

Best of Last Week—Overturning bird evolutionary theory, dangers of AI apps, mapping multiple diseases in one person

December 5 2022, by Bob Yirka

Palate of *Janavis finalidens* in comparison with that of a pheasant and an ostrich. The palate anatomy of *Janavis* likely approximates that of the most recent common ancestor of all living birds, and is more similar to that of chicken- and duck-like birds, such as pheasants, than to birds like ostriches and emus, which were previously thought to exhibit the ancestral bird condition. Credit: Juan Benito and Daniel Field, University of Cambridge

A pair of paleontologists, one with the University of Cincinnati, the other the University of Colorado Boulder, [rebutted recent reports that mammoths went extinct later than thought](#). Joshua Miller and Carl Simpson pointed out that environmental DNA cannot be used to establish timelines. Also, a combined team from the University of Cambridge and the Natuurhistorisch Museum Maastricht claimed that [recently discovered fossil evidence](#) overturns more than a century of knowledge about the origin of modern birds. They found evidence of a mobile beak evolving before a mass extinction 66 million years ago. And a team of researchers from Seoul National University, the University of Alberta and the Mongolian Academy of Sciences discovered that [a fossil found in Mongolia](#) is the first known species of streamlined, non-avian theropod dinosaur to walk on two legs.

In technology news, a team at Cornell University created [a computer program](#) that can read drawings and handwriting, and convert it to computer code. Called Notate, the interface is pen-based and relies on a deep learning module. Also, a team at ETH Zurich developed [an architecture called TEEtime](#) that allows users to choose resources on their smartphone to dedicate to legacy operating systems and which they wish to keep for their own proprietary software and data. And a team at Technische Universität Dresden [created perovskite-based phase heterojunction solar cells](#), which should make photovoltaic devices more efficient. Also, Twitter users began posting warnings about [the possible dangers of AI applications and devices that use them](#) after California startup OpenAI posted a video of a chatbot called ChatGPT and its hyper-sophisticated capabilities.

In other news, a combined team from the University of Birmingham in the U.K. and Beijing Normal University in China found that [short term memory problems can be improved with laser therapy](#). The noninvasive therapy was found to improve working memory in up to 25% of people tested. Also, a team at Instituto de Astrofísica de Canarias, found that

the James Webb telescope produced [an unparalleled view](#) of a ghostly light in several galaxy clusters. And finally, a team with members affiliated with multiple institutions in the U.K. identified patterns in common health conditions occurring together in the same individuals and used them to [create mappings between diseases](#).

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