

Chiang, Ted. *Exhalation: Stories*

New York: Knopf, 2019, pp. 368

Of the contemporary sci-fi writers, Ted Chiang is perhaps the best in business who successfully merges philosophy with science. In the cosmologies Chiang create in his stories, he weaves narratives where technological artefacts have deep philosophical and existential consequences for the characters. Unlike typical hard sci-fi writers, Chiang is not interested in the nitty-gritty and mechanisms behind doing science. Rather, he is interested in the pursuits behind science and the implications it has for our sense of self. As is typical of Chiang, he will speculate a technology radically changing one's subjectivity and perception of reality. Rather than answering questions and taking sides, Chiang mostly raises questions and plays with his readers' thinking.

Making it to *The New York Times* 10 best books of 2019 and Barack Obama's favorite 2019 reading list, Chiang's *Exhalation: stories* (2019), a newly published collection of thrilling stories, engages with a range of themes, such as, determinism and free will, time travel, extraterrestrial intelligent life, embodied robots, bioethics, mind uploading and quantum mechanics.

In "The Merchant and the Alchemist's Gate", the first story in the collection, Chiang speculates a pair of gates, where characters pass and either travel back to the past or forth to the future, where "anything that goes in or comes out of one door will come out or go into the other door a fixed period of time later". Inspired by the physicist Kip Thorne's experiment of a time machine based on Einstein's Theory of Relativity, he purposefully chooses a Muslim setting in ancient Baghdad and Cairo "because acceptance of fate is one of the basic articles of faith in Islam", writes Chiang in his story notes. Following the "tales within tales" convention of the "Arabian Nights", Chiang's characters travel to both the past and the future but cannot change anything. In the mainstream Hollywood sci-fi

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movies, characters typically travel back to the past and change it, but in the cosmology created by Chiang, not being able to change the past is not “necessarily a cause for sadness”. “Past and future are the same, and we cannot change either, only know them more fully,” the narrator explains. “My journey to the past had changed nothing, but what I had learned had changed everything. . . . Nothing erases the past. There is repentance, there is atonement, and there is forgiveness. That is all, but that is enough.” Thus, Chiang’s *Time Travel* is not about fixing the past; rather, it is about having an insight of “a single, self-consistent timeline”. The narrator *choose* to travel into the past, however, he is *determined* not to change it.

The interplay between fate and free will is also the theme of “What’s Expected of Us”, a very short and thrilling story of the collection. In the story is a gadget called “Predictor” consisting of a green light and a button. The light flashes one second before the button is pressed and thus dismantles the concept of free will. There is no way to deceive the device. This is utterly shocking for some people, to the extent that they go into the state of “akinetik mutism, a kind of waking coma”. According to the narrator, some people going into akinetik mutism while others not “just highlights the importance of making a choice”. Chiang himself believes in the philosophy of compatibilism pioneered by the philosopher Daniel Dennett. It is the idea that both free will and determinism are compatible with each other and are two sides of the same coin. Hence, the message the narrator gives is this:

Pretend that you have free will. It’s essential that you behave as if your decisions matter, even though you know they don’t. The reality isn’t important; what’s important is your belief, and believing the lie is the only way to avoid a waking coma. Civilization now depends on self-deception. Perhaps it always has.

“The Lifecycle of Software Objects”, a novella-length account of virtual beings called “Digients” trained and parented by their human trainers, is a story of emotional bond between humans and digients and the effects of technological determinism and consumer market primacy on their existence. It is a story about

biopolitics and bioethics. The digients face the threat of bodily changes and technological obsolescence due to “tectonic shifts” in the market. For digients to survive, they are forced to choose sex and sexual roles for themselves and be used as potential sexual partners for humans. Chiang also engages with the question of giving legal rights and personhood to AI. However, in the story notes, Chiang writes that before discussing legal rights to AI, they should be first treated with respect as conscious beings and be provided with training “equivalent of good parenting”.

The title story “Exhalation” is perhaps the most thrilling of the whole collection. A curious mechanical being, a robot, in a distant future auto-dissects his brain to find out the source of life. It ultimately finds out that air is the source of life, that the “universe began as an enormous breath being held” and, “[Air] is in fact the very medium of our thoughts. All that we are is a pattern of air flow”. There is a threat of extinction to the narrator’s civilization, however: the air pressure of the surrounding is increasing, “slowing our thoughts as a result”. Based on the second law of thermodynamics, once the difference between inhalation and exhalation of air is equilibrated, “all air will be motionless and useless” and we will “remain conscious but frozen, immobile as statues”. By drawing parallels with the environmental threat to the robot’s civilization, Chiang also shellshocks his human readers with the global threats of climate change and global warming.

Chiang is thus neither a utopian nor a hopeless dystopian. His stories are abounded with “the milk of human kindness” and empathy even for non-human lifeforms. He makes us marvel at our existence with other species and speculate a posthuman world where all are passengers of the same boat, where both humans and non-humans face the same existential threats. The coping mechanism Chiang’s robot narrator offers in the final valediction is to “contemplate the marvel that is existence, and rejoice that you are able to do so. I feel I have the right to tell you this because, as I am inscribing these words, I am doing the same”.

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