

PRELUDE

Backstory to the Future

In a nutshell:

The Farcical Side >
First Universal Sigh >
Second Universal Sigh >
Third Universal Sigh >
Join the Chicxulub >
Rinse & Repeat

What on earth, on Earth?

Open your mouth wide
 The universal sigh
 And while the ocean blooms
 It's what keeps me alive.
 – Radiohead, “Bloom” (2011)³

The Stegosaurus stands at the stage lectern. Poised at maximum height, propped up on its front legs and stabilised by its tail protruding across the stage floor. With open mouth wide it ushers in the universal sigh, across to its fellow beings: “The picture’s pretty bleak . . . The world’s climates are changing, the mammals are taking over, and we all have a brain about the size of a walnut.”⁴

With this, our Stegosaurus composes a bleak picture of changeability and consequences, as well as his comprehension of same: the three parts that make up the universal sigh. Fellow dinosaurs huddle towards the front, listening in the dark with mouths closed wide. Earnest in inhaling the universe. Aghast at exhaling the universal sigh.

Then, the joke was on them: the dinosaurs did not know what was coming their way. Here lies the source of both the joke and the bleak outlook to boot: knowledge. But this joke is composed of subsequent layers, piled atop one another like fossil layers embedded in earth. Starting with the dinosaurs actually knowing what is coming their way. Knowing the world is unravelling in the wake of Chicxulub’s imminent asteroid impact (“the world’s climates are changing”). Knowing their dominion is ending. Knowing they are becoming endlings: the name given to the last live individual of any given species before it becomes extinct. Knowing evolution will continue apace with wholly new breeds of Animalia once the extinction event kills nearly all non-avian dinosaur species in one fell swoop from the heavens (“the mammals are taking over”). Knowing, despite the irony of knowing all of the above, that they are vastly outwitted, because in an infinite universe only infinitesimal knowledge may ever be known (“we all have a brain about the size of a walnut”).

These subsequent layers fell on the dinosaurs then as they now do on us: we know what is coming our way. Or at least the broad brushstrokes: climates are changing, species are disappearing *en masse*, and the proverbial mysteries of the

³ Radiohead, “Bloom,” track 1 on *The King of Limbs* (XL, 2011), LP.

⁴ Gary Larson, “The Picture’s Pretty Bleak,” from *The Far Side*, *New York Daily News*, 7 November 1985, 264.

universe remain infinite against our infinitesimal comprehension, even if a rock-melon-sized brain can unmask knowledge orders of magnitude greater than a walnut.

To boot, “the picture’s pretty bleak” in the brushstrokes that compose the following painting. But that picture is already well worn out: to read The News today is to dread the ticker tape parade of escalating death and destruction in the beleaguered more-than-human world. So there must be something else etched within those layers of paint – something beyond all the forlorn and foregone forecasts. Given that bleak is in the eye of the beholder, or in our case, in the “brain about the size of a [rock-melon, née] walnut,” what lies between the layers may hold the key to what can be made of living during a rupture of life on earth.

Making a living when so much is dying is not a cerebral affair. A good joke may have the belly of the beholder clutched in joyous laughter. A sad song may have the eye of the beholder well with tears. The universal sigh may catalyse such visceral affairs, but knowledge is merely a portal into the ineffable. A portal which opens up here in the two meanings of the word petrified: to *be* terrified, and to *become* fossilised.

The details of ruptures that came before have been lost to time. Only fragments remain. Picture the end of the age of dinosaurs as told in the earth’s strata. Picture those same dinosaurs as they died during their rupture. Had the dinosaurs known Chicxulub was bearing down upon them they would have likely experienced the state of *being* petrified. A blinded deer is to oncoming car headlights what immobile fear is to impending mortality. The feeling of being petrified arises in any decisive near-death moment. Such moments are everyday affairs played out between those that live through the end of each day, and those who die trying. A stegosaurus running for its life from the claspings jaws of an Allosaurus was an everyday affair for tens of millions of years. Being petrified is part and parcel of ordinary upheavals in everyday life.

In contrast, evolution heralds infrequent moments of *becoming* petrified. A stegosaurus ushering in the universal sigh to its fellow dinosaurs was a once-and-once-only affair: speaker and listener, united in universal existential predicament. During a rupture, organisms cognisant of their mortality share the collective experience of *being* petrified, while they are simultaneously *becoming* petrified matter soon to be subsumed beneath the earth’s surface. These two states of petrification may intermingle when individuals die *en masse* every day. But the confluence between both states occurs only when species die *en masse* once in a blue moon. Deceased individuals merely become part of the fossil record through petrification, when they turn into stony substances embedded within the lithosphere. Whereas extinct species are the fossil record, in its totality.

Now the full force of the subsequent layers of the joke fall on us. They range from ‘closing your eyes and waiting to see if the headlights run you over’, right

up to 'looking up at the sky to see if the asteroid is still coming our way.' The former is an everyday individual affair, whereas the latter is an extraordinary collective affair. *Being* petrified in the twenty-first-and-last century has been extended into *becoming* petrified. For we are privy to the confluence of two states of petrification: an interior subjective emotional state of being terrified meeting an exterior objective biophysical reality of becoming fossilised.

Picture ancient vegetal life petrifying when it died, becoming strata beneath the earth, like coal. Picture extinct bird species, whose singing can be heard only in archival recordings. Both are forms of petrification, though the former heralds a cold hard fact, whereas the latter heralds agony and grief.

Where, then, is the eye that can honestly behold that "the picture's pretty bleak," and still see beyond the forlorn and foregone? Is there "something new under the sun"⁵ here that can grant us this capacity? From the ordinary of the everyday to the extraordinary of Mass Extinction Events, is the rupture of life on earth that is currently unfolding something truly unprecedented? The first two parts of the universal sigh tell us that climates change and species cease, and that these truths are as old as the genesis of an atmosphere and biosphere respectively. The "something new under the sun" is the third part of the universal sigh: a species cognisant of the rupture, having induced it, and now scratching its brain, desperately trying to work out what, if anything, could or should be done about it. Let alone when, by who, or how. As Stegosaurus says: "*we all have a brain about the size of a [rockmelon, née] walnut.*"

If this is how the two states of petrification interplay, then a mind can only behold both bleakness and beauty by being entirely aghast at exhaling the universal sigh while being entirely earnest about inhaling the universe. Therein lies the aim of the following "pretty bleak" picture: to bring *being* petrified into play with *becoming* petrified. The picture painted is no static work of art, but rather an amorphous shapeshifter: it also takes the form of a joke, song, book, and play.

