise

Researchers take to Twitter, blogs to counter pseudoarchaeology's outlandish ideas

By **Lizzie Wade**, in Albuquerque, New Mexico

In February, the popular podcast *The Joe Rogan Experience* referred to an idea made famous by some books and TV shows: that an image of the Mayan King K'inich Janaab' Pakal, carved onto the lid of his sarcophagus when he died in 683 C.E., shows him taking off in a spaceship. Host Rogan was skeptical of the notion, which has been used to argue that extraterrestrial visitors seeded sophisticated ancient societies like the Maya. He asked what mainstream archaeologists made of it.

For David Anderson, that request was a call to action. Anderson, an archaeologist at Radford University in Virginia, jumped on Twitter: "Dear @joerogan, speaking as a 'mainstream' archaeologist ... it depicts [Pakal] falling into the underworld at the moment of his death." The rocket-propelling "fire" below Pakal is a personification of the underworld, and the "spaceship" is a world tree, a common feature in Mayan art. Rogan retweeted Anderson's thread, bringing him more than 1000 likes and many grateful comments—plus some angry ones.

Pakal's supposed seat in a spaceship is just one example of what Anderson and others call "pseudoarchaeology," which ignores the cultural context of ancient artifacts and uses them to support predetermined ideas, rather than test hypotheses, about the past. Common beliefs include that aliens helped build the Egyptian and Mayan pyramids, that refugees escaping Atlantis brought technology to cultures around the world, and that European immigrants were the original inhabitants of North America.

These outlandish beliefs have been circulating for decades, but archaeologists like Anderson are now mobilizing to counter them. They are taking to Twitter, blogs, podcasts, YouTube, and newspapers to debunk false claims and explain real archaeological methods, and they plan to compare notes this week during a symposium at the Society

for American Archaeology (SAA) meeting here. "My profession ... needs to do a better job of speaking out," Anderson says.

He and others are alarmed by the rising popularity of pseudoarchaeological ideas. According to the annual *Survey of American Fears* by Chapman University in Orange, California, which catalogs paranormal beliefs, in 2018, 41% of Americans believed that aliens visited Earth in the ancient past, and 57% believed that Atlantis or other advanced ancient civilizations existed. Those numbers are up from 2016, when the survey found that 27% of Americans believed in ancient aliens and 40% believed in Atlantis.

"I look at these numbers and say ... some-

thing has gone massively wrong," Anderson says. He can't say exactly what is driving the rise in such ideas, but cable TV shows like *Ancient Aliens* (which has run for 13 seasons) propagate them, as does the internet.

These beliefs may seem harmless or even amusing, says Jason Colavito, an author in Albany who covers pseudoarchaeology in books and on his blog. But they have "a dark side," he says. Almost all such claims assume that ancient non-European societies weren't capable of inventing sophisticated architecture, calendars, math, and sciences like astronomy on their own. "It's racist at its core," says Kenneth Feder, an archaeologist at Central Connecticut State

University in New Britain, who is slated to present at the SAA session and began to write about the dangers of these ideas long before most other scholars paid attention to them.

Adding to archaeologists' sense of responsibility is that "many of these ideas started within mainstream archaeology," says Jeb Card, an archaeologist at Miami University in Oxford, Ohio. "We have to own these stories."

For example, white settlers and early archaeologists in 19th century North America excavated elaborate pre-Columbian burial mounds—but ascribed them to a lost "moundbuilder race" that was killed by the ancestors of Native Americans. Former President Andrew Jackson used those ideas to justify displacing Native Americans from their lands.

Today, white nationalists make similar claims. To argue for Europeans' deep roots in the Americas, they have latched onto Vinland, a short-lived medieval Viking settlement in eastern Canada, and the "Solutrean hypothesis," which argues that the Americas were first peopled by arrivals from Western Europe. Neither claim started as pseudoarchaeology—Vinland was real, and the Solutrean hypothesis was proposed by mainstream archaeologists, then tested and ruled out—but they have been twisted for ideological ends. A



Mayan King K'inich Janaab' Pakal is not taking off in a spaceship in this image from his seventh century sarcophagus, but falling into the underworld.

white supremacist accused of murdering two people on a train in Portland, Oregon, in 2017 included the words “Hail Vinland!!!” in a Facebook post less than a month before the attack.

“It’s really a life-or-death issue,” says Stephennie Mulder, an archaeologist and art historian at the University of Texas in Austin, who organized a 30 March symposium there called “Aliens, Atlantis, and Aryanism: ‘Fake News’ in Archaeology and Heritage,” at which Anderson was the keynote speaker.

