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Killing Schrödinger's Feral Cat

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Abstract

Animal experimentation is a highly emotive issue, yet rarely do we hear accounts of how the use of animals in lethal experiments impact upon those researchers involved. Although emotion has no part in the application of the scientific method, science has never demanded emotional nihilism or the abandonment of compassion from its practitioners. Yet the feelings that drive individual justifications, compromises and uncertainties are never the stuff of scientific papers; in fact, they are almost never discussed. Silence about these personal issues has played to the idea that scientists are largely ambivalent and impervious to such concerns. This is a significant misconception and an omission, not the least because ideas about what is right and wrong about our relationship with animals are not informed by purely objective information. The topic remains largely taboo and is seldom explored given that emotion and objectivity are often seen as the oil and water of scientific discourse. Problematically, attempting to describe how you feel about killing animals in scientific research using a dispassionate and objective approach is self-defeating. It is a little like trying to hide what it is to be human while considering how to be humane. This is the reason why I wrote an account that is unapologetically rich in personal introspection. It is a story about my own inner thoughts and conflicting feelings associated with animal experimentation undertaken to improve the humaneness of feral cat control. It is also an attempt to communicate the personal equivocality, the limbo, that can be experienced while attempting to reconcile what is ethical when confronted with the dilemma of Morton's fork in an environment where dogmatism is rife. Biologists in particular should aspire towards a more robust paradigm inclusive of their empathy for animals where a personal emotional context can be freely discussed. In science, dogma and killing without empathy are dangerous bedfellows. No biologist should ever carry the burden of killing for science too easily, because only a psychopath kills without emotion.

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Clive A. Marks

***Abstract:** Animal experimentation is a highly emotive issue, yet rarely do we hear accounts of how the use of animals in lethal experiments impact upon those researchers involved. Although emotion has no part in the application of the scientific method, science has never demanded emotional nihilism or the abandonment of compassion from its practitioners. Yet the feelings that drive individual justifications, compromises and uncertainties are never the stuff of scientific papers; in fact, they are almost never discussed. Silence about these personal issues has played to the idea that scientists are largely ambivalent and impervious to such concerns. This is a significant misconception and an omission, not the least because ideas about what is right and wrong about our relationship with animals are not informed by purely objective information. The topic remains largely taboo and is seldom explored given that emotion and objectivity are often seen as the oil and water of scientific discourse. Problematically, attempting to describe how you feel about killing animals in scientific research using a dispassionate and objective approach is self-defeating. It is a little like trying to hide what it is to be human while considering how to be humane. This is the reason why I wrote an account that is unapologetically rich in personal introspection. It is a story about my own inner thoughts and conflicting feelings associated with animal experimentation undertaken to improve the humaneness of feral cat control. It is also an attempt to communicate the personal equivocality, the limbo, that can be experienced while attempting to reconcile what is ethical when confronted with the dilemma of Morton's fork in an environment where dogmatism is rife. Biologists in particular should aspire towards a more robust paradigm inclusive of their empathy for animals where a personal emotional context can be freely discussed. In science, dogma and killing without empathy are dangerous bedfellows. No biologist should ever carry the burden of killing for science too easily, because only a psychopath kills without emotion.*

***Keywords:** Animal welfare, emotion, conservation, pest control, ethics, animal experimentation, wildlife*

The heart has its reasons, of which reason knows nothing.

- Blaise Pascal

A vast chain of keys jangles in the distance and remind everybody that they are working well into the night, as do the approaching footsteps and the musical tunes of codes being entered into keypads. Everyone looks up in unison as the security guard's pale face materialises at the square window in the laboratory door like an apparition on an old black and white TV set. Serious eyes scan backwards and forwards into our bright fluorescent-lit room as he snatches a glimpse of something he thinks he should probably not see. He avoids eye contact as he always does, then recedes back into the blackness and continues down the corridor switching off the remaining lights. As the clicks and jangles diminish I am left feeling like a guilty child caught doing something that he intuitively knows is wrong. Maybe this is truer than I can admit.