At the heart of this picture-play lies the riddle of the two states of petrification: *What on earth, on Earth?* Regarding the first half of the riddle, this feeling of being petrified, we ask *what on earth* is going on? How do we become present to the rupture unfolding around us? Stegosaurus says: "*the world's climates are changing.*" To be present is to become *alive* to the rupture itself, rather than merely happening to be alive during the unravelling. To be present is to become alive to *rupture* itself. To be present is to become alive and die with forces of

5 John McNeil, *Something New Under the Sun: An Environmental History of the Twentieth-Century World* (New York: W. W. Norton & Company, 2000), 3.

creation and destruction not on a familiar human scale, but at the scale of the universe. Stegosaurus says: “*While the ocean blooms/It’s what keeps me alive.*”

Regarding the latter half of the riddle, we examine the biophysical process of becoming petrified and ask how we might bring this *what on earth* sensibility to bear *on Earth* itself? How does life *on Earth* become petrified in ruptures, from there-and-then through to here-and-now? To be present to becoming petrified is to transcend the tyranny of living *during* a rupture. It is to live, love, and laugh at the comic in the cosmic. Stegosaurus says: “*Open your mouth wide/The universal sigh.*”

To sound off this overture, the chapter following will sketch the broad brushstrokes of this “pretty bleak” picture and its motley cast of characters who will act as guides to the journey. Cast members enter and exit the stage throughout, though their full voice does not come until the tale’s end, when tyrants and monsters return to present our abhorrent options for responding to the rupture.

The first layer to our riddle begins with *Rodentia*, one of the earliest orders of mammals, already present during the reign of dinosaurs. But they only flourished by expanding into ecological niches made vacant when dinosaurs underwent petrification: this makes the rodents who lived alongside these dying dinosaurs a prime candidate for the last common ancestor to all modern mammals. With every modern mammal species descending from them, the flourishing of *Rodentia* became the enterprise of everything from ape to zebra. The joke that fell out of the sky onto the dinosaurs issued a killer punchline: an exploding exuberance of mammalian evolution. Stegosaurus says: “*the mammals are taking over.*”

The riddle begins when the direct descendants of those ancient orders of rodents meet their far-removed cousins, whose speciation branched off from *Rodentia* to become *homo sapiens*. This meeting between mice and human harks back to the universal sigh Stegosaurus ushers towards its fellow dinosaurs – then for them, now for us.

If the dinosaurs in Gary Larson’s cartoon had known their gig was up, but that such novel lifeforms would emerge thanks to their disappearance, would that have given them pause for thinking the picture’s pretty bleak? Does beauty reside in the fact that an asteroid might beget an ape who knowingly creates its own asteroid to inflict upon itself and all of its earthly co-habitants?

If that is the joke, then its punchline leaves one aghast, gasping for breath, and not at all earnest about inhaling the universe. Alternatively, if the joke is to bring our *what on earth?* sensibility into play *on Earth*, can we then learn to see the pretty bleak picture anew? That is, to see it with equanimity towards *being* petrified, and *becoming* petrified.

What on earth, on Earth?

Introduction

New.World.Coming.

This Space Intentionally Left Blank

In a nutshell:

Three Blind Mice v Three Bishops >

The Unfolding Rupture >

New World Coming >

Frankenstein v Frankenstein's Monster >

Tyrell v Tyranny >

Flip v Backflip: Heads or Tails?

Opening Gambit: Queen to Bishop Six

Did you ever see such a sight in your life,
As three blind mice?

– James Halliwell-Phillipps, *Three Blind Mice* (1842 [1609])⁶

The details of the song have been lost to time. Only fragments remain. All we now know is that once upon a time three mice caused some mischief. They chased after the farmer's wife, for which they got their comeuppance: she "cut off their tails with a carving knife."⁷ Telling details are missing from this tale, though. Were they already blind? In which case, why are we being asked to "see how they run [blindly?]" . . . after the farmer's wife"?⁸ Or could they see when they ran after her, meaning she not only cut off their tails but blinded them too?

Perhaps this is all jabberwocky, a light-hearted jest of gobbledegook. But is there a crypt beneath the cryptic tale? Something within the veneer of the song we sing? Something petrifying perhaps, about what to make of life when living has become an endless escape, running from a powerful entity we have enraged, and who may or may not have already blinded us to our comeuppance . . .

In the absence of details, we work from the fragments that remain. We grow up singing in classroom choirs about blinded mice running from an irate hunter bearing a knife. And this is the *sheltered* version of the nursery rhyme. If your kindergarten class did not sing this particular song, then you still sang similar ones. What such songs share in common is how we seldom question the innocence of these rhymes we were raised by. Song by song, year by year, century by century, millennia by millennia, we erect successive shelters to insulate us from that which we do not really want to know.

Once out of the classroom and into the big wide world it seems like there are no more nursery rhymes. But instead, there are stories that just as surreptitiously nurture a particular view of the world. Just as it is safe to say that nursery rhymes nurture a sheltered worldview, it is safe to say the adult stories we tell one another continue to shelter us from viewing the world as it actually is. We sing the ditties, without querying what is going on behind the lyrics, beneath our feet, beyond our lifetimes, and above our planet.

This is not a pipe, and the not-pipe is also not just a pipedream, because this book is also not a book. This book is a song, of sorts. It is a paean that leads

⁶ James Halliwell-Phillipps, "Three Blind Mice," in *Nursery Rhymes of England* (London: Percy Society, 1842), 43.

⁷ Halliwell-Phillipps, *Three Blind Mice*.

⁸ Halliwell-Phillipps, *Three Blind Mice*.

behind, beneath, beyond, and above. It has been written for the simple reason that we need new songs for our present tense. The song sung in these pages crosses multiple registers, aiming to enliven a deadly seriousness. The registers range from evolution to extinction, ethics to aesthetics, philosophy to physics, politics to paleoclimatology, biology to bioengineering, geology to geoengineering, and the comical to the cosmical (there is a glossary at the end, to open up technical and otherwise unwieldy terms).

These disparate registers are rendered into monologue by the spatial properties of typed thought – writing – but the harmonies and melodies between each line of song are made to be reanimated in your mind. Hear me as the ear weaves together polyphonic sound into one complex tapestry of music, like a canon or fugue.

Our song begins by taking apart the songs of old. Starting with unmasking the sheltered version of *Three Blind Mice*, published in 1842. Seen through a deeper take on time, the song does not remain the same. The unsheltered version, first published in 1609 (although a version existed well before then) is thought to be a wry rebuke against Queen Mary Tudor's enthusiasm for executing Protestants, and most especially three particular bishops: Ridley, Latimer, and Cranmer. Whether *Three Blind Mice* is sedition through song is an open question though, because its heresy is cryptic. After all, its subject would be grounds for persecution if sung in plain prose. Through song, the horror of its meaning is sheltered behind melody, harmony, rhyme, and rhythm.

In the 1609 version, the three blind mice that Queen Mary relishes killing are Bishops Ridley, Latimer, and Cranmer. Back then, we would have sung the lyrics about how “she scrapte her tripe, licke thou the knife.”⁹ In our present parlance: she scraped out their entrails then licked the knife. In the 1842 version, this atrocity is rendered as the anodyne “she cuts of their tails with a carving knife.” No longer does it mention the cannibalism of a queen licking the knife used to disembowel her enemies.

Mary Tudor ascended to the British throne in 1553, and in the following year set about her Revival of the Heresy Acts, reversing the religious reforms of her late father, King Henry VIII, and her recently deceased half-brother, King Edward VI. 1555 marked the height of her national purge of Protestant heretics, including the three bishops convicted of plotting against her – in the 1842 lyrics their conspiracy is represented by the line describing how “they all ran after the farmer's wife.” Their comeuppance was to be burned at the stake in a public square next

9 Thomas Ravenscroft, “Three Blind Mice,” in *Deuteromelia or The Seconde part of Musicks Melodie, or Melodius Musicke of Pleasant Roundalaies* (London: Thomas Adams, 1609), 17.

to Oxford University. Cranmer alone recanted, so he started his ultimately futile reprieve by having to watch his fellow conspirators burned alive, only to suffer the same fate five months later.

