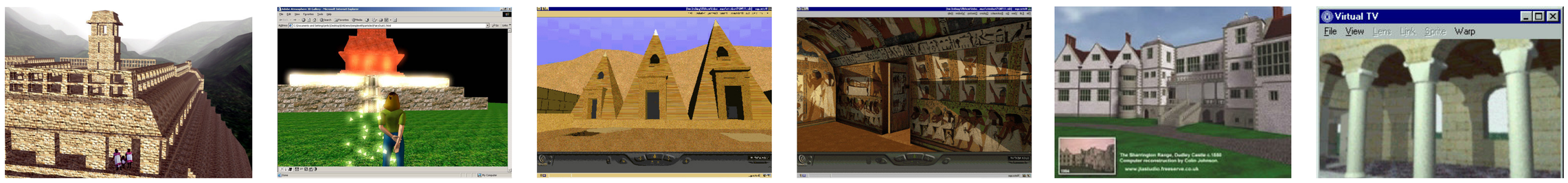
From VRML to WebGL:
Uses of Interactive 3D in Archaeological Outreach

Valentin Cotta · https: //linktr.ee/vcotta



Early VRML archaeological restitutions (Champion, 2003; Goodrick, 1999; Terras, 2000; Tost, 2004).

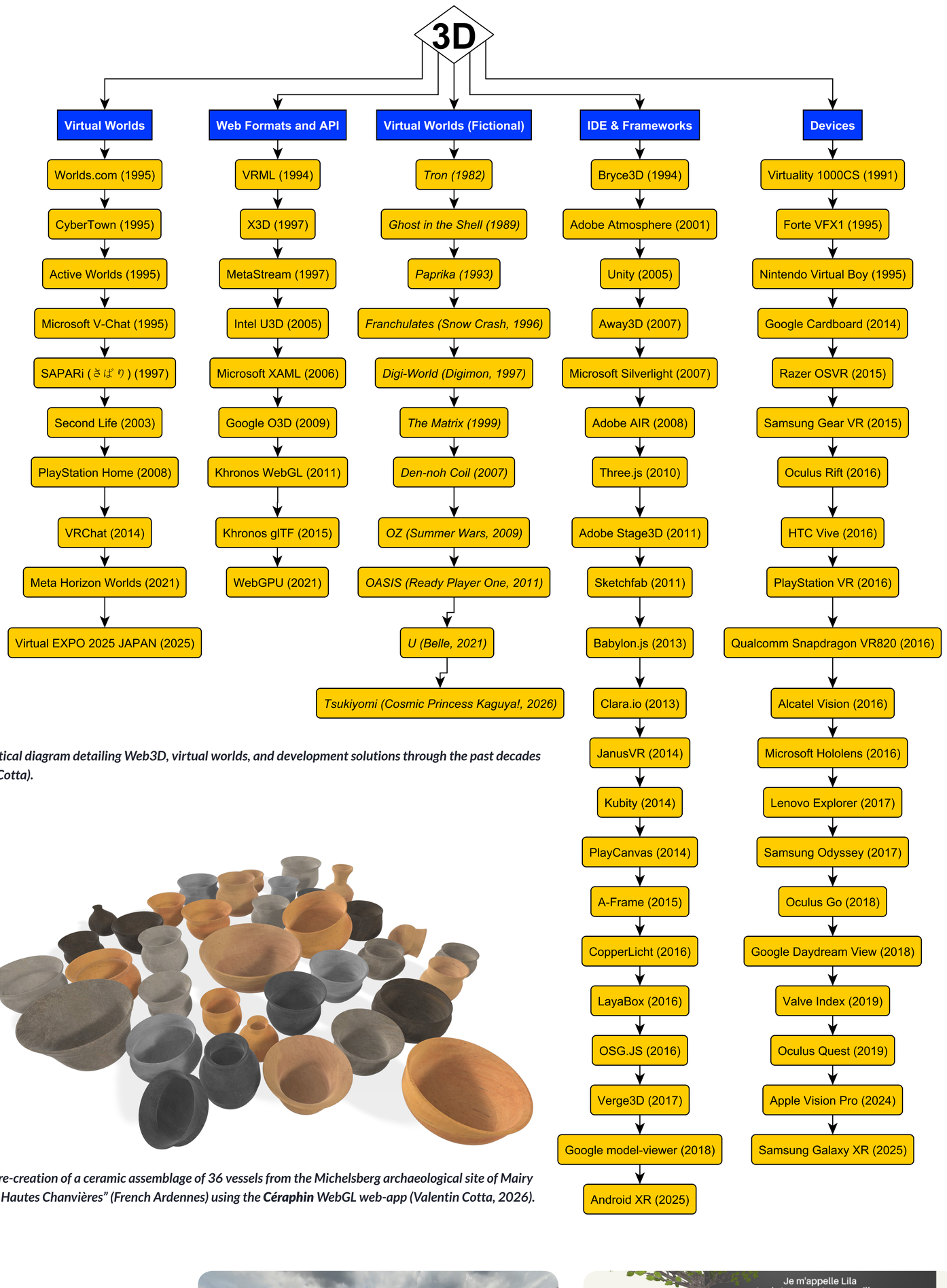
The humanities -and in particular archaeology- have always found ways to appropriate new technologies.

