

From micro to macro - Dr Bogeyman's mistake

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It had been 20 years since the new generation of antibiotics had first been unveiled. Revolutionising medicine with high specificity, unprecedented evolvability and non-immunogenic responses everyone was happy. Well almost everyone that is! In a world where a 'golden bullet', whose importance rivalled the discovery of penicillin, was in such common usage nothing could possibly go wrong. This utopia was the predictions and hopes of millions in the past but only very few knew what was coming, only those in the know could begin to fathom their future that would soon become the present. Truly sooner than anyone could have ever imagined...

Our story takes place somewhere foreign but familiar, a place of learning where all of academia once sat. Hallowed halls and creaking floorboards abandoned to the test of time with species of *Aspergillus* blanketing the ceilings. Grand rotundas with peeling plaster, cold metal spiral staircases that echoed the footsteps of shadowy figures. Dripping rust turned the walls red, a stark contrast to the black and growing sludge that stained every last crevice.

A giant of a man adorned in a vantablack lab coat swung open the barely standing oak doors of the abandoned university library. With no hesitation in his step, he marched on proudly displaying a nefarious grin as a lone metal briefcase stood on its edge reflecting the one ray of moonlight fighting against the creeping darkness of a solitary cloud which extinguished the final gleam. Immediately taking his new prized possession, the mysterious fellow whisked away to his lab setting down the case and adding metallic goggles to his ensemble. The cloud departed and from its shift, the beaming light shone onto a single test tube but its contents unknown. Collecting reagents from every shelf, his plan would soon come to fruition and from his cold chapped lips his methods could be learned:

"Double, double toil and trouble my bunsen burns with effervescent bubbles. Primers go forward from three prime to five with a few more ingredients it will soon be alive. Bases join one by one until the DNA sequence is completely done. It's been so long time truly does fly, time to add my final reagent *Escherichia coli*!" Maniacal laughter filled the lab and yet something still didn't feel quite right. No reaction, no spark and definitely no boom to any normal scientist that's typically a good sign! However, this wasn't what our man was

looking for, he neared the window and pulled it wide open as he stared into the infinite void that was the night sky winds began howling and storms were brewing. The winds thunderously blew making the scientist stumble. A flash of lightning followed by a low bass rumble a second strike struck the lab catching the contents of his hand.

The solution became volatile almost aiming and spitting its now luminescent green precipitate. The supernatant spilled all over the floor eroding the concrete leaving barely a fume, but this didn't deter the man in black he had an obligation to stop whatever he had created from escaping. Breaking free from its confinement, the sentient ooze amalgamated with any and every reagent it could find. Sliding onto his knees and riffling through cupboards as the ooze started to take form into a bacillus rod-like shape. Bottles clattered and smash against the wall as they're flung behind looking for answers, anything to get in the way of this monster! Empty drawers lined the entire room but there was one last cupboard remaining, a dingle chance between life and death this all depended on the flip of a coin. As a last-ditch effort the final door handle was just in reach, fingertips grazing against the unpolished brass handles. The last door creaked open revealing its contents to be pens and paper taking one of each the man could do nothing but run away from his creation. The fully formed cylinder began to grow protrusions, vine like appendages emerged and began to wrap themselves around the man in black burning away his clothes fibre by fibre leaving him petrified. Having given up on survival, his life flashed before his eyes...

Newly found conviction in hand the man did nothing but struggle, claw and pull to be released and get some distance as the skin began to burn forcing him to let out a blood curdling scream. It still seemed futile, with his options limited he put pen to paper and wrote a letter of confession and advice to anyone who may find his last message. Whilst being dragged literally kicking and screaming, he folded the paper into an aeroplane and with his last few breaths managed to throw the plane out the window. Soaring through the sky pelted by rain, it struggled to make it further than a metre from the building. Unfurling from the sky, the paper landed spread out when snagged on a nail hanging from the ancient library door and it read as so:

'The fears of many have come to past a future of struggle where innovation is required. Through misuse and poor prescription a new threat looms over the horizon be careful all ye who enter this place! We are not safe, but there are ways round this that we have not yet even considered. Will you join the fight against these monsters, with effects still unknown? Will you fight back against the super bugs that are resistant to everything we know? I can only apologise for my error in judgement while one man may have caused this, microbial

resistance is a fight we all must share and take those steps together! I beg you please do
not let history repeat itself...

Forever yours,

Dr Bohemia Gerald Mandrake'

A.K.A Dr BoGeyMan