The aim in taking apart the past is to reveal something of the present. The same can be said for taking apart the present to reveal something of the future. What songs, then, were we singing in our youth? What sadistic strains run through society, that we may burn one another alive, only to consign this collective memory to nursery rhyme and chime it in choirs that render the atrocities as anodyne? We sing these songs to each other as part of a shared cultural legacy, lodging their perceptual imprint deep within us during our formative years. If we have viewed the world through the mildly sadistic 1842 version, and we come to learn of the far more sinister sadism contained in the 1609 version, let alone the events of 1555 that it depicts, where do we go from here?

Having unmasked *Three Blind Mice*, can one still sing it as an innocuous ditty? To do so would be to simply persist in singing a sheltered worldview into being. If we want instead to sing to one another in wry rebukes against tyranny then we need to go behind, beneath, beyond, and above – and not just in terms of the past, but in the uncertain terms of our present. The repercussions of these revelations are relentless. The violence of farmer against mouse or queen against bishop is sadistic in and of itself. But the present reveals a violence that has been inflicted on the world-of-life at a scale unlike anything in the history of earth. And the present nursery rhyme – when unmasked – now seems to lead through severed tails, twisted tales, and breadcrumb trails, incessantly and endlessly revealing the world to be without shelter. What stories should we then tell to one another, when the world is unmasked? How do we learn to see the world anew? Merrily merrily merrily life is not but just a dream.

Did you ever see such a sight in your life?

Read Between the Lines

An artist's duty, as far as I'm concerned, is to reflect the times. I think that is true of painters, sculptors, poets, musicians . . . I choose to reflect the times and situations in which I find myself. That, to me, is my duty. And at this crucial time in our lives, when everything is so desperate, when every day is a matter of survival, I don't think you can help but be involved.

– Nina Simone, interview with William Greaves (1969)¹⁰

Songs are not just the lyrics on a page, but *how* they are sung into being. For songs like *Three Blind Mice* we can only work from fragments that remain, since music scores often only hint at how a song is to be sung. In present tense music we can instead work directly from songs in their entirety. The lyrics, and their performance, thus allow us to explore more deeply, behind, beneath, beyond, and above the song itself. As these songs are from our time, their unmasking yields revelations about our present tense and the future it is begetting.

Enter *New World Coming*, written by Barry Mann and Cynthia Weil. In October 1970 Mama Cass released the first recorded version. It is gold standard pop – somewhere between saccharine and totally innocuous. Cass' live TV version broadcast in December 1969 was even more up-tempo and upbeat. Cass sang alone on stage, with a giant revolving peace sign projected onto the entire wall behind. She delivered her audience a message that was the polar opposite to the one our Stegosaurus issued when he stood upon his stage. Her version chimes with the tenor of the song, whose last line tells us that this new world will be “coming in peace, coming in joy, coming in love.”¹¹ After all, this was commercial pop music in the last few months of the 1960s. Right before they gave way to the 1970s, cynicism, apathy, nihilism & co.

Six months after Cass' record, Nina Simone released her own version of *New World Coming* on her album *Here Comes the Sun*. In stark contrast to Cass, Simone renders the same song remorseful, even poignant. The same lyrics confront us, now tinged with resignation and despair about the end-of-the-world-as-it-currently-is:

There's a new world coming
And it's just around the bend
There's a new world coming
This one's coming to an end.¹²

¹⁰ Nina Simone, “An Artist's Duty,” *Black Journal*, episode director William Greaves, aired National Educational Television, 27 October 1969.

¹¹ Barry Mann and Cynthia Weil, *New World Coming* (Columbia Music, 1970).

¹² Mann and Weil, *New World Coming*.

Simone starts at half the pace of Cass' version, only to build in intensity once she finishes singing the songwriters' lyrics. The foreboding is fuelled by two extra stanzas she inserts, premonitions taken from *The Book of Apocalypse*. She then reprises the original song refrain, with her protracted build up now taking the songwriters' lyrics into a celebratory, affirmative, upbeat tempo, with which she closes the song. Simone's *New World Coming* ruminates on the passing of the world-as-it-currently-is, inveighs against the passage through the apocalypse (a word that stems from the ancient Greek *apokálupsis*, meaning revelation or 'un-covering'), then casts an earnest ear toward wonder at the new-world-that-is-coming-into-being.

Whichever version you find to be in keeping with the tenor of the song, in the six months between their respective releases in October 1970 and April 1971, a new world literally came into being. Within these six months, earth turned from negative to positive energy balance, meaning from that point onwards, more energy was retained in the atmosphere and hydrosphere than was emitted back into space.¹³ This shift has happened many a time in the history of this planet, perpetually oscillating as it does between hothouse (positive) and ice age (negative) states. However, this particular shift was unprecedented in both quality and quantity. The unprecedented quality lies in the cause: human industrial activity. The unprecedented quantity owes to another facet of that same cause: the sheer scale and exponential growth of this industrial activity.

Since 1971 so much heat has been accumulating in the air and ocean so quickly that it has catalysed a completely novel planetary state. Life in this new world coming will not be made up of visionary pop songs or biblical prophecies. It will be fashioned by consequences resulting from a constellation of events without precedent on this planet. For we are not rehearsing a scene from last season's production of *The Book of Apocalypse*. Back when there used to be such a thing as seasons. "Sprumer, Sumumn, Auter, Winting" are the New Normal, according to Mathilde Fallot's 2007 *Golab Waminrg* poster.¹⁴ And the strangeness of the new inclement 'seasons' is not only strange on the scale of the entire planet, but also within the time scale of its entire history. Meaning, in technical terms, that "Earth is currently operating in a no-analogue state" according to Earth System scientists Paul Crutzen and Will Steffen. A state brought about by the extent of human

¹³ Daniel Murphy et al., "An Observationally Based Energy Balance for the Earth since 1950," *Journal of Geophysical Research* 114, no. 17 (2009): 1–14.

¹⁴ Mathilde Fallot, *Golab Waminrg* poster, International Poster Festival of Chaumont, 2007, accessed 13 December 2015, <https://mathildefallot.com/golab-waminrg>.

influences on “key environmental parameters”¹⁵ of the Earth System, which are so pronounced that there is literally no analogue for the present tense.

Palaeoclimatologist Richard Zeebe chimes into this choir: “we have effectively entered an era of a no-analogue state” since carbon dioxide is now being emitted at the fastest rate in the past 66 million years. He remarks that this “no-analogue state . . . represents a fundamental challenge to constraining future climate projections” so that “unforeseeable future responses of the climate system are possible.”¹⁶ Being caught between this unfathomable present, and an “unforeseeable future” appears so petrifying that we muster up analogues of prior states of the Earth System, to vainly forecast how potential futures may resemble some of those states. Yet another fairy tale unmasked as just that, now the future is without anchor to anything in the past.

