

Book Review

Micro

Michael Crichton and Richard Preston

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Although he died in 2008, prolific science novelist Michael Crichton – acting as a ‘ghost-writer’, so to speak – continues to add new titles to his oeuvre. Notwithstanding the death of the author, his novel-producing machinery refuses to come to a full stop, - although in this case Richard Preston (a science novelist in his own right, author of, among others, *The Hot Zone*, on viral infections) was recruited to finish the book.

MICRO – a title that almost reads like the acronym of the author’s name - has all the ingredients of the standard Michael Crichton formula:

1. A commercial high-tech firm (called Nanigen Micro-technologies) set up on a faraway tropical island (Hawaii) by a visionary but criminal entrepreneurial scientist (Vincent Drake);
2. His lover, the beautiful chief executive of the firm (Alyson Bender);
3. A team of enthusiastic and talented but also highly naïve PhD students, visiting the enigmatic laboratory;
4. A police detective investigating weird cases of suicide or murder; and
5. An enabling device, a futuristic but rather implausible technological novum, in this case a high magnetic tensor field able to shrink objects as well as organisms from normal size down to micro-size.

The story line is as follows. Vin Drake, owner of Nanigen, visits Harvard to recruit a team of PhD students working in areas such as entomology, pheromone and plant hormones research, ethnobotany, arachnology (spider science), and the like. He invites them to come and work with him in Hawaii, where research is far more exciting and ground-breaking than in the boring and meticulously monitored science laboratories at their university. They fall into his trap and end up in his tensor machine, an apparatus that dwarfs them into micro-humans, half an inch tall. In this state, they disappear into the small-scale jungle of a tropical environment, after Drake first unsuccessfully tries to feed them to one of the snakes in his research animal laboratory. They are, sometimes literally, swallowed by the micro-world, struggling to survive among unknown hazards and terrors, strolling around as edible and unprotected packages of protein, facing a dangerous biological environment in which they no longer represent the top of the food chain. Thus, they become the eyes, ears and nose of the author, allowing him through their vicissitudes to paint a vivid picture of life in the undergrowth, among the mites, ants, spiders, beetles, centipedes and nematode worms.

Thanks to their minuscule size, an unknown world close to the soil, an unexplored dimension of nature is revealed to them (or rather: through them, for they basically function as living magnifying glasses). The novel reads like a nature documentary, not unlike David Attenborough's BBC series *Life in the Undergrowth*. The soil emerges almost as a living organism in its own right, as a world teeming with living beings (insects, mites, nematodes etc). Readers follow a small band of vulnerable humans step by step on their journey into the heart of nature, the tiny kingdom of horrors, a world of unseen wonders, a labyrinth of threats. Plants and animals have developed a wide range of toxic substances in order to survive in this lively and unpredictable environment dominated by biochemical warfare. Rather than their eyesight, these living creatures use other sense organs to explore their surroundings. The tiny human visitors/invaders are first of all overwhelmed by the omnipresence of scent. Smell is the universal language of this violent Eden. A wasp larva, for instance, attacked by humans, screams for help in a language of scent, and creatures recognise one another through their unique fingerprints of scent. Sound is also important. Organisms use sound to form 3-D sonic images of the entities they encounter. And at night terrible bats come out, using ultrasound, hovering in the dark like submarines pinging in the deep.

Yet, even more threatening and frightening than the natural hazards are the threats from human technology. Nanigen has developed nano-robots that can enter human bodies, cutting our organisms to pieces from the inside. At one point, Vin Drake, the bad genius, is attacked by his own creation, the nanobots. His laboratory is destroyed, but a smart capitalist, representing a big pharmaceutical company, copies the technology onto a storage device.. As one of the characters phrases it: "You know that with technology, once a thing is invented, it never gets un-invented" (p. 532). From now on the threat will be there. And this raises of course the issue of dual use: the nanobot technology may be used to cure people (in hospital settings, the original purpose of the large investments made by the pharmaceutical firm) but also to destroy them (as weapons employed in biotechnological and nano-technological warfare - that is how evil scientist Vin Drake plans to make his money).

I already mentioned the stock characters typical of Michael Crichton's novels. In *MICRO* there is one addition. A new type of character is cast, namely a student representing the field of Science and Technology Studies. This is how Crichton introduces him:

Danny Minot was getting a doctorate in science studies, a mélange of psychology and sociology, with liberal doses of French postmodernism thrown in ... he quoted Bruno Latour, Jacques Derrida, Michel Foucault, and others who believed that there was no objective truth, only the truth that's established by power. Minot was here in the lab to complete a thesis on 'Scientific linguistic codes and paradigm transformation'. In practice it meant he made a pest of himself, bothering people, recording conversations with the other grad students as they did their work. They all despised him (p.41)

In fact, in the course of the novel, he becomes increasingly unsympathetic. He has no interest in or knowledge about nature or life, is extremely self-centred and represents a constant source of danger to the survival of the team. In fact, Crichton's casting of him as a typical STS scholar is not unlike (or rather: remarkably similar to) the way the field was recently depicted by Marcel Kuntz in *EMBO Reports*.²

Crichton's novel is certainly entertaining to read. Various archetypal images (the monster, the mad genius, the explosion, the enigmatic machine, etc.) connected with science and technology are brought to life in a lively manner. And yet, the novel suffers from a number of weaknesses, both on the techno-scientific and on the narrative level. First of all, much more so than in novels such as *Jurassic Park*, the core technological device is implausible to such a degree that it becomes rather ridiculous. Although an interesting Gulliver-like thought experiment (or rather: sense organ experiment) is being conducted – what would it be like to be extremely small? – the technological dimension (a high-tech contrivance miraculously transforming PhD students into tiny toy soldiers) remains utterly childish. The same goes for the narrative dimension. Although in terms of style the book is written as a dramatic page-turner, the story becomes burdened by a number of increasingly unlikely over-the-top feats - tiny scientists taking turns in rescuing one another from the claws and mandibles of voracious giant insects - while the Bond-like plot is all too predictable.

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² Kuntz, Marcel (2012) The postmodern assault on science. *EMBO reports* 13 (10): 885-889.