

Scientists have a bone to pick with paleontology's portrayal in video games

September 28 2022



The representation of Tyrannosaurus rex in COTS video games through time. (a)



3D Monster Maze (1982, J. K. Greye Software). PC. (b) Primal Rage (1994, Midway Games West Inc) Super Nintendo Entertainment System. (c) Tomb Raider (1996, Core Design) PlayStation. (d) The Lost World: Jurassic Park (1997, DreamWorks Interactive) PlayStation. (e) Dino Crisis (1999, CAPCOM). PlayStation. (f) Jurassic Park: Operation Genesis (2003, Blue Tongue Entertainment) PC. (g) Turok (2008, Propaganda Games) PC. (h) Dino D-Day (2011, Digital Ranch) PC. (i) Parkasaurus (2020, Washbear Studio) PC. (j) Second Extinction (2020, Systemic Reaction) PC. (k) Saurian (2017, Urvogel Games, LLC). PC. (l) Jurassic World: Evolution (2018, Frontier Developments) PC. Credit: *Geoscience Communication* (2022). DOI: 10.5194/gc-5-289-2022

Dinosaurs, fossil collecting, and evolution are common staples of video games—letting players interact with exciting aspects of paleo-science, but many games contain negative and harmful themes that can give players a warped understanding of paleontology, a new study reveals.

An international group of researchers, led by a team from the University of Birmingham, played and studied a range of video games containing elements of paleontology. From obvious games such as tie-in Jurassic Park games, to Red Dead Redemption 2, Super Mario World and Animal Crossing, they played a plethora of games to unearth what was paleo-fact from paleo-fiction.

Study co-author Dr. Thomas Clements, from the University of Birmingham, commented that "loads of people are inspired by and get their understanding of dinosaurs from movie blockbusters like Jurassic Park, but no one talks about how massive the gaming industry is in shaping not only the public's understanding of ancient life and also of paleontological science."

"When we played through many of these games, we were pleasantly



surprised about the accuracy of games like Animal Crossing that provide accurate and educational information in a fun and engaging way. However, we also found that many games contain misleading, negative, and sometimes quite damaging themes—many already widespread issues in the gaming industry. It is common for paleo-games to contain ethically dubious science, the illegal collection of fossils, 'monsterification' of animals, poor representation of minority groups, and the hypersexualization of women."

Publishing their findings in *Geoscience Communications*, the scientists analyzed the representation of paleontology in hundreds of video games, classifying them into several categories. They then defined a number of factors which may help or hinder a video game's effectiveness in promoting paleontology to a wider audience. Their study makes suggestions for ways that science communicators can address these issues when talking to the public about paleontology.

Co-author Jake Atterby, also from the University of Birmingham, commented that "this paper is about how the science of paleontology is portrayed to the public, at a time when many people get a lot of their knowledge from media and entertainment. Audiences can subconsciously learn from the media they consume, including depictions of our science that are deliberately exaggerated for entertainment. This can give players a false impression of <u>ancient life</u> and the work that we do. It is important for paleontologists to understand the public's perception of our science to help when we communicate our research."

More information: Thomas Clements et al, The perception of palaeontology in commercial off-the-shelf video games and an assessment of their potential as educational tools, *Geoscience Communication* (2022). DOI: 10.5194/gc-5-289-2022



Provided by University of Birmingham

Citation: Scientists have a bone to pick with paleontology's portrayal in video games (2022, September 28) retrieved 6 May 2024 from <u>https://phys.org/news/2022-09-scientists-bone-paleontology-portrayal-video.html</u>

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