In a nutshell: it cannot be known which bend in our current path will yield *the* coming of the new world. Then for them, now for us: humanity living as the *Three Blind Mice*, in the partial knowledge that the powerful entity whom they enraged may or may not have already blinded them to their comeuppance. Zeebe compares the phase transition we are passing through to its closest historical parallel:

If you look over the entire Cenozoic, the last 66 million years, the only event that we know of at the moment, that has a massive carbon release, and happens over a relatively short period of time, is the PETM [Paleocene-Eocene Thermal Maximum] . . . We actually have to go back to relatively old periods, because in the more recent past, we don't see anything comparable to what humans are currently doing.¹⁷

Here Zeebe sings the third part of the universal sigh: further detail may reveal other “event[s],” but we can only access whatever fragments remain of the earth's full range of changeability and its consequences.

This perspective allows the meeting between mice and human to hark back to *Stegosaurus* on his stage ushering in the universal sigh, since the Cenozoic is the geological era that extends from the end of the age of dinosaurs, 66 million years ago, to today. Hence, the unfolding rupture now has disturbing parallels with their petrification. After all, Cenozoic means New Life, although it is better

¹⁵ Paul Crutzen and Will Steffen, “How Long Have We Been in the Anthropocene Era?” *Climatic Change* 61, no. 3 (2003): 251.

¹⁶ Richard Zeebe, Andy Ridgwell, and James Zachos, “Anthropogenic Carbon Release Rate Unprecedented During the Past 66 Million Years,” *Nature Geoscience* 9, no. 4 (2016): 329.

¹⁷ Richard Zeebe, quoted in Chris Mooney, “What We're Doing to the Earth Has No Parallel in 66 Million Years, Scientists Say,” *Washington Post*, 22 March 2016, accessed 4 February 2021, <https://www.washingtonpost.com/news/energy-environment/wp/2016/03/21/what-were-doing-to-the-earth-has-no-parallel-in-66-million-years-scientists-say/>.

known as the Age of Mammals, in the same way the Mesozoic is known as the Age of Dinosaurs. Well may we stand on the cusp of a new era, for New New Life in this New New World Coming. The shadow being cast by present human industrial activity goes beyond the event horizon of even our most distant future imaginary. Consequently, we are in the act of begetting a “no-analogue future.”¹⁸

Whether you prefer Cass’ version, cast just before earth shifted into positive energy balance, or Simone’s version, cast just after the shift, both share an earnest ear toward wonder at the-new-world-that-is-coming-into-being, and they ask of you the same. Take their invitation from the second verse:

There’s a new voice calling
You can hear it if you try
And it’s growing stronger
With each day that passes by.

Whether this new world is “just around the bend,” or is many-a-bend to come, one thing is certain. A new world *is* coming, as *this* world is inevitably coming to an end.

Let us then try to hear this new voice calling us to turn an earnest ear toward wonder at the new world-that-is-coming-into-being . . .

Holding Court v Playing Fort

I want more life, fucker!
– Roy Batty in *Blade Runner* (1982)

It is one of the strangest tales ever told. It deals with the two great mysteries of creation – life and death. I think it will thrill you. It may shock you. It might even – horrify you. So if any of you feel that you do not care to subject your nerves to such a strain, now’s your chance to . . . uh, well, we warned you.

– Edward van Sloan in *Frankenstein* (1931)¹⁹

Cautionary tales about “the two great mysteries of creation – life and death,” generally require forewarning, as in the opening gambit to the iconic horror film *Frankenstein*. This film is a prescient imagining of the new worldview being sung for the *New World Coming*. ‘World’ and ‘view’ are literal *and* metaphorical. Viewing

¹⁸ John Williams et al., “Model Systems for a No-Analog Future: Species Associations and Climates during the Last Deglaciation: No-Analog Species Associations and Environments,” *Annals of the New York Academy of Sciences* 1297 (2013): 35.

¹⁹ James Whale, director, *Frankenstein* (Universal Pictures, 1931), 35 mm.

uses the eyes, and much more besides, and the world encompasses much more than just this third rock from the sun, in this solar system, at this moment in time. This is a worldview about being (right here, right now), and about becoming (back when and after then). It is about past, present, and future worlds: how they manifest, erratically rupture and morph into states so different from one another as to herald worlds alien to one another. Now is by no means the first or last time an Old World Going has been superseded by a New World Coming . . .

As the brushstrokes to paint this picture are broad, so the breadcrumbs making up the trail that leads us through it are sparse. Broad brushstrokes gloss over details as they sweep over a plethora of sub-factors. A canvas of fleshed details paints a different picture altogether, wherein attention to detail obscures the overview. Similarly, when placed in too-obvious an arrangement, breadcrumb trails may seem to reveal a new worldview, but actually merely construct a caricature of the world. Conversely, if spaced too far apart and/or too haphazardly distributed, breadcrumb trails cannot be followed in a coherent order: the order that can actually convey a new worldview.

The gravitas of the content on the canvas only makes the trade-offs more precarious. At stake is an unmasking and recomposing of these “two great mysteries” of life and its relationship with death, beyond cheap tricks to “thrill you . . . shock you . . . [or] . . . horrify you.” The trade-offs come down to prying “the two great mysteries” away from our species’ prospective extinction, in favour of a worldview formed for a new-world-that-is-coming-into-being-beyond-any-human-beings. Prying the mysteries away requires any sense of wonder about the *New World Coming* to punch the surly bonds of the anthropocentric and transcend the biocentric, in order to reside in the zoocentric. And the barriers to breaking those surly bonds are like the gravitational pull of a planet, requiring a certain escape velocity always undermined by the planet reeling the fugitive escapee back in.

With regard to the enigma that is ‘life’, anthropocentrism is so endemic that the word ‘biography’ is read as meaning ‘the life of a person.’ How desperately shallow the definition ascribed to *bio* (life) + *graphia* (of writing). Biography should be the life story of life. In a zoocentric worldview, life refers to its entirety, across all species since they emerged on earth. In this biography, humanity writes itself out of the picture, by writing obliteration rather than literature: the story goes beyond writer and beyond reader, as it is the tale of all and sundry being obliterated.

Writing up the perversity of our present tense begins by unmasking the “two great mysteries” via another opening gambit about playing with the limits of life and death: ‘Queen to Bishop six.’ This Queen-killing-a-Bishop manoeuvre was the penultimate strike in the fabled ‘Immortal Game’, the unparalleled 1851 chess match played between Adolf Anderssen and Lionel Kieseritzky: an informal game played while on break from the formal tournament. This game comes into play

here via its appearance in *Blade Runner*, the 1982 sci-fi film. The film's setting for the gambit is an unremittingly bleak Los Angeles in November 2019. Unbridled industrial production has cast the atmosphere into perpetual night, nuclear winter, and acid rain. The lithosphere has been reduced to urban decay, dominated by a single species that has reduced biodiversity into a monoculture of human or replicant human. Both organic and synthetic humans covet synthetic animals, as organic animals have been rendered extinct.

