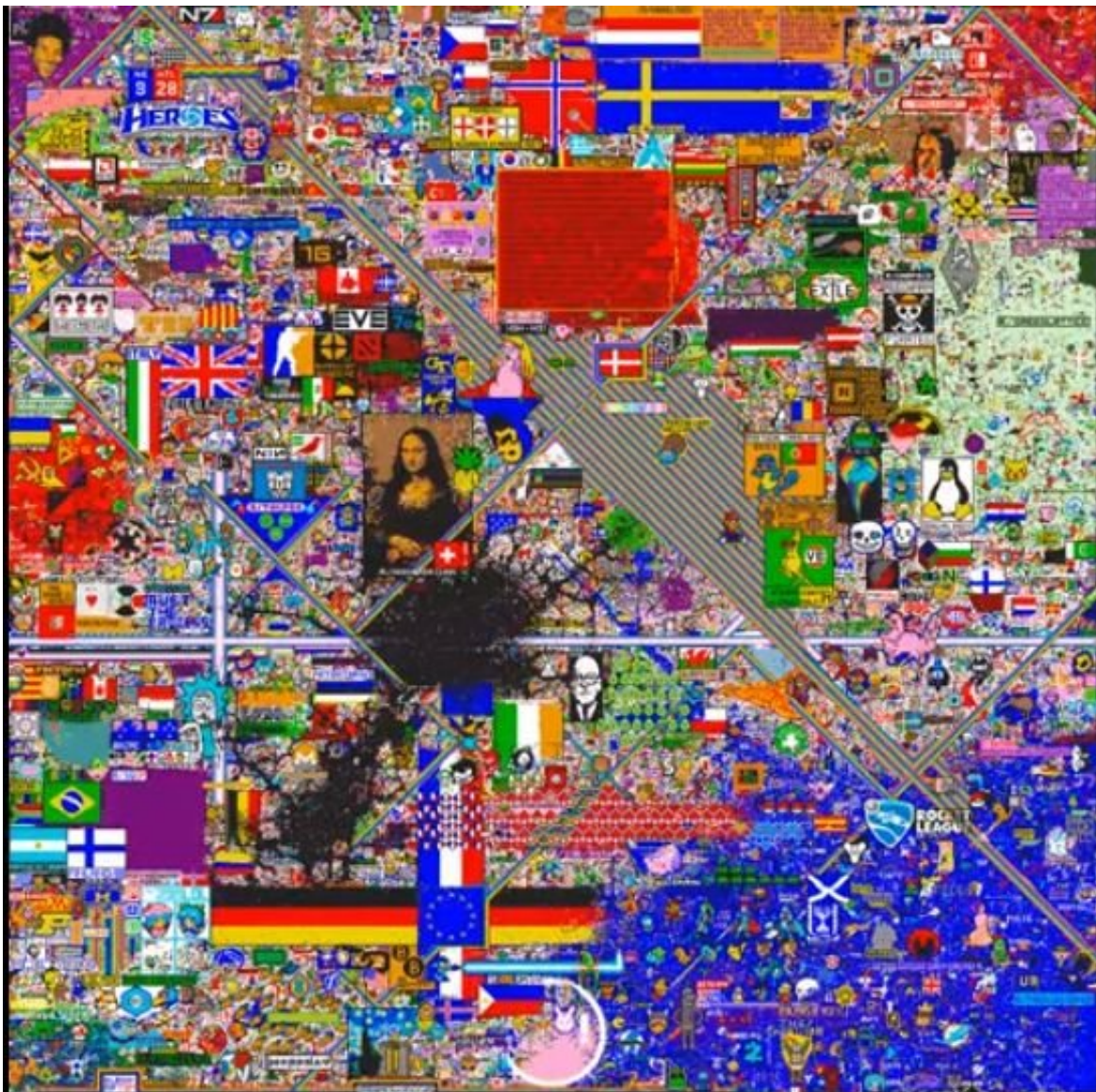


One million artists can't be wrong about cultural evolution

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Scientists researching the origins and evolution of graphic codes have turned to the popular web platform Reddit to explore how culture evolves. When a Reddit art initiative attracted over 1 million online participants, Thomas Müller and James Winters of the Minds and Traditions (Mint) group at the Max Planck Institute for the Science of Human History saw an opportunity to test the dynamics of cultural change.

Reddit set up a digital "canvas" on which any user could place one pixel at a time over three days. The canvas quickly filled up with thousands of pictures. Small groups had to learn to cooperate or out-compete rival teams of artists. In a paper published today in *PLOS ONE*, the scientists showed that the canvas became more structured and that artworks increasingly depended on one another for survival, especially as the canvas ran out of space.

Their findings corroborate the view that cultural change has a similar logic as biological adaptation. Winners are good at defending territorial resources but cooperation is the key to success.

"It's a bit like bacteria in a Petri dish," explained Müller. "With limited space and resources, the artworks end up forming a kind of stable ecosystem."

But culture, like nature, is red in tooth and claw. The tribalism of internet users was on full display with many artworks dominated by defiant nationalistic symbols. Australians, Estonians, Indians, and Americans and others, planted flags and defended digital territory with flair and gusto.

At the end of the first day, a "war" broke out between images of the French and German flags, and a truce was only reached with the subtle reconstruction of an EU flag repurposed from excess German pixels.

"It's a nice illustration of how the coexistence of competing groups is mirrored in adaptive visual structures," states Winters. "It's like saying, 'We're better off apart, but if you take a bit from me, and I take a bit from you, we'll be more secure overall.'"

More information: *PLOS ONE* (2018). [DOI: 10.1371/journal.pone.0202019](https://doi.org/10.1371/journal.pone.0202019)

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