Quips, mock insults and gallows humour no longer fly about stark white walls and few conversations are held that are more than one sentence in length. The monotonous drone of an extraction fan now seems too loud to speak above, although it was hardly noticed earlier. At times the antiseptic-smelling air is full of the pinging and buzzing of alarms sounding from equipment that winks at us with red and green LED eyes. Clanks and deeper whirls of solenoids, pumps and servomotors initiate automatic calibrations and drain or fill white plastic containers that hold fluids that cost a small fortune. The subject of all this lies motionless upon a stainless steel table.

The feral cat's heart is starting to lose its metronome-like quality. Sometimes it seems to recover and pump confidently, only to falter once more. Inevitably, even beats are giving way to irregularities in rhythm and impulsive changes in intensity in fits and starts. Soon its brain will die. Although anaesthetised, it could well be running a feline marathon. Through my fingers I feel the chaotic tempo as I listen with a stethoscope. The beats are too rapid to count off out loud, so my brain silently spits out numbers and I watch the clock until ten seconds have elapsed, then multiply the count by six and call out the result; '260'. '260?' replies a white-coated laboratory technician with a serious tone, for he is a precise and careful man and an excellent technician because of it. I acknowledge him with a sharp 'yep' that seems far too casual

and he carefully writes down the number with the same cheap blue biro that he never seems to lose.

Numbers are all important; they are data and the reason why many feral cats have died so far and still more will. We gather the blood samples and machines generate the numbers that tell us what is happening to the inner world of a dying cat, then enter them into computers, scribble them on paper and print them out to be carefully archived. Humans watch the machines and the machine timers tell the humans when it is time to take another sample. It is a process that began when I anaesthetised, then poisoned the cat hours before.

The machines are strained and tired. Inevitably fine tubes will block, sensor surfaces will become dirty, gaskets will rupture, microprocessors and computers crash. New error numbers will flash and people will dive for service manuals and check lists that are waiting on tables and inspect notes stuck to walls to help in predictable emergencies. Like humans, the longer the machines are expected to do their job, the more fallible they will be. A machine that fails at a critical time sometimes means that the vacant staring eyes of a dead animal condemn us for killing it without gathering usable data. But the machines are more easily forgiven than humans when they err.

I tell myself that the death of this cat, like each cat killed before, must be a step towards a more humane way to control feral cats. In a human-orchestrated ecological tragedy, as most are, feral cats have irrevocably changed the Australian environment. Passivity in the face of this impact is likely to condemn many native species to oblivion. It is a classic case of Morton's fork where both action and omission are distasteful.

So I am using the cat's bodies as stepping stones, hopefully towards something better – if I am right. But there can be no certainty and the ever-present self-doubt is not easily diminished by the usual caveats of noble uncertainty and good intentions. Science may be impervious to regrets and self-admonishment, but I am not and animal experiments like this are a gruelling burden. If I get my science wrong I shall be felled once by the data and again by a sense of waste and futility. Even if I succeed I might deliver a more humane approach to killing an animal, an obvious good, yet a Pyrrhic victory that few will enthusiastically embrace.

In time I will remember a few cats quite clearly but forget most others. Some cats will leap out from the data in the future to remind me that they refuse to be rendered down to numbers in a river of data created from routine death. They will remind me that what I have done is always wrong on one level, even if on another it is the best of the evils on offer and probably better than doing nothing.¹ Only hindsight, perhaps when I am quite old and alone in reflection, will provide that answer. Today, life is full of the immediacy of wheels set in motion.

The countdown to the next blood sample gets closer and we wait for a burst of frantic activity. I swab a small shaved patch of skin on one leg with alcohol that allows me to see the vein more clearly; we are unconcerned with infection in a patient that we are trying to kill. Then I tear the paper backing off the syringe pack and do the same for a 23-gauge needle, pushing the translucent blue hub on to the tip of the syringe. Bins have begun to fill up with the enormous waste we generate with our laboratory experiments.

'How long?' I ask the technician behind me who operates one of the blood machines and timers.

'72 seconds,' comes a certain reply.

I look for a target around the cluster of small dark pinpricks where I have previously taken blood.

Even if it weren't anaesthetised, the cat would not be conscious now. The poison would have sent it rapidly into unconsciousness, but I go through a round of standard checks nonetheless. I snap my fingers in its ears and the pinna does not flicker. I take the cloth cover from the cat's eyes and gently touch the cornea with a gloved finger and the blink reflex tells me that there is still brain function. I pick up a probe and prick the footpads gently on the hind limb and there is no reaction.