The film is set exactly half a century after Mama Cass sang live on TV on 1 December 1969 about a New World “coming in peace, coming in joy, coming in love.”²⁰ True, the film may be fiction, but Cass' song is actually the more sinister of these two make-believe worlds, as it proffers a sheltered worldview. Because the film now presciently speaks to a different 2019 than the one it envisaged: in the words of then 16-year-old Swedish schoolgirl Greta Thunberg, “It's 2019. Can we all now please stop saying ‘climate change’ and instead call it what it is: climate breakdown, climate crisis, climate emergency, ecological breakdown, ecological crisis and ecological emergency?”²¹ Lamenting that “because the sky is blue, it makes me cry”²² may have been the zeitgeist that The Beatles captured in 1969. Because, as Radiohead sang in 2016: “It's too late/The damage is done/This goes beyond me/Beyond you.”²³ There is no alternative narrative for this element of the story here, or anywhere else. The damage was thoroughly and utterly human-caused, and “it's too late” because of how tardy the global recognition and response has been.

For the business-as-usual minded, incapable of answering Thunberg's plea, *Blade Runner* still seems to herald a fantastical *New World Coming*. *Homo economicus* completes its mission of following industrial capitalism to its logical conclusion. Extinguishing more-than-human life, despoiling the biosphere of the planet, and making up the difference with technoscientific engineering of life-forms, give or take a few million species.

In the film, Tyrell is the tyrant equivalent to Queen Mary Tudor in her own time. Owner of Tyrell Corporation, he occupies the pinnacle of power, and holds court deep within a massive and heavily guarded pyramid-like building. At his court, Tyrell designs and owns all ‘replicants’, the synthetic humans who are his

²⁰ Mann and Weil, *New World Coming*.

²¹ Greta Thunberg, “It's 2019. Can we all now please stop saying ‘climate change’ and instead call it what it is: climate breakdown, climate crisis, climate emergency, ecological breakdown, ecological crisis and ecological emergency? #ClimateBreakdown #EcologicalBreakdown,” Tweet, 3:14 am, 5 May 2019, accessed 6 May 2019, <https://twitter.com/gretathunberg/status/1124723891123961856?s=11>.

²² The Beatles, “Because,” track 8 on *Abbey Road* (Parlophone, 1969), LP.

²³ Radiohead, “Daydreaming,” track 2 on *A Moon Shaped Pool* (XL, 2016), LP.

minions – they literally do his bidding. Roy Batty, a replicant who has rebelled, seeks to overthrow Tyrell. To gain access to Tyrell’s fortified inner sanctum, Batty plays the ‘Immortal Game’ of chess against his maker. The stakes in the game could not be higher: Batty is playing for immortality. He is about to die, and believes Tyrell is the only person who could possibly extend his life. Through a sly sleight of hand Batty plays the Queen to Bishop six manoeuvre and ensnares Tyrell in checkmate. This victory tricks Tyrell into allowing Batty to finally breach his sanctum. Whereupon, Batty declares his desire to his maker: “I want more life, fucker!”

Since Tyrell is unable to extend Batty’s lifespan, Batty must make do with the imminence of his pending mortality. Devastated to find Tyrell’s technoscientific prowess cannot overcome the intrinsic limits to life, Batty murders his maker. Tyrell is also devastated to find that the synthetic organism he created has evolved behaviour beyond his wildest expectations, including the capacity to turn upon and kill his own maker. In life, Batty finds only bitter disappointment in the intrinsic and inescapable limits set around that life, whereas Tyrell finds an inexhaustible capacity to probe whatever limits to life may exist, by generating novel behaviour. It is why dealing “with the two great mysteries of creation – life and death” makes not for “one of the strangest tales ever told.” It makes for the only biography ever lived.

Empty Gesture

If you try and take a cat apart to see how it works, the first thing you have on your hands is a nonworking cat. Life is a level of complexity that almost lies outside our vision; it is so far beyond anything we have any means of understanding that we just think of it as a different class of object, a different class of matter; ‘life’, something that had a mysterious essence about it, was God given, and that’s the only explanation we had.

– Douglas Adams, *The Salmon of Doubt: Hitchhiking the Galaxy One Last Time* (2002)²⁴

In the fable of Tyrell and his synthetic organisms, the limits to life are biophysical. Tyrell comes to terms with how his attempt to design life runs up against the inexhaustible capacity of species to evolve novel forms. Batty must come to terms with how cellular and genetic reproduction run up against intrinsic limits, such as the second law of thermodynamics. All that is, whether a cell or a solar system, is always tending toward increasing entropy. This enigma drove quantum physicist

²⁴ Douglas Adams, *The Salmon of Doubt: Hitchhiking the Galaxy One Last Time* (New York: Random House, 2002), 200.

Erwin Schroedinger to write the landmark book *What Is Life?* in 1944, revolutionising the relationship between biology and physics. At the level of the individual organism, these biophysical limits are expressed in mortality. At the level of a species, these biophysical limits are expressed in extinction.

In the case of Queen Mary Tudor atop her societal pyramid, the limits to life were social as well as biophysical. Tyrannical societies run up against the limits of negentropy. Striving for more and more social order and control – say, by each reign revising who is to be persecuted and by whom – may appear to keep the insipid forces of entropy at bay. Recall Bishop Cranmer conspiring to overthrow Mary, only to find himself pleading for her to extend his life. But these societal pyramids are built on houses of cards (social limits of life) that rest on stochastic games of chance (biophysical limits of life).

Three years after executing the three bishops, Mary's biophysical life ended. So too did her societal life, as her pyramid was dismantled and rebuilt in a vastly different image by her half-sister and successor, Queen Elizabeth I. Elizabeth undid much of Mary's pyramid because she was a Protestant who was also tolerant of Catholics. So Mary's persecution of Protestants, along with a host of strictures that dictated societal structures, proved to be limited in their lifespan.

Politics – whether nakedly tyrannical or supposedly democratic – is no more than pendulum swings of persecution in a futile outmanoeuvring of entropy. Arguably, the real reason Mary executed the three bishops is not because they attempted to overthrow her (the evidence is wanting) but because they had been key supporters of the two rulers who immediately preceded her: King Edward VI, her half-brother, and King Henry VIII, their shared father. While these two prior kings persecuted and executed Catholics, Mary flipped the court against Protestants instead. Chop off his head or cut off its tail? The edict of a tyrant may as well be called by the toss of a coin in mid-air. Their very inconsistency reveals the extent of their power, seated at the pinnacle of their pyramids. And from this mice-and-human game of alternations between tyrannical reigns, the core social limits of life are extrapolated: *"They all ran after the farmer's wife/Who cut off their tails with a carving knife."* Tyrants dictate. The rest listen. Then run.

Social and biophysical limits to life are even more entrenched in our supposedly democratic present tense. For our rupture is set in another court, where another tyrant holds fort. It may no longer be royal, but the court wields social and biophysical power of incomparable violence and destruction. This court does not burn subjects at the stake anymore. Instead it has set the world on fire. Just as Cranmer and Batty acquiesced to their respective tyrants, those trying to put out the fire unleashed on the world can only do so by leveraging power from the court. Thereby, social and biophysical power allotted by the court can be notionally

redirected to try and put out the fire, by creating a proverbial Roy Batty or Frankenstein's monster to do so.