Yet archaeologists have historically been hesitant to tackle pseudoarchaeology. As the field matured in the 20th century, archaeologists moved into the academy and abdicated the public sphere, says Sara Head, an independent cultural resources archaeologist in Philadelphia, Pennsylvania, and the author of the Archaeological Fantasies blog, who is co-organizing the SAA session. “We’ve created a vacuum” that pseudoarchaeology has filled.

Today, “Most archaeological research is unavailable to the public,” she says, obscured by jargon and locked behind paywalls. “But you want something from pseudoarchaeology? I can find you 15 references,” all easily accessible online and on TV.

Re-engaging with the public is an uphill battle, Head says. Debunking specific claims, as Anderson did with Pakal’s “spaceship,” is merely a first step. To make a lasting impact, she and others say, archaeologists must proactively share their work and, in particular, explain their methods step by step. That’s important to counter the common pseudoarchaeological claim that researchers are hiding evidence for aliens or Atlantis.

This isn’t easy work, especially online. All the women interviewed for this article have been harassed online after tackling pseudoarchaeological interpretations. Mulder recently fielded replies that included a knife emoji after she tweeted about research showing that people of diverse ancestries, rather than only Western Europeans, lived in Roman Britain. Colavito reports receiving death threats after a host of *Ancient Aliens* urged his fans to send Colavito hate mail.

Ironically, the popularity of pseudoarchaeology also reveals intense public interest in the past. Anderson understands: His own interest in archaeology was spurred at age 18 when he read a book about a now-vanished advanced civilization that supposedly helped develop the cultures of ancient Egypt and the Maya. He was inspired to take archaeology courses in college—and found that the reality was even more exciting than the myths. “Archaeology was even better than [the book] had presented it.” ■

RESEARCH FUNDING

Brazilian scientists lament ‘freeze’ on research budget

Block on 42% of the science ministry’s funds, coming on top of other cuts, puts flagship synchrotron at risk

By **Herton Escobar**, in São Paulo, Brazil

The latest federal budget news coming out of Brasília has Brazilian scientists fearing the worst. On 29 March, faced with a stagnant economy and falling tax revenues, the government announced it was “freezing” nearly 30 billion reais (\$7.5 billion) of the country’s public funds for the year, including a 2.2 billion real slice of the science ministry’s budget. If the freeze isn’t lifted, funds for scholarships and research will be cut by 42%—a blow that would come on top of a series of other cuts in recent years (see graphic, below.)

“We were running on a flat tire; now they took out the wheel,” says Ildeu de Castro Moreira, a physicist at the Federal University of Rio de Janeiro in Rio de Janeiro and president of the Brazilian Society for the Advancement of Science (SBPC) here. If made permanent, the freeze could have “tragic” consequences, Moreira predicts. Many laboratories and research institutions might be pushed into stagnation, including federally funded facilities that provide crucial services such as weather monitoring and public health surveillance.

A freeze means the money remains in the government’s budget, but is locked down as

“contingency funds” that can be spent only if the economy improves or new sources of revenue are found. For now, Brazil’s Ministry of Science, Technology, Innovation and Communications (MCTIC) is authorized to spend only 2.9 billion reais in support of R&D this year—less than what NASA typically spends on a single Mars mission. “We knew there might be another contingency measure on the way, but we never expected it to be so extreme,” Moreira says. “When you have so little to begin with, every loss is a major loss.” Even Brazil’s flagship science project, the synchrotron light source Sirius, is at risk; 80% of the funds it depends on to complete construction and start to commission the facility by the end of this year have been frozen.

In a press statement, MCTIC says it is “committed to recuperate investment in research,” and is still analyzing how the freeze will be implemented throughout its many agencies and programs, including the National Council for Scientific and Technological Development (CNPq) in Brasília, Brazil’s agency for basic research funding. Even before the freeze was announced, CNPq’s management had warned it didn’t have enough money to make it through the year.

During previous freezes, scientists have pressured the government into releasing some of the frozen funds. It’s unclear whether that will happen again; President Jair Bolsonaro has done little so far to make good on his promise to make science and technology a priority and raise Brazil’s spending on R&D from 1% to 3% of gross domestic product.

The funding collapse threatens to “dismantle” an R&D system that took decades to build and is pushing a new generation away from science, says former CNPq President Hernan Chaimovich, a biochemist of the University of São Paulo here. “I really hope we can reverse this situation,” adds Luiz Davidovich, president of the Brazilian Academy of Sciences in Rio de Janeiro. “We can’t take another hit like this. It’s just too little to survive on.” ■

Herton Escobar is a science journalist in São Paulo, Brazil.

Science in decline

Even without the freeze, the Brazilian science ministry’s budget for R&D—adjusted for inflation—has declined sharply the past few years.

Budget in Brazilian reais

