A Virtual Visit to Tel Dan
By Matti Friedman

Anyone who'd like to visit the archaeological site of Tel Dan without actually traveling to northern Israel—and who wants to be shown around by a renowned expert who died 14 years ago—can now do so thanks to the wonders of virtual reality.

The VR version of Tel Dan, a site probably best known for yielding an inscription thought to be the first extra-Biblical reference to King David, was presented to the public in November at Jerusalem's Hebrew Union College and can now be accessed at UC San Diego.

After putting on a VR headset, "visitors" find themselves hovering over the Tel Dan ruins as if in a hot air balloon, then descending to ground level to explore the site at different periods of its history.

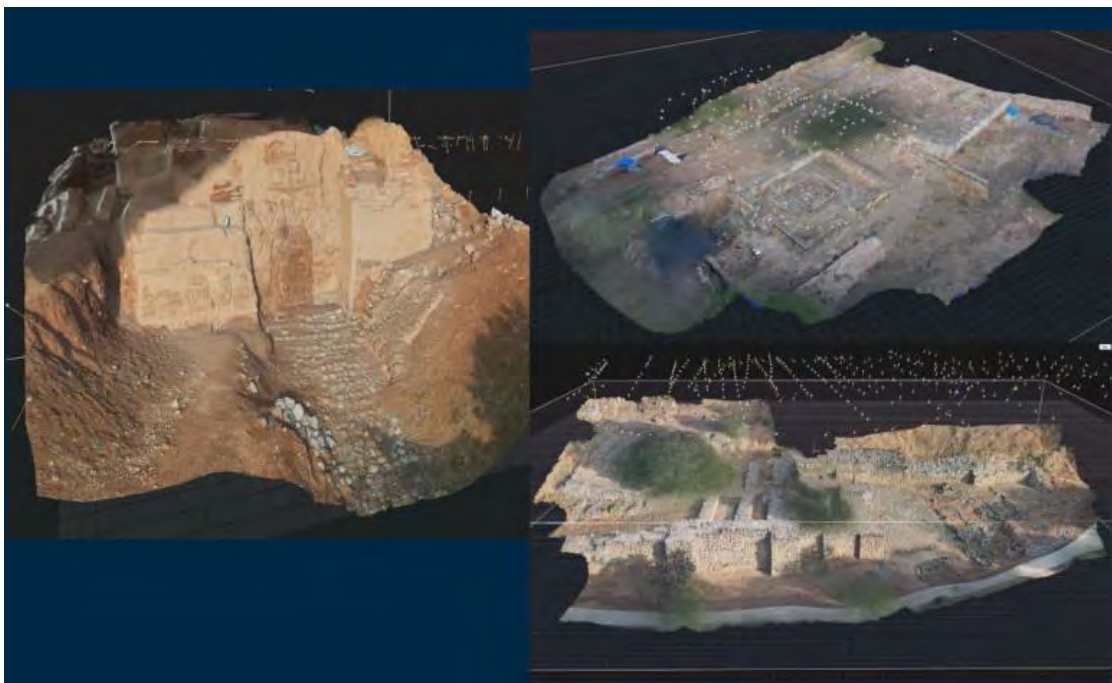Virtual reconstruction of the Middle Bronze Age gate at Tell Dan.

You can walk over to the stele with the famous inscription that mentions the "House of David," thought to date to the 9th century BCE, pick it up, and flip it over to see it from all sides. (This is a breeze in virtual reality, of course, where objects don't weigh anything.) The real inscription was found in several segments by diggers led by Prof. Avraham Biran in 1993 and 1994. The VR program also allows you to examine other artifacts from the site, like iron incense shovels.

Virtual reconstructions of the "House of David" inscription and other artifacts.
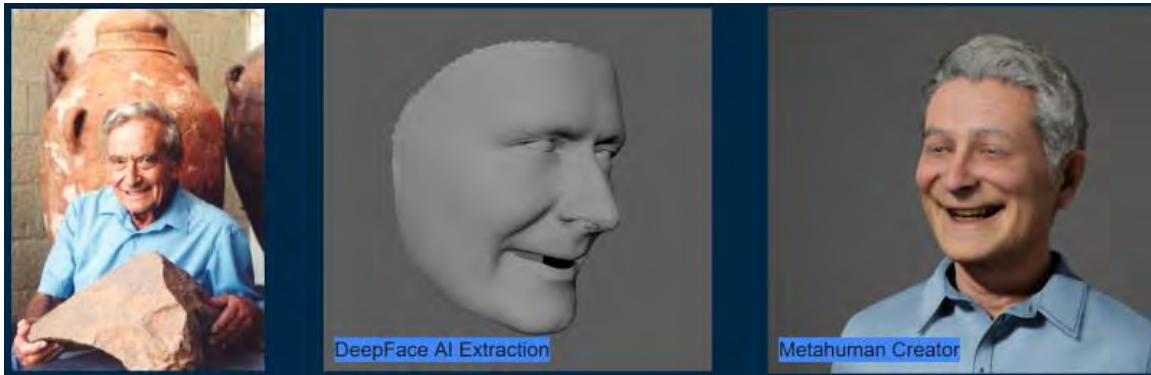
You can traverse the length and width of the ruins while being guided by an eerie computer simulation of Prof. Biran, who spent decades excavating Tel Dan before his death in 2008.

The new project is the work of a team led by Prof. Thomas Levy and Dr. Neil Smith, co-directors of the Center for Cyber-Archaeology and Sustainability at UCSD. Their efforts include a careful recreation of the ruins based on footage shot by an Israeli drone pilot, Yitzhak Marmelstein.

They also recreated Biran's voice, accent, and mannerisms using an AI technology known as "neural networks." The team's technicians took a recording of a speech Biran once gave to the Biblical Archaeology Society and fed it into the AI program, which matched the sound of his voice to a script

written by Prof. Levy. The American archaeologist worked as Biran's assistant in the 1980s and early 1990s.

"VR is the ultimate tool for sharing and conserving archaeological data," Levy said. "It enables people to experience cultural heritage sites from any Xbox or gaming computer, without traveling thousands of miles."

The Tel Dan simulation is currently available at UCSD's Qualcomm Institute, and Levy's team plans to make it available in the coming year in Israel at both the University of Haifa and Hebrew Union College.

Matti Friedman is a Jerusalem-based journalist and author of several books, including The Aleppo Codex (Algonquin Books, 2013) and Who by Fire: Leonard Cohen in the Sinai (Spiegel & Grau, 2022).

Images courtesy of Neil Smith and Thomas Levy.