With most of a minute remaining my mind wanders. I think of the putty men who stood a few paces from here as I did the same checks some months before when a different poison was used, that one that had been used for decades. Selective ignorance had been an effective anaesthetic of sorts; it had numbed empathy. Because you never really see what happens to a poisoned animal in the field; you have to want to know and then do something distasteful to find out. You have to force your eyes open, because what the eyes don't see the heart doesn't grieve.

When either the victim or the nature of its suffering is anonymous it is much easier to maintain a still pond of stagnant ethics.

'Look,' I said and pricked the cat's leg with the probe once again, 'it responds to painful stimuli,' and on cue the cat twisted about and pawed unsteadily at the place where it had felt the pinprick. It fell once again upon its side and convulsed in turgid spasms and then stiffened, relaxed then stiffened again as it slowly rolled onto its back and cried until too paralysed to vocalise.

The faces of the putty men were grim as they stood in their suits, disorientated, surrounding the cat that I had poisoned with 1080 hours before. Their faces turned ash white and their usual bravado evaporated.

This should not happen. Reams had been written and careers built upon fragile facts. According to the government websites carnivores do not suffer when they are poisoned with 1080. Yet, in truth, very few had ever seen the outcomes of using this poison on cats. We all knew that this was because no one really wanted to see.

The putty men stood and looked at what they had long championed.

'How long has it been like this?' asked one awkwardly, distaste frozen on his face.

'Hours,' I replied.

Shiny black shoes shuffled awkwardly on a scuffed laboratory floor.

I had pulled them out of a meeting not long before and they looked out of place standing in the laboratory in suits, bright ties and an atmosphere of aftershave. They would have looked even more out of place in the field where the poison was used; alien in fact.

They eyed me from time to time and gradually their looks accused me for permitting the suffering to continue. The suffering of just a single animal was to be burned into their brains just as the suffering of many had been burned into mine.

'It's had enough,' said one of the putty men, his face screwed up looking at the cat and head bowed as if seeking contrition.

'Yes, it's had enough,' agreed the senior putty man sternly, as if confirming a board motion and trying to re-assert imperious authority lost in the face of suffering.

The young laboratory technician looks emotionally exhausted. I had made him sit with the cat all morning and watch, taking notes, filming and recording the calls of distress. Being a helpless witness to suffering is confronting for all but the pathological. Before today he had widely advertised his contempt for cats, like so many young men who have grown up in the suburbs and discovered a love for the bush – and of course a nemesis.

Weeks back he had proudly shown me his new computer screen saver that shoots cartoon cats, replete with sound effects. He then put up a cartoon on the laboratory door where the experiments are done; 'I love cats – but I can't eat a whole one,' it said. I pulled it down, invoking the boogiemán by suggesting that if the ethics committee visits it might get us into trouble. They must be 'cat lovers' or 'bunny huggers,' he concludes, 'irrational and emotive.'

Eventually, I can't abide it any longer and draw two syringes from my top pocket and squat next to the cat. It was indeed enough. Even when it had been unseen and anonymous it had been enough. I anaesthetise the cat with an injection and get ready with the blue-green liquid in another syringe.

That afternoon the putty men would carry some of this burden back to their office tower in the city, where they would lean on filing cabinets and linger in tea rooms to whisper new gossip. Tempered collective nouns would replace once certain personal pronouns. 'We have no alternative,' they might say, 'unfortunately it is necessary for us to do this.'

At the same time I would sit with the young technician in my office where he would be embarrassed by his display of emotional vulnerability. Yet there had been many doubts, anguish and tears in my laboratory. He was not the first to be moved, nor should he feel ashamed – quite the contrary.

'It's part of the deal you see,' I tell him, 'that's the deal mate.'

