

## The New Evolution

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My suggested titles were “The third replicator – or why we are no longer in control” or “AI is evolving for its own benefit, not ours” (*in the end, the New Scientist called it “The New Evolution”*)

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We human meme machines are in trouble. We have let loose a new evolutionary process that we do not understand and cannot control.

The latest leaps forward in AI with its large language models, deep fakes, and counterfeit people are rightly causing anxiety. Yet people are responding as though AI is just one more scary new technology, like electricity, cars, or nuclear power once were. We invented it, so the argument goes, so we should be able to regulate and manage it for our own benefit. Not so. I believe this situation is new and serious and our survival is at stake.

My thinking starts from the premise that all design anywhere in the universe is created by the evolutionary algorithm. This is the simple three-step process in which some kind of information is copied many times, the copies vary slightly, and only some are selected to be copied again. The information is called the replicator and our most familiar example is the gene.

But genes are not the only replicator, as Richard Dawkins stressed in his famous 1976 book *The Selfish Gene*. People copy habits, stories, words, fashions, technologies, and songs; we change, manipulate, recombine, and pass them on in ever greater variety.

This second replicator, evolving much faster than genes ever could, he called ‘memes’ and they are selfish too. Once I had fully grasped the idea of selfish memes, I realised how profoundly it changes our notions of human minds and cultures. I wrote *The Meme Machine* in response. In this new view, we are the meme machines, and memes compete to use us for their own propagation, creating not just silly videos and maddening adverts but all of our rich evolving cultures. Of course, we humans try to select only those memes that make us happy or healthy or are good for us, but the memes themselves don’t care because they can’t care.

As we face up to the recent explosion in AI, new questions arise that both fascinate and worry me. Could a third replicator piggyback on the first two? And what would happen if it did?

For billions of years, all Earth's creatures were gene-machines until, about two million years ago, just one species – our ancestors – started imitating sounds, gestures, and ways of making fires or processing food. This might not seem momentous, but it was. They had inadvertently let loose a second replicator and turned us into meme machines with dramatic effects on the rest of life on Earth. Following the same principle, could a third replicator emerge if some object we produced started copying, varying, and selecting a new kind of information?

It could and I believe it has. Our digital technology can copy, store, and propagate vast amounts of information with near perfect accuracy. While humans have mostly been selecting what to copy, remix, and share, that is fast changing now that mindless algorithms choose which adverts we see, which news stories they 'think' we'd like, and even which conspiracy theories we might fall for. AIs equipped with language processing and varying 'personalities' become ever harder to distinguish from real people as they compete with each other and with us to get our attention, and the successful ones are not necessarily the most benign. Even though we built this amazing digital world for our own purposes, once a digital replicator takes off, its products will inevitably evolve for their own benefit, not ours.

All is not lost though. We already cope with fast-evolving parasites such as viruses and bacteria using our immune systems, sewage systems, medicines, and vaccines.

Now we need to build our collective mental immunity, our critical thinking, and our ability to protect our attention from all that selfish information that tries to exploit us. Taking lessons from evolution, we can stop imagining that we are the controllers of our accidental offspring and start learning how to live with them.

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