To know how and why the court may unleash such power is to be versed in how the social limits to life prefigure the exercise of such power. Though that knowledge proves limited too, when the domain is as self-evident as a tyrant instructing a minion to set fire to the pyre. Because, to know what actual power may be exerted in the creation of life, or the cheating of death, is to be versed in how the biophysical limits to life reconfigure the exercise of such power. Now the pyre and the fire become part of the tyranny, along with the oxygen concentration of the atmosphere being just enough to allow materials to combust with open flame. If the concentration was a few percent lower, open flame could not occur. If it was a few percent higher, materials could spontaneously self-combust. Meaning that social and biophysical limits to life, along with the interplay between them, will heavily configure the *New World Coming*. Likewise, if we are mice already blinded, it is these limitations and their interplay that will determine whether the court's biophysical power amounts to too little, too late. Which would in turn make rebukes against the court nothing but an empty gesture, in a setting already overflowing with emptiness.

As a self-appointed scribe telling this story about learning to live under the present form of tyranny, I invoke the persona of this Empty Gesture, who now plays jester at the royal court, rebooted as *persona not grata* of comic relief. And yes, a jester is both complicit in, and resistant to, the court for which he plays: a licensed fool, with license granted and revoked by the same social system. In this way, the jester is truly an Empty Gesture: as empty as Cranmer's gesture of recantation on the pyre, and the mere five months of tense reprieve it granted him before the tyrant of his time finally took his life.

Yet beyond the folly of human affairs lies another form of license that is accessible to all, irrespective of how much courtly purchase one exerts, from those stationed to build and burn the three bishops' funeral pyre, to those who get to unilaterally sentence others to death. This is a license that transcends the all too human preoccupation with the social limits of life, because it is one that has always been granted, and revoked, by the vicissitudes of the universe. Yet our capacity to take up this license and the worldview it offers is obscured, because our attention remains captivated by the court. The undeniable spectacle of public execution makes it appear that social limits to life are central to understanding the tyranny we are subjects of, and beholden to. But this is not the case.

To see beyond the spectacle of the court is to stand in the audience of the bishop's funeral pyre while fully recognising and accepting that life is ultimately subservient to biophysical limits that make a mockery of the assumed self-importance of social limits to life. Here this license is invoked to gesture towards the biophysical

emptiness beyond the insufferable tyranny of the present tense, cracking open the usual scales of human perception. Only thus can we compose a worldview not just for the unfolding rupture, but for ruptures in general, born of embracing emptiness at the scale of a day in the life of the universe.

Not an Earth Day in 2019, or an Earth Day 66 million years ago, which was 60 minutes shorter. Not even a day in the life of the solar system, or the galaxy. Rather, a day in the life of the universe. Where, somewhere, at whatever duration a local day happens to be, there are good and bad days. On the balance of probabilities, at any given time someplace somewhere will be having a bad day. At the scale of the universe, palaeontologist and evolutionary biologist Stephen Brusatte describes this as being “whenever a six-mile-wide asteroid hits your planet with the force of over a billion nuclear bombs, that’s a bad day.”²⁵ Not if. Nor when. But “whenever.”

Brusatte is referring to one such bad day for earth, 66 million years ago, when Chicxulub ended the age of the dinosaurs. Good and bad change when comedy = tragedy + time. What was bad for the dinosaurs was good for *Mammalia*, including us. Stegosaurus says: “*the mammals are taking over.*” And look what one particular mammal managed to drag in, as that “bad day” 66 million years ago is actually the most recent proxy for the current rate of greenhouse gas emissions, which is indisputably the result of human industrial activity. Such is our progress, in the laughably miniscule moment that has passed between Cranmer’s death and the present tense: we are no longer bearing witness to the mere atrocity of burning one another alive, but to the atrocity of burning the biosphere to boot.

Wherein, embracing emptiness at the scale of a day in the life of the universe not only requires us to come to terms with the possibility that all and any of our countermeasures against that atrocity might amount only to empty gestures, but also with how our bad day would be a very good day for all the fellow creatures we are pushing to the brink of extinction, were we to get our comeuppance right now. As Joseph Meeker suggests in *The Comedy of Survival*: “if the survival of our species is trivial, then so is comedy.”²⁶

Well may we attempt some leverage against the social limits of life, outmanoeuvring tyranny as Cranmer playing Bishop-overthrowing-Queen, or Batty playing Queen-overthrowing-Bishop-six. Well may we find our outmanoeuvring to be Empty Gestures, and that evolution outmanoeuvres the games we play with the biophysical

²⁵ Stephen Brusatte, quoted in Michael Slezak, “Asteroid Killed Dinosaurs by Setting Oil Alight and Spreading Soot, Says Study,” *The Guardian*, 14 July 2016, accessed 6 May 2019, <https://www.theguardian.com/science/2016/jul/14/asteroid-killed-dinosaurs-by-setting-oil-alight-and-spreading-soot-says-study>.

²⁶ Joseph Meeker, “The Comedy of Survival,” *The North American Review* 257 (1972): 13.

limits to life. But the gesture who is jester here aims at a different level of emptiness. He wants to engage an emptiness that is at one with the universe itself. Hark the New New Life in this New New World Coming. No court in all the universe can close off our sensibility towards that divine comedy.

In the meantime, before “whenever” next appears on the horizon, the *New World Coming* is bending toward *Blade Runner* itself: its 2019 setting is no longer just prescient, having drawn uncomfortably close to our actuality.

So, let us bury the bishop and cut to the chase.

Cut to the Chase

I met a traveller from an antique land
Who said: Two vast and trunkless legs of stone
Stand in the desert . . .

– Percy Shelley, “Ozymandias” (1818)²⁷

You’re in a desert walking along in the sand when all of a sudden you look down, and you see a tortoise, it’s crawling toward you. You reach down, you flip the tortoise over on its back. The tortoise lays on its back, its belly baking in the hot sun, beating its legs trying to turn itself over, but it can’t, not without your help. But you’re not helping. Why is that?

– Dave Holden in *Blade Runner* (1982)

The rupture now unfolding reveals that we are without shelter. Whether this means the idea of refuge, or actual shelter in the form of a solid protective shell against the unravelling elements: we are without. Not only do we not now have shelter, the rupture reveals that shelter itself, and a sheltered worldview, have been hollow conceits all along. Tyrants have always inveighed against their subjects’ admonition to look upon their “works, ye Mighty, and despair!”²⁸ Civilisations thrive by singing themselves nursery rhymes and telling themselves fairy tales about their conquest and subsequent control of both social and biophysical worlds. Yet Percy Shelley’s “Ozymandias” is the tale of every civilisation, which eventually disintegrates into nothing more than “trunkless legs of stone . . . in the desert.”²⁹

So far our quicksand sinking seems an all too human farce: “*You’re in a desert walking along in the sand . . .*” So what if the conceit of social structures ends up leaving us parched in the desert in a desperate search for water? This would

²⁷ Percy Shelley, “Ozymandias,” *The Examiner* 524, 11 January 1818, 24.

²⁸ Shelley, “Ozymandias.”

²⁹ Shelley, “Ozymandias.”

make a compelling song if all that was at stake was the plight of our own self-destructive species. And if the stakes depended solely on the social limits to life, irrespective of biophysical limits.