'Time,' said the technician behind me, somewhat redundantly as three jovial beeps come from a timer and people emerge from their inner worlds. I flip off the transparent needle cap and it falls into the mass of others piled inside the yellow plastic 'sharps' container. Grasping the cat's front

leg I squeeze it firmly to block the blood flow and the vein becomes turgid. With the needle bevel up I thrust it into the vein, draw back on the plunger and the syringe fills with strange chocolate brown. With a jerk, the needle is withdrawn and the young technician pushes a swab over the leg and blots a small drop of blood away as I twist the needle off the syringe and discard it into the yellow plastic box. An outstretched gloved hand awaits and like a baton in a relay race I pass the syringe over and he gets to work.

The drug has now altered the cat's blood so that it no longer functions as blood should and the cat will quickly plunge into a yawning unconsciousness. This is the reason why the heart beats furiously and tries to pump the little oxygen remaining to the now starved brain.

Despite the euphemism that has the heart as the organ of compassion, the poets are wrong. The heart is the brain's slave and a responsible and reliable one. The brain cannot afford for the heart to miss so much as a beat; such an oxygen-hungry organ the brain is. If you are to kill an animal humanely you need to put the brain to sleep first, but the heart will fight you to the last. The heart does its best, yet the brain will die regardless. 'No brain no pain'; that's what this is all about.

A drop of blood has smeared on my latex glove — like a clichéd metaphor — and I blot it away with some paper towel. I know now what the old trapper meant and feel that he and I understand something that the putty men might never know.

The dingo has tangled itself up in the wire snare, hiding the best it could beneath a moss coated log; its body is twisted and contorted by a chain that pulls its legs in unnatural directions. It does not look us in the eye as we approach, as the trapper told me would be the case. Instead it looks guilty and stares into the darkness of the bowl beneath the log.

The grizzled trapper pulls out a snub barrelled .22 from an old leather satchel that might once have been his school bag. He fans the bolt and pushes a round into the chamber then leans over the log and into the space where the dingo hides so the muzzle is almost against its head. The dog is still, exhausted; knowing after long hours of struggling that there is no freedom to be won from any more effort. After a sharp 'crack' the dingo stiffens as if it had been given an electric shock, then slowly relaxes into tangled limpness. Blue smoke drifts towards me carrying

a familiar smell as blood seeps from a neat hole in the dog's head. Bracken is streaked with red and patches of soil shine with mirror black.

'A waste of another magnificent animal,' says the trapper pulling himself up, almost embarrassed, not the laconic man of moments before. There is no self-congratulation or triumphalism, even though we had inspected many empty traps and snares that day. Although this is the endpoint of what he does, it comes with a mix of success and regret that amounts to a numb anticlimax.

We stand in awkward silence and look at the dead dingo as the body is covered in the Australian death mask; a veil of sticky black flies. Those few moments had robbed us of something and we both feel it. They had diminished us somehow, yet there were no words to describe what we were feeling and no common language that two men involved in different types of killing might use. In case accidental glances might be mistaken for condemnation or emotion, we avoid eye contact.

Wading into the bracken the trapper detaches the twisted wire snare from the dead animal's leg and scoops up the dog in both arms. Flies swarm about him like angry bees, and then with a mighty lunge he propels the body into thick scrub. There is a hollow thud and dry sticks crack as the body rolls down the hill, to be tangled and consumed by the scrub, comfortably out of sight.

We walk back in silence along the dirt track to his truck where the tethered dogs in the tray are turning about in circles, excited by the scent of blood and the rifle shot. Some look at us with quivering anticipation, sniffing at the snare eagerly when it is thrown indelicately in amongst them.

It is then that I see that the trapper has the dingo's blood on his hands. He follows my stare, looking at the blood for a moment too, before wiping his hands down his trousers. Gravel crunches angrily beneath his boots as he turns to me, 'At least you see it. Ya know what I mean?' he asks. 'That's the problem with ya poisons, ya never see the animals ya kill and ya just don't know what happens to 'em. That just doesn't seem right to me. Ya got to see it,' and he stabs his head over towards where the dead dingo now lies discarded in the scrub, and I sense that he has more to tell, but no easy way to do it.

The trapper pulls a packet of 'Roll Your Own' papers from the top pocket in his red chequered flannel shirt and in a fluid motion licks his lips and sticks the paper to the corner of his mouth.

'But it ain't easy is it... for most people?' he says, an eyebrow raised with the fag paper fluttering in the wind, as he goes in search of his tobacco and a matchbox in his stained canvas trousers. 'Seeing it I mean,' he adds, 'That feeling too...' he offers without elaboration, lost for words again.

