Book Review: The Acceleration of Cultural Change: From Ancestors to Algorithms by R. Alexander Bentley and Michael J. O'Brien

In **The Acceleration of Cultural Change: From Ancestors to Algorithms***,* **R. Alexander Bentley** *and* **Michael J. O'Brien** *examine the fast pace of technological and cultural change today, contrasting our modes of knowledge exchange with those of early humans. Exploring rapidly changing traditions from ancient fairy tales to viral memes, this playful book gives great insight into the ways in which cultures are transformed and sustained over time, writes* **Jochem Kootstra**.

The Acceleration of Cultural Change: From Ancestors to Algorithms. R. Alexander Bentley and Michael J. O'Brien. MIT Press. 2017.

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In a data-driven age, in which 'fake news' is flourishing, one might ask: what is left of our ancestors' culture that gave rise to communities, collective imagination and a sense of belonging? In *The Acceleration of Cultural Change: From Ancestors to Algorithms*, R. Alexander Bentley and Michael J. O'Brien examine how culture is evolving in a linear fashion with the fast rise of technology. The authors succeed beautifully in exploring a timeline of rapidly changing traditions and other cultural significances, from ancient folktales and fairy stories, such as *Little Red Riding Hood,* to viral memes that are spread digitally.

We now binge-watch the most recently added series on Netflix but cannot keep up with the amount of new content on the platform. We view the show *Chef's Table* and learn about cooking, but we order takeaway food while watching and, at the same time, we check our phone to keep up with Donald Trump's latest tweets to have another laugh or rage attack. Bentley and O'Brien explore this acceleration of technological and cultural change, and argue that both go hand-in-hand in our global society. We now seem to learn more from our online network of 1,000 Twitter friends and Facebook timelines full of manipulated content than from the vivid stories of our grandparents.

This sets out two equally divided parts in the book, or generations if I may say: our ancestors with handaxes and the people of today with iPhones. The book highlights the *cultural transmission* of 'ideas, concepts, beliefs, and so on, within and between generations' (24) by comparing early humans that mostly relied on knowledge from experts (those who knew how to make those handaxes) to modern humans who rely on computational devices (that iPhone). Because of this, 'the shape of cultural transmission has changed dramatically over recent decades from one that is thin and deep to one that is shallow and broad' (xvi). Compare Neolithic feasts and potlatches with 'wealth, alcohol, cheese, and a Super Bowl-party mentality' (22). We tend to have little connection with the traditional knowledge of our ancestors. In this historical and speculative book, Bentley and O'Brien explore 'the implications for the future of cultural evolution' (xvi). Yet, they are not specifically pessimistic about this: rather, they face the challenges ahead in a data-driven world in which we are exposed to information overload.
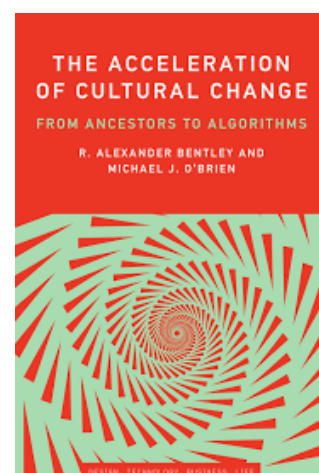
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Nowadays, as the authors observe, we have to zigzag through a lot of junk and fake news to sort out the meaningful truth. They argue that this leads to more content and inventions, but less impact or actual change. With this overload of information, it becomes difficult to 'select and drift', which is necessary to make room for creative thoughts and actions. By contrast, our ancestors had a much smaller pool of information. When we look at ancient folktales, such stories must pass across generations and 'effectively act as cultural agents' (27). The cultural transmission 'must be highly accurate, otherwise errors and/or embellishments would quickly render the story unrecognisable' (26).

Folktales such as *Snow White* and *Little Red Riding Hood* are two of the many examples Bentley and O'Brien use that fit that requirement: the others have faded away into oblivion. Also important is that 'the passage becomes shorter and easier to learn' (29) over time to stay current. This is obviously not the case in our data-driven age in which YouTube videos, shared identically, are novel forms of knowledge transfer or where the 140 characters on Twitter have been extended: 'In this social media scenario, cultural evolution reversed its direction by adding words rather than by subtracting them' (36). Besides, with all the multitasking and all the devices we use simultaneously, the stories we write are getting sloppier, the authors state. You don't mind a couple of spelling mistakes as you set up your sixth IoT-device in your house while replying to your demanding boss.

Although the way in which culture is being transferred is changing rapidly due to technology, the authors also write about the similarities between generations. Neolithic feasts do have similarities with a Super Bowl party, and early Bayesian-modeling can be compared with artificial intelligence and machine learning. The contrast and comparison of the two generations are dealt with playfully and amusingly, but it therefore feels somewhat exaggerated at times to strengthen the argument. The authors' take on the current day is highly focused on technology, whether described as an inseparable part of humanity – positively or negatively – or its promising possibilities for the future. Although we cannot deny the agency of technology, I wonder if our current generation really learns more from Minecraft and fake news – what about education and loving relationships?

But as an outcome of this technology-driven book, an important question to ask in a data-driven world is what we are going to do with all that data. We have somewhat blindly given personal information to companies that can now make future projections or, for example, select suitable health care packages that should benefit us. But like the farce of the democratic ideology of the internet has showed us – think of the political manipulations of data on social media – caution should be exercised if we want algorithms to transfer the 'highly accurate' cultural heritage to next generations, instead of 'embellishments' such as popularised fake news that could end up being considered more meaningful than the truth. Paradoxically, though, artificial intelligence that now sorts and spreads the most popular and personalised content on your Facebook timeline is at the same time one of our best tools to 'select and drift' the meaningful culture we would like to pass across generations.

So, can we evolve toward a data-driven age in which we use computer algorithms to decide who we are, what we like and what we should be in the future? Governments and companies – like the 'frightful five' of Amazon, Apple, Microsoft, Facebook and Alphabet – already control too much of our data, which could easily produce a new set of values and culture as they become the modern-day experts. But, as the authors elaborate wisely on data usage, 'instead of using big data to predict collective behaviour, perhaps we should use it to understand that behaviour' (99). Here it becomes problematic though, as human behaviour seem to be like a passage fading away into oblivion in the second part, or generation, of the book. The authors suggest that in the future, artificial intelligence is the best means to vet information overload and favour predictive algorithms to be used to predict 'wealth, conflict and health' (122). But like governments and the 'frightful five' have managed to monopolise that which started as a free, libertarian and unregulated market, I would not underestimate human behaviour that easily.

Let's hope that this is the last generation of fake news and data manipulation. And that the future of cultural evolution depends on reliable, deep, thin knowledge with a more humanistic data-driven approach. This book offers an intelligent model for predictions on culture, and connects historical dots to tell us something about future events. But, as the book also explains, that future remains impossible to predict. Yet, knowledge of the evolution of culture and technology does offer a great insight on how culture changes and survives over time. And the authors succeed in presenting this in this playful book.

Jochem Kootstra graduated cumlaude in 2017, researching the interdisciplinary relationship between technological engineers, posthuman artists and technology. With that, he won the Johannes van der Zouwen Master Thesis Award in the field of social sciences. Currently, he is engaged with a research on subject-object relationships and he is working on a PhD proposal regarding the blockchain technology, posthumanity and the anthropology of trust at the department of Social and Cultural Anthropology in Vrije Universiteit, Amsterdam.

Note: This review gives the views of the author, and not the position of the LSE Review of Books blog, or of the London School of Economics.