Let us acknowledge the first more-than-human ensnared in our quagmire. Enter the tortoise we come across in our desert wandering. It is same tortoise that Detective Holden uses to assess whether a subject is human or replicant in *Blade Runner*. Holden's means of judging a test subject's humanity? Agency, empathy, and ethics – vis-à-vis a tortoise. His test is a thought experiment: set a subject wandering in a desert, have them inflict violence on the more-than-human world, confront them with the consequences of their actions, and finally quiz them on how they choose to respond (or not) to the tortoise now lying on its back.

That we reached down and flipped the tortoise onto its back has already happened. We have since developed a sensibility toward its suffering: "*its belly baking in the hot sun, beating its legs trying to turn itself over.*" At the very least, we now realise what we have done. Once we know that it is suffering because of our earlier actions, how do we respond? We know it cannot get back on its feet without our help. We know we are not currently helping. To boot, those who set us this dilemma demand answers as to why . . .

Our desert tortoise dilemma encapsulates the arc of this song, whose past, present and future plays out in three acts: the Dour, the Dire, and the Dice. Act I: the Dour is the revelations of the past. Act II: the Dire is the present before us now. Act III: the Dice faces down into the imminent future . . .

The following passages illustrate this arc through two alternate schemas – two lines in a duet, singing from the same score: the first provides the tenor, the second the premise. The tenor *permits* a certain artistic license, to enliven a deadly seriousness. Creative expression – through art, music, design, poetry, comedy, and film – develops our sensibility towards the question: *what on earth?* Yet talking tenor risks metaphors over meaning and style over substance.

The premise *demand*s an exacting fidelity to knowledge. Scholarship – of science, engineering, history, philosophy, and politics – develops our knowledge *on Earth* itself. Yet talking premise restricts us to the ivory tower of scholarly communication, impervious to the extinct elephant in the room. Meaning suffocates without metaphor. Substance is insufferable without style. The jester needs both, to present this Empty Gesture.

The tenor *of* the song derives from our desert tortoise dilemma. The premise *behind* the song derives from a paragraph in "Volatile Worlds, Vulnerable Bodies: Confronting Abrupt Climate Change," a 2010 article by human geographer Nigel Clark, published in the journal *Theory, Culture & Society*. First, to talk tenor, we recount our desert tortoise dilemma.

In Act I *“you’re in a desert walking along in the sand when all of a sudden you look down, and you see a tortoise, it’s crawling toward you . . .”*

The Dour re-stories how we ended up in the desert. If we want to know where we are actually standing, we need to retrace our steps as to how we got here. This begs a series of cascading questions, stemming from ‘who is this *we*?’ and ‘what is this desert?’ These questions trace back to ancient pasts – beyond ‘we the people’, ‘we the species’, or even ‘we the animal’ – and to ancient places – beyond ‘the desert’, ‘a desert’, ‘the planet’ or even ‘a planet.’

The questions are not about the past *per se*. They are about the presence of the past in the present. The story of how we ended up in the desert is the story of how the desert itself got there before us, right through to how we got to be at all, long before any one-way journey into the desert. Because this is the lineage that lies behind the abruptness of contemporary biophysical change.

The Dour paints a picture of past ruptures, each one foreshadowing revelations that resound in the rupture unfolding now. These trails in space and time situate us – and our predicament – in a truly venerable lineage, and there is much to be unmasked before we can even begin to acquire a sensibility to our present tense. Recall the universal sigh of *Stegosaurus*: now is by no means the first or last rupture of life on earth. A portal that opens up both states of petrification yields no less than the universal sigh itself.

In Act II *“. . . you reach down, you flip the tortoise over on its back. The tortoise lays on its back, its belly baking in the hot sun, beating its legs trying to turn itself over, but it can’t, not without your help . . .”*

The Dire re-stories how the tortoise got flipped onto its back *this time*: via cumulative impacts from human industrial activity. It paints a picture of the rupture catalysing in the near past of living memory, through to the present day. In so doing, the Dire speaks to how we perceive our present predicament, standing here in the desert in front of our upturned tortoise. We know it will soon die from exposure to the elements if we do not help. What then are the hurdles to flipping the tortoise back over? Why do we hesitate? And in the face-off between jabberwocky versus the juggernaut, why is the dilemma so serious that it cannot be approached directly, but must rather be embraced via nursery rhymes, tall tales, and court jesters?

The answer is simple: this elliptical approach is what will allow us to unearth how human, inhuman and more-than-human forces are at play in considering the tortoise’s plight. Recall tyrants Tyrell and Mary, and their minions Batty and Cranmer. The interplay between social and biophysical limits to life is inexorably complex. Knowing what *could* be done is conditional upon considering what *should* be done according to – *inter alia* – societal structures of knowledge and power.

In Act III “. . . *You're not helping. Why is that?*”

The Dice explores responses in light of the revelations of The Dour and The Dire. In particular, proposals to flip the tortoise ‘back’ onto its front by means of games of dice. ‘Back’ bracketed here because of course, there is no going back anymore. Our tortoise, should it, could it, or would it be flipped back onto its front would no longer be the same. It will never be the same. Because the game we are now playing with life and death is for keeps, with a new set of rules. To boot, the game has already been in play for some time, as John McNeill remarks in *Something New Under the Sun*: “in the twentieth century, humankind has begun to play dice with the planet, without knowing all the rules of the game.”³⁰ Though this twenty-first-and-last century gameplay is no rematch of the ‘Immortal Game’: it is the first and only match of The Mortal Game.

Our tortoise’s plight is utterly compelling, as it stands for the multitudes upon multitudes of other species we have dragged into our quagmire. They are now, as we are, embroiled in this imbroglio. As we sink ever deeper we face very specific dilemmas, which are unlike anything we have ever faced before. Responses to the rupture are about choosing between utterly unpalatable options: Do-or-Die, Swim-or-Sink, Now-or-Never . . . In the first half of this twenty-first-and-last century the risks of responding, and the risks of not responding, will play a decisive role in whether a great tide of lifeforms become consigned to extinction.

Act Your Rage

If only you could see what I have seen with your eyes.

– Roy Batty in *Blade Runner* (1982)

Underpinning the arc is a premise without desert or tortoise, possessing instead an exacting fidelity to scholarship. Encapsulated in a single paragraph by Nigel Clark, the premise nonetheless yields the same dilemma:

So what are we to make of abrupt climate change? Now that academic science, popular science writing and Hollywood cinema have all warmed to the idea of sudden threshold transitions in climate systems, the issue is unlikely to recede. We have also passed the point at which progressive social thought can content itself by keeping a critical distance from the substantive claims of the natural sciences, and entered a situation which cries out for a degree of fidelity to events unfolding around us. Which would seem to me to imply at least provisional commitment to an idea of how our physical world actually works. My gamble,

³⁰ McNeill, *Something New Under the Sun*, 8.

with the usual provisos about decision-making under conditions of unknowability, is that we must front up to the past reality and future likelihood of crossing climate thresholds.³¹

The question of what we are to make of abrupt climate change, especially now that it has been firmly appropriated and entrenched in the popular imagination, provides the premise underpinning Act I: the Dour. This question is in fact analogous to what we are to make of finding a tortoise in the desert, crawling towards us. Both are profound revelations, full of revulsion and revelations. However, the question “what are we to make of abrupt climate change” does not ask what we are to make of *contemporary* abrupt climate change, or *anthropogenic* abrupt climate change. It asks what are we to make of the phenomena in the broadest possible sense.