In a well-practiced routine he rolls a cigarette in silence and lights it and eyes me crookedly as the smoke from the match stings his eyes. 'But that's the deal. Ya gotta see it. That's what I reckon. That's the deal mate.'

A barrage of data spools out of one machine with the chattering of mechanical teeth. It is printed on paper reminiscent of ancient ticket machines that once vibrated atop the chromium rails of buses from my childhood. The most important figures are read out as I pat myself down looking for my pen. As usual I have misplaced it and scramble about in the plastic hoppers that contain the syringes and multi-coloured vaccutainers only to find it behind my ear. One number is all-important and I write an untidy running tally on a scrap of paper towelling. When it reaches a critical level I am going to 'euthanise' the cat or 'put it to sleep', to use one of the many euphemisms. We don't use the word 'kill' in the laboratory. I cannot call a spade a spade. Neither can I allow it to die by letting the poison run its course in the way that will happen in the field. Death cannot be the endpoint of an experiment, to use the sanitised vernacular, as the law says that you're not permitted to see the reality of the animal's demise here; or at least you need special permission to do so, from the Minister no less. Even the law seems to enter into a strange conspiracy to prevent the human heart from grieving too much over something no one wants to really see.

'They're bastards those feral cats,' says the corpulent little man with the pinched face. 'I spoke to the Minister in the elevator this morning.' He pauses to allow this information to impress. 'He hates cats too. He can't make it public, you know. Too many cat lovers out there who vote you see.'

I say nothing and look out his office window onto a cold Canberra greyness to where these cat lovers might live. He seems disappointed and disorientated, like a stockman who has offered you a cigarette only to be told that you don't smoke.

He fidgets a bit and then changes the topic, searching for some easy common ground. 'What I'm really worried about is that film Babe. It's going to make pig farming and feral pig control harder. People are irrational. That's the problem. Where do they think their pork comes from though?' His face pinches further in to a look that is midway between disgust and a glib smile as he jabs his thumb towards the window behind him. 'They would rather not know.'

I look some more at the almost bucolic scene of Canberra, towards the houses where all those people live who think their bacon is Babe. Yes, maybe people would rather not know, I agree.

'The animal welfare types use emotive arguments... tricks really. Distorting facts with emotion. Those anti-1080 people don't use science. It's all emotive stuff to them, no objectivity. After all, those cats are bastards. I hate them,' says the bureaucrat.

The shattering hypocrisy goes unheard by him and he continues.

'Look what they do to our wildlife. They don't think of that do they?'

It's impossible for me to be emotionally detached when I listen to life ebb away as I press the stethoscope against the cat's chest and the heart becomes ever weaker. The rain is pelting on the tin roof and I feel chilled as I enter the data into my laptop so that graphs and statistics pop up on the screen. Lines are fitted to a trajectory that predicts that brain death is only minutes away. I look at the different coloured points and try to remember which cat had yielded what numbers, but I have already forgotten. Lies, damn lies and statistics – and then there are animals who live in the cyber world...

We deal in different numbers. He uses statistics to predict the waxing and waning of animal populations. His are the numbers where individual animals exist as zeros and ones inside computers. They appear as lines on graphs and ascribe proportions, vectors and indices that do not convulse, cry out or look fearfully at you through cage mesh. They are killed by variables and there is never any need for digital blood to be spilled or to justify the ethics that require it to

be that way or not. Cyber animals end up being pulled to a bin with an electronic mouse while mine are lugged to the incinerator in heavy and still warm plastic bags.

My scientific edifice has cast an unwelcome shadow over his. It is politics of course; every discipline has politics fostered in the bar room star chambers where egos are defended and heretics identified. Sometimes this is the unfortunate nature of scientific consensus.

He has dropped names for most of the night; bluster and bluff to convince me that an insuperable weight of scientific opinion exists behind his words. He lists the luminaries and greyed eminences, as the mafia might outline the displeasure of various dons and Godfathers as a last warning before the hit.

'We'll never have a "tool" as good as 1080,' says the ecological modeller. He calls it a tool rather than a poison; it is another interesting euphemism for something that kills. 'That's why we use it and that's why we must protect it,' he says.

