

7 'A Short Story of a Short Life'

7.1 Overview

This speculative narrative is an illustrative work that examines the ethics of working with lifelike technologies. It was originally written for the online magazine *Organs Everywhere*, edited by Simone Ferracina (Armstrong, 2012e).

7.2 A Short Story of a Short Life

The tiny droplet crawled almost imperceptibly over the base of the petri dish. Rendell Stone wondered just how long she had now been watching it through the microscope lens. These droplets were a couple of millimetres big and extremely simple, being made from an emulsion of oil, water and an alkaline salt. When the initial chemical field broke up, this simple combination gave rise to an extraordinary result: droplets that exhibited lifelike behaviour. Admittedly, the lifelike behaviour of the system was relatively limited, but the droplets had an uncanny character and were able to move around and seemingly sense their surroundings by following invisible trails of unidentified chemicals in the medium. When they collided, they exchanged a strange kind of 'kissing' action. Usually the rather gregarious and somewhat affectionate beads of fluid had a lifespan of only several minutes but when she was at the microscope, Rendell felt as if she had been observing them for hours. Should she be disturbing these delicate moments of intimacy?

'Pull yourself together! This is a science experiment!'

she muttered, irked that the compelling and rather 'familiar' behaviours of the droplets had somehow disarmed her objectivity. Rendell reminded herself that everything could be explained using the language of fluid dynamics and principles of self-assembly but logic could not stifle their strangeness. The droplets gleamed personality back at her, no matter how hard she tried thinking about them in 'simple' material terms. Sighing, Rendell realized that she had missed the droplet she had been tracking. They could be surprisingly tricky to follow, especially when they began to shed a crystal 'skin' and turn from a droplet into a tadpole-like structure, since they had a tendency to suddenly speed up – another endearing quality. After a short, systematic search, Rendell returned the droplet to the field of view, where it was still heaving and pushing its way to an unknown destination. This time it was moving with a 'swimming' action since the droplet had grown a 'tail', which made the whole complex sway from side to side. For a fleeting moment, she wondered how she would confirm that she had retrieved the 'right' droplet, but grew distracted by

a conversation about lunch that was taking place in the corridor. Now she wished she had been content to let it disappear from view. Rendell grew impatient at the persistence of the tiny tadpole, which glittered appealingly, and decided to follow the fading voices before she perished first from lack of food. She left the digital video-recording system ‘on’ to capture the droplet’s demise and trailed the others down to the canteen.

‘Hey Rendell! How’s it going?’

‘I’ve been watching droplets travel around a petri dish.’

‘Great! You’re only doing real science when it’s tedious or if it doesn’t work!’

‘I’m having a wonderful day then!’

The laboratory was on the first floor by an open courtyard where most of her colleagues went to light up cigarettes after lunch. On returning to the microscope, she could smell the smoke filtering its way through a leaky window seal. She drew the curtain around the microscope to keep out the brightening sunlight and prevent the fumes from ‘poisoning’ her experiments. Rendell decided to save the movie file that had been left running during lunch, before the computer ran out of disc space. She hadn’t considered there was anything unusual about the abandoned droplet, but as she glanced into the viewer she was surprised to see it still throbbing at the centre of her field of view. Its tail had expanded so much that it now resembled a barnacle and was anchored to the bottom of the petri dish. She stared through the viewer waiting for the droplet to stop pulsing while the files were loading and converting. Its oscillations appeared less frequent and vigorous than before, so Rendell concluded that the changeling droplet would soon ‘die’.

It didn’t. The tiny droplet continued to glare back at her, defiantly moving in its new casing, slightly but regularly as if quietly ‘breathing’.

Rendell glanced at the clock on the wall, which appeared to be holding its bored institutional face despairingly in its hands. She wished that she had made a proper note of the time. When the software finally stopped spitting out lines of ‘dots’ that promised a calculation was ‘in progress’, Rendell started the camera recording again and went to find her supervisor.

‘Do you have a moment?’

Massimo Aomori’s back was visible through the open door of his study. She was aware that her supervisor had developed a protective mechanism against persistent interruptions by students. He simply did not acknowledge them. Determined to secure a second opinion, she took several loud steps into his room, and tried a different approach.

‘Would you recognize artificial “life” if you saw it, sir?’

Massimo's back drew a deep breath and spun around in a chair that turned twice, once at the pivot under its seat and again on the wheeled base. He leant forwards.

'Would you?' he challenged.

'I'm not sure! But I'd like your opinion on something. I'm chewing up lots of disc space making a recording of a droplet that just won't ... well ... die!'

Massimo laughed. 'Are you telling me that you've already created life in the lab from scratch?'

'Well, I don't think I "created" it! It self-assembled. I've been observing it for hours now. This is definitely out of the ordinary as this particular chemical system is usually completely spent after ten minutes. So, *something* odd is happening!'

'Okay! Now that I am interrupted, let me take a look!'

Rendell picked up a pace on her return to the microscope bench. Although she'd spent most of the day wishing that the tediously persistent droplet would stop moving, she was now concerned that all she might have to show Massimo would be an inert lump. She shut her eyes as she approached the viewer, willing the droplet to 'live'. When she finally opened them, she was relieved to find it winking at her – right at the centre of the field of view. It was smaller than she remembered and had broken free from its broad-based 'shell'. It lazily circled the base of the mineral deposit in a way that reminded Rendell of the way glimmering fairground goldfish patrolled their plastic bags.

