Paleontologists See Stars as Software Bleeps Scientific Terms

When their annual conference was moved online, they were amused to find seemingly benign words blocked and replaced with asterisks during virtual sessions.

Paleontologists were puzzled when software installed to filter profanities during an online conference instead blocked "knob," "bone" and other common terms. Scott Applewhite/Associated Press

By Maria Cramer

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The trouble started when Thomas R. Holtz Jr., an expert on the Tyrannosaurus rex, typed "Hell Creek Formation," the rock unit in Montana where the remains of North America's last giant dinosaurs have been found.

He was trying to answer a colleague's question after an online presentation during the first day of the Society of Vertebrate Paleontology's 80th annual conference last week.

But Mr. Holtz was stunned when instead of the word "Hell," four asterisks appeared in the chat.

Puzzled, he described the issue on Twitter. Colleagues chimed in with other words that had been rejected by the software system set up to filter out profanities: knob, pubis, penetrate and stream, among others.

"Most funny to us was the censorship of 'bone,' which, after all, are the main thing we work with," Mr. Holtz said.

Many have raised concerns about online censorship by large tech companies. Instagram has been criticized for banning posts of art featuring nudity. In 2016, the Swedish Cancer Society used graphics of square-shaped breasts in a video about breast exams to evade Facebook's censors.

But the blocking of benign terms commonly used by paleontologists seemed especially overzealous.

After Mr. Holtz posted a list of the banned words on Twitter, he received a series of responses.

Some users were outraged.

"Pubis? Seriously? What are you going to call it???" wrote L.P. Norman, a self-described amateur astronomer. "The forward of the ischium bone???"

Others tried to be helpful.

"Gettathesaurus," one person wrote.

The paleontology conference, which attracts hundreds of scientists, amateur bone collectors and dinosaur enthusiasts every year, was supposed to take place in Cincinnati. But the pandemic forced the organizers to move it online, like thousands of other trade shows, summits and professional conferences that were scheduled to be held at hotels and convention centers.

That meant scrambling to organize sessions for panelists who had expected to make presentations in public, and developing codes of conduct for participants to prevent any embarrassing conduct online.

The society contracted with a software company that provides chat sessions with built-in algorithms that could filter any profanities or offensive terms.

"All software plug-ins are going to have filters in to make sure you don't get out of control," said Carolyn Bradfield, chief executive of Convey Services, the company hired by the society.

"In that particular case, the filter was too tight," she said.

Ms. Bradfield, who listened in on 10 sessions, said she learned of the problem from participants who were talking about it. She said she was as surprised as everyone else.

"I don't know why in the world the word 'bone' was in there," Ms. Bradfield said.

Jessica Theodor, president of the society, said participants kept finding other words that triggered the asterisks and alerted the society's leaders, who then relayed the information to Convey Services. The company quickly removed the words as it learned about them.

Paleontologists began having fun with the system.

They typed in random words to see which ones would result in asterisks. One created a meme that compared their efforts with those of the velociraptors in the film "Jurassic Park" that threw themselves against an electric fence to find weak spots.

"A couple of us chuckled and started calling Hell Creek 'Heck Creek,'" said Stephanie K. Drumheller, a lecturer and paleontologist at the University of Tennessee.

Jack Tseng, a professor of paleontology at the University of California, Berkeley, said some censored words were not as amusing.

For instance, Wang, a popular surname in China, was also replaced with asterisks.

"I knew how Wang was used in the vernacular," Professor Tseng said. "I did go to high school."

He was curious if Johnson, another surname that can be used as a term for male genitalia, would make it through. To his dismay, the system allowed it.

"That was bothersome," Professor Tseng said. "If you're going to censor, censor everything. Censor Johnson so everyone is offended."

Ms. Bradfield said she did not know why Wang was caught by the algorithm but not Johnson.

Convey Services used a third party — Arena.im — to provide the technology that filtered out certain words. But Ms. Bradfield said it was ultimately her company's responsibility to make sure it avoided a similar problem in the future.

The solution, she said, was straightforward.

"We have to make sure we take that filter and remove words that are stupid and shouldn't have been there," she said.

Still, Professor Theodor, who teaches at the University of Calgary in Alberta, Canada, said she was relieved by how smoothly the five-day conference ultimately unfolded.

"If this is the worst thing that happens when we move our paleontology conference online, that's just fine," she said.

Professor Tseng, who has been attending the conferences since he was an undergraduate, said the episode has led him to question how he and his colleagues sound when laypeople hear them discussing knobs and bones out of context.

"Maybe if you hear a bunch of paleontologists talk in the field it sounds very dirty," he said. "And we just don't realize it."

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