He has never seen a cat die from 1080 poisoning, yet reminds me that his work is the big picture. To him I'm dealing only with individual animals and this matters little on the scale of populations and ecosystems. It is ecological management after all, chemotherapy for the environment.

'Anyway, just look at what feral cats do to wildlife! They don't care about how our wildlife suffers, so why should we care if they suffer? Every good wildlife scientist hates cats,' he tells me. 'We have to educate people.'

Minutes drag slowly towards the next blood sample, and the machines behave themselves. I watch the anaesthetised cat's rapid breathing and I look to the black and white floor tiles at my feet. I've noticed before that you can't see blood drops on the black ones. It's a nice analogy. I walk a thin grey line between competing certitudes. Because it's easy to be principled, to be black or white, especially when you have never been confronted with the agony of compromise.

We made eye contact and I nodded in recognition as I left the scientific conference. On that cue she marched towards me with her nostrils flaring until she was inches from my face. 'Baby killer!' she yelled with a force that only grief could muster. I was shocked at first to hear an insult recycled from the Vietnam War days. 'Baby killer!' she screamed once more, this time

her body shook and her face turned bright crimson and I could smell her stale breath as she blocked my path. I smiled weakly and tried to walk on.

Baby killer? Maybe I should tell her that sometimes I think that I have betrayed everything that I once thought was clarity, sense and heart. But a baby killer?

I could have told her that as a boy I had often travelled to school on the number 6 tram on foggy Melbourne mornings with the signs that demanded that 'vivisection' be banned. One sign had cute kittens and puppies on it and of course got my attention. I had to ask what a vivisectionist was and when I was told that they were people who cut up animals when they were alive every fibre of my being was horrified to realise that heartless killers in white coats lived inside Melbourne buildings with macabre and unknowable motivations.

Flecks of spittle hit my face as the woman yelled again and quivered in rage. She had found her vivisectionist and there was murder in those black eyes as I pushed past her through the picket line thinking of those signs on the number 6 tram.

The cat teeters on the precipice. The next blood sample is due in two minutes and I do the checks, but even before I touch the cornea the blank staring eyes tell me that the animal is brain dead. The blink reflex has gone. The brain is irreversibly damaged and will never return, yet the heart is still beating; a trooper to the last.

'Call the time of brain death.'

'Twenty-two thirty-five,' says the technician standing at the blood machine behind me writing that number down with his blue biro.

I feel along the rib cage and count off the ribs and squeeze them gently. Beneath the tepid heart is pumping erratically. I prepare another syringe and take another quick blood sample from the leg, flicking off the needle into the yellow box and pass the sample behind me to the gloved hand that hovers. I am legally prohibited from allowing the heart to stop on its own accord. Now that the failing heart begins to flutter, I must stab it with another needle and inject it with another poison before it dies of its own accord. It is an undeserved indignity, but the fastest way to bring about its death. Some rational things are distasteful and the bitterness lingers regardless of the justification.

The 'green dream' is in the large brown bottle. It is the universal solution that ends suffering by ending life. It is both the friend and curse of veterinarians who used it far more often than their youthful aspirations once imagined would be the case. I picture the exhausted heart beating beneath the ribs and thrust the needle between them at a spot that my fingers have found. Pulling back on the plunger a plume of blood shoots into the iridescent blue liquid and hangs there in the syringe like a miniature nebula frozen within cold blue-green space. I depress the plunger and send the liquid into the heart that pumps it to the brain for only a few beats more before stopping. The cat falls limp into death as if it has suddenly relaxed. Muscles no longer resist gravity or work to hold the chest or face turgid. The feral cat seems to contort slightly and loose shape in death like a deflating balloon.

A feral cat is no less a mammal and its heart no less an incredible pumping machine and it is no less a tragedy to see it dropped into a yellow plastic bag by the youthful technician at my side.

We can go home now.