'It's still there! Thank goodness!'

Massimo squinted into the lens and changed the fine adjustment on the eyepiece.

'Mmmmm!' he observed.

'What do you make of it?' asked Rendell eagerly.

'How long has this been moving for?'

'Around two hours now.'

'Okay. It's hardly "evolution" but it's interesting. There must be something different about this droplet from the others. You need to find out why.'

Massimo became engrossed in surveying the details of the petri dish, deftly navigating the fine focus controls around the microscope stage.

‘But how do I go about trying to establish its difference?’ asked Rendell.

‘Well, that’s the problem. What exactly is it about “life” that is worth measuring?’

Massimo muttered as he studied the mineral traces.

‘It’s ...’

Rendell paused, realizing that she hadn’t thought that particular issue through. She needed to.

Massimo continued.

‘The next problem is that the techniques we use to measure “life” in science require us first to “kill” and process them.’

His hand momentarily splayed while he appeared to be taking note of something.

‘But the chemistry of the system must change when it is killed!’ objected Rendell.

‘Correct!’

Massimo added, changing a lens setting.

‘That’s exactly the moment science waits to document. The difference between life and death.’

Rendell rolled her eyes in exasperation.

‘So what should I do?’

Massimo smiled and tilted his head thoughtfully.

‘Well, if I were you, I wouldn’t rush to make any measurements. Not until you really know what you’re looking at. Why don’t you start at the beginning?’

He returned the microscope back to the magnification setting that Rendell had been working with.

Rendell was puzzled.

‘The beginning of what?’

Massimo stood up straight and stretched his back.

‘The beginning of the scientific experiment, of course! You must establish what you’re doing by trying to prove yourself wrong. “Falsification”. If you fail to prove yourself wrong, you’re on the road to being right!’

Rendell hated these riddles and wanted clarity. Annoyed by his apparent equivocation, she demanded practicality.

‘So, how do I do that?’

Massimo’s back replied.

‘Rigour. For starters, you need to be sure that the movement you are seeing isn’t due to mixing of the oil and water layers under the heat of the microscope lamp. You also need to prove that airflow across the surface of the fluid isn’t causing the droplet to move.’

Rendell sighed deeply. She wanted to ask her supervisor that if ‘life’ wasn’t something that could be objectively ‘measured’, then what was the point of taking these ridiculous ‘control’ measures in the first place? Instead she inquired,

‘So, what should I use?’

The back was already leaving as it announced,

‘You’ll figure that one out yourself! I have a grant proposal to write. Keep me posted!’

Realizing that the camera had been left recording all this time, Rendell decided to save the data and started to convert the file so that it could be exported. At least this would release some working memory on the scratch disc while she figured out what to do next. Peering into the viewer, she noticed that the droplet was weak and almost stationary. Yet it continued to throb at the foot of the shell-like deposit it had grown earlier in the day. If it had been ‘alive’ then she might have described it as being ‘exhausted’.

Where on earth could she find a suitable marker to follow through on Massimo’s suggestion?

Golden afternoon rays started to lick their way across the microscope bench. Rendell wandered over to the window as the movie files were being rendered, and stared down into the courtyard. A group of smokers were huddled around a door that opened out to the courtyard, trying to protect their cigarettes from being extinguished by the wind. A burst of dandelion seeds was stirred upwards past the window, where a few of them settled for several moments before being hurried on again by a gust of wind. Rendell realized that these seeds would be a perfect indicator for any airflow over on the surface of the liquid, and she raced outside to try and catch one.

Although there were many weeds between the cracks in the concrete scattered throughout the poorly tended courtyard, the task of gathering seeds was not so easy. None of the dandelion clocks appeared to be ripe enough to pluck a supply from. Rendell finally secured a fluffy parachuting body that was trapped by the roughness

of a wall in one corner of the quad. Approaching it carefully, she pounced, and triumphantly brought the precious structure back to the lab.

She placed the downy seed on the surface of the liquid, where it floated like a water boatman. But when she looked for the droplet under the microscope viewer, it was nowhere to be seen. She tried a systematic search, hoping that she'd just misplaced the droplet, but only found trails of crystal skins.

Rendell anxiously scanned the petri dish hoping that the droplet had strayed. She wanted the droplet to have found new energy as part of its series of strange transformations, but although she looked repeatedly, the petri dish was barren.

Oddly shaken by the loss of the lively droplet, Rendell searched for evidence in the video footage that she had just taken. Sadly, this suggested that the droplet had turned into a tiny crystal skin deposit. Rendell stared at the enlightening frames in disbelief that such a stubborn entity could ever be extinguished. The dynamic, pulsing, winking droplet had gone and had been replaced by a small inert barnacle standing on the foot of a bigger one. There was no sign of anything throbbing or moving in the vicinity.

As Rendell sadly cleared away the petri dish remains into the sink, she was unaware that a tiny, winking droplet, which had been tethered like a barnacle to the petri dish, broke loose and made its bold way into the depths of the laboratory plumbing system.