In archaeology, 3D's key advantage is that it links research with creation, and allows the two to continuously feed into each other. Creating a three-dimensional representation brings what once was back to life, helps answer certain spatial and operational questions, but also helps raise new ones. 3D therefore lends itself both to "research-creation" and to "creation-research."

Instant access to virtual reality environments was one of the ambitions of the early thinkers behind the World Wide Web. In 1994, VRML (Virtual Reality Modeling Language) presented at WWW1 (the First International Conference on the World-Wide Web) made it possible to display 3D scenes in early browsers. The following year saw the first working plugin for Netscape, and by 1997 the standard reached maturity under ISO.

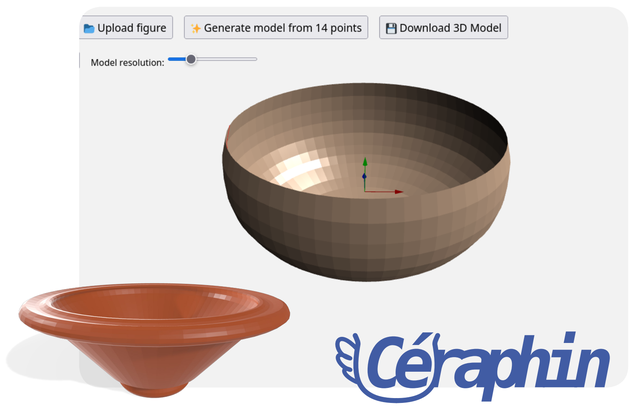
Web3D is therefore a powerful tool for archaeology, especially in a context of polycrisis, where culture is one of the first casualties of budget cuts and where digital frugality is promoted. Running it in a browser makes it multiplatform, universal, and enables instant sharing with a wide audience.

With this in mind, I developed several tools dedicated to archaeology, or rather "archaeomatics," meaning computer science applied to archaeology. These tailor-made tools first make it possible to automate certain tedious processes, such as modeling artifacts or reworking excavation plans-but they also allow innovation by creating interactive and augmented mediation solutions.

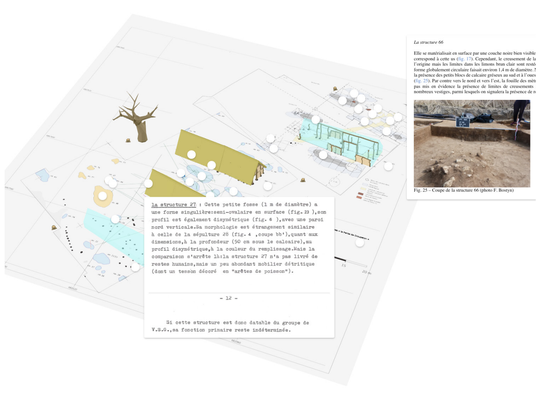


Vertical diagram detailing Web3D, virtual worlds, and development solutions through the past decades (V. Cotta).

*3D re-creation of a ceramic assemblage of 36 vessels from the Michelsberg archaeological site of Mairy "les Hautes Chanvières" (French Ardennes) using the **Céraphin** WebGL web-app (Valentin Cotta, 2026).*



"Céraphin", a Babylon.js web app to generate a 3D model of a ceramic piece from its outline:
https://vcotta.itch.io/ceraphin



"DioraMarne", a <model-viewer> solution to render and annotate archaeological sites from their maps and reports:
https://vcotta.itch.io/dioramarne-jablines-croupeton



"Archéo VR", an A-Frame tool to create interactive 360 views ofarchaeological digs and heritage places:
https://vcotta.itch.io/jablines-archeo-vr



"Tales From the Neolithic", a way to make archaeological storytelling using A-Frame and WebXR:
https://vcotta.itch.io/neolithique-ancien-vr-jeu-mediation

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