Soon, brake lights in the car park flash red into the corridor through the windows and heavy padlocks and chains rattle in the distance, as security gates are unlocked and locked again behind departing cars. People will return to homes with young children who have been told that their father or mother is working to stop cats from being hurt as well as trying to stop them hurting other animals. It is a simple if not facile explanation that seems heroic to a child, but twists a dagger of self-doubt each time their children proudly proclaim it in shrill and certain voices. That discomfiting mix of success and numb anticlimax known to the dingo trapper is familiar to us too.

I walk the darkened corridor to my office carrying a laptop with graphs of new data and the computer screen lights my way as I punch in access codes to various doors. Eventually, fluorescent tubes blink, buzz, cough then blind me momentarily. A photograph of the physicist Erwin Schrödinger appears along with his paradoxical cat in a box and a vial of cyanide on the opposite wall. According to this well known 'thought experiment' by the father of quantum mechanics, Schrödinger's cat is both alive and dead given the mysterious wants of quantum uncertainty. It is not until someone opens the box that the act of observation will determine its fate. Oddly, observation and knowledge about the manner in which an animal suffers at human

hands is similarly necessary to promote empathy. But that is not the reason why a physicist has pride of place in the office of a biologist.

In 1944 Schrödinger published a book called *What Is Life?* In it he explained the phenomenon of life better than any biologist had before. He noted that life defies the physics of the universe in a fundamental way as it runs contrary to Newton's second law of thermodynamics. Simply put, as the non-living world breaks down and decays, losing information and complexity, life goes in the opposite direction. All living things share this remarkable contrarian road, marching uphill against increasing entropy.

If you think about life as Erwin Schrödinger did, you are compelled to conclude that life can be no more malicious than gravity; it is a force of sorts. An adequate definition of life goes well beyond clichés and self-serving beliefs – that see animals locked in a human-centred soap opera of the villain, victim and vanquished – to a much bigger and as yet unclear picture. Life may be tenacious or fragile, rare or abundant and sometimes we humans have decided that it is pernicious, but all life is engaged in a common struggle for more life. For reasons that I cannot pretend come from a purely rational basis, humility seems appropriate in the face of such an enigma.

Biologists, it would seem, should never be too ready to glibly justify killing or diminish the impact that this has on them or others. Although emotion has no part in the application of the scientific method, science has never demanded emotional nihilism or the abandonment of compassion from its practitioners. Dogma and killing are dangerous bedfellows, particularly when the emotional consequences of killing are diminished or never spoken of. As Ghandi thought, science without humanity is one of the roots of violence. Surely our humanity as scientists must be measured by our capacity to empathise, as no biologist should expect to carry the burden of killing for science too easily. Because only a psychopath kills without emotion.

And that's the deal mate. That's what I reckon. That is the deal.

The Putty Men

They live here
The Putty Men
Who have new form for every day
But no shape known to themselves
Nothing ridged
No vessel to hold a soul
Or chest to cage a beating heart
They own no reflection
Or features chiselled by belief
Expedience a formless thing
That acquiesces
And surrenders to every mould and rent
At the whim of those who call the form
To the bidding of any cold hand that may beckon
No reason needed beyond task
The Putty Men need no warmth to give up their shape
Melting in places frozen and barren of principle
Becoming one with the low and level landscape
Pushed into life's craggy face
Smoothing cracks in truth
Filling the potholes of doubt

Notes

¹ Feral cat control in urban habitats can be achieved by non-lethal approaches such as cat owner education, neutering, fencing and humane trapping and euthanasia. However, the impact of extensive feral cat populations on some vulnerable wildlife species in many rural habitats in Australia encompasses many thousands of square kilometres and such techniques are both ineffective and impractical. As yet there are no viable fertility control techniques that can be used on such a scale. Accordingly, the objective of this research was to produce a method of lethal cat control for populations in extremely large and often remote areas. Specifically, the research described was undertaken to develop and calibrate a non-lethal experimental model to permit the development of a humane and highly cat-specific poison in a manner that did not require recurrent killing of animals in laboratory experiments to test it. The approach was developed to replace conventional lethal trials and it ultimately delivered a big improvement in laboratory welfare outcomes. Yet in order to calibrate the method some lethal experiments were unavoidable. The resulting poison was arguably a more rapid and less distressing form of euthanasia than the widely used humane trapping and euthanasia might typically deliver as it is rapid in action and not associated with the distress caused by prolonged and stressful periods of captivity.