In order to offer a response even remotely commensurate to the question, the Dour cannot sing solely about climate change, or even abrupt climate change. The Dour sings about ruptures. The ones which change in broad brushstrokes the lion’s share of life on earth, with abrupt climate change but one of innumerable forms of a rupture. The Dour sings about the limits of life and the cosmos to which life is hitched, from making a living on a daily basis, through to macroevolution.

So, Act I has us “all warmed to the idea of sudden threshold transitions in climate systems,” and by the end of this act it is no longer merely an “idea of sudden thresholds in climate systems.” Actual thresholds now stare us point-blank through the eyes of the tortoise that arrived out of the blue. Clark expands on why this is a pressing problem in his magnum opus, *Inhuman Nature: Sociable Life on a Dynamic Planet*, wherein he states that “crucial decisions about how to live on, live well, or deal with loss of life on this planet are dependent on notions of how things work in the universe, irrespective of our influence.”³²

The reason being that “it makes little sense to agonize over our own contributions to earth processes without the fullest possible understanding of the dynamics and potentialities that are constitutive of material reality in and of itself.”³³ Given abrupt climate change is but the tip of the melting iceberg of these “dynamics and potentialities” we must first attempt to understand the way the universe is, without us, and the way the world was, before us, through to the way the world is, with us, rather than jump ahead “to agonize over our own contributions,” tempting as that may be.

³¹ Nigel Clark, “Volatile Worlds, Vulnerable Bodies: Confronting Abrupt Climate Change,” *Theory, Culture & Society* 27, nos. 2–3 (2010): 33.

³² Clark, *Inhuman Nature*, 23.

³³ Clark, *Inhuman Nature*, 9.

The Dour provides a window, then, through which to look at *Life, the Universe and Everything*³⁴ through a glass half full/empty/darkly. Having done so, the Dour gives way to the Dire, in which the past gives way to the present of abrupt climate change catalysed by human civilisation, so-called.

Act II: the Dire is underpinned by the premise that we have indeed “entered a situation which cries out for a degree of fidelity to events unfolding around us.” A situation that cries out for faithful recognition of how we have reached down, and flipped the tortoise onto its back. Living during a rupture is highly emotive: the “events unfolding around us” cry out to us. We cry as we cry out to them. Lament Lonesome George, and the outpouring of grief following his 2012 death. He was the last known individual of the *Chelonoidis abingdonii* tortoise species: “*The tortoise lays on its back, its belly baking in the hot sun, beating its legs trying to turn itself over . . .*” As an endling, his death completes the extinction of a species. Lament the confluence of being petrified with becoming petrified.

Although this discussion seems to roam far away from the incontrovertible fact that we flipped the turtle this time, nothing here is meant as an apology for that fact. For the intrinsic precarity of the cosmos does not exonerate the actions of humans within it. Rather, the Dour re-stories how the turtle has been flipped many times before, and the Dire re-stories how unique this particular flip was, executed as it was by an inhabitant of earth both conscious of its doings and comprehending of their consequences.

Therein, the Dire judiciously “agonize[s] over our own contributions” to this ultimate irony, as it establishes fidelity toward our situation from an “at least provisional commitment to an idea of how our physical world actually works” and the “substantive claims of the natural sciences.”

If it is principally the humanities and social sciences that claim insight into how societies could or should respond to such an existential predicament, then those who pursue “progressive social thought” ought to ground scholarship about the unfolding rupture in sound science. Or else, given the circumstances, accept their abject irrelevance, because recalcitrance trumps niceties. Our tortoise is dying before our eyes, yet the overwhelming weight of “social thought” either has no “idea of how our physical world actually works,” or no basis in those physical laws. So, the Dire offers a recalcitrant corrective to present-tense humanistic and social notions overwhelmingly founded on wilful ignorance and/or woeful incomprehension about the physical functioning of our world.

34 Douglas Adams, *Life, the Universe and Everything* (London: Pan Books, 1982).

Fronting up “to the past reality . . . of crossing climate thresholds” through fidelity to the “substantive claims of the natural sciences” takes us far from our *hominidae* genus. “Crucial decisions” become not just about “how to live on, [or] live well” but about what gets to live at all. But the capacity of human agency to make such decisions must be called into question. Hence, the Dire gives way to the Dice, as the present begs that proposed gambling on earth’s future be mindful of the cosmos to which any human intervention is behest.

Clark’s final sentence provides the premise underpinning Act III: the Dice. Moving into the “future likelihood of crossing climate thresholds” and the critical question it begets: “*You’re not helping. Why is that?*” Clark couches his bold proclamation in caveat-laden gambits. He hedges his bet, only placing his gamble “with the usual provisos about decision-making under conditions of unknowability.” Meaning it is beyond doubt that “*There’s a new world coming/This one’s coming to an end,*” but beyond our reach to know if “*There’s a new world coming/And it’s just around the bend.*” The unassailable chasm between certainty and uncertainty invokes the third part of the universal sigh: Stegosaurus says “*we all have a brain about the size of a [rockmelon, née] walnut.*”

Nevertheless, Act III strives to know what, if anything, could be done in response to the rupture. Any notional response ought to be premised on a high fidelity to this eclectic array of knowledge and inquiry, yet simultaneously premised on (un)certainly, (un)predictability and the (un)thinkable arising from the unfolding rupture. Picture geologists sifting through strata to unearth how dinosaurs met their end. Except the studious must now sift through what is currently happening behind, beneath, beyond, and above, singing the universal sigh as they unearth the gamut of cosmic changeability, consequences, and comprehension of same.

The Dice explores proposals to temper the enraged entity, by controlling climates and designing life. Manifesting a *New World Coming* in the order of *Frankenstein* and *Blade Runner*. *Frankenstein* forewarns “it is one of the strangest tales ever told” because the protagonist, Dr. Frankenstein, plays with the biophysical limits to life. It is a *precautionary* tale: probing what may result from the hubristic attempt to control or design life. Yet, like the *Three Blind Mice*, we may be already blinded to our comeuppance, a comeuppance that is the result of our own historical actions. *Three Blind Mice* is a *postcautionary* tale about the social limits to life: a warning of what happens when court subjects do not remain in their assigned roles. Both these biophysical and social limits to life pertain to any proposals for responding to the rupture. Our present tense thus requires a hybrid *pre-* and *post-*cautionary tale. When one’s kind may have already enraged an entity much more powerful than our collective capacity, it is foolish to think something-through-anything could temper the rage.

Frankenstein's opening gives those who “do not care to subject your nerves to such a strain” the option to bow out. Nowadays, being petrified does not absolve us of just sitting back to watch the living world become petrified. To sit back is to prostrate ourselves to be ravaged by the elements we enraged. But to temper those elements is to embark upon radical technoscientific interventions into ecosystems and evolution. Both extremes need heed the all-too-real chance that we have already crossed the threshold, and it is too late for anything other than empty gestures directed at the concerns that drive this song. In which case the entire endeavour amounts to a zero-sum game.

Clark's “gamble” demands that we work under “conditions of unknowability” together with the fortitude and hubris of an engineering mindset, and accept the “past reality and future likelihood of crossing climate thresholds” as well as the fact that we are crossing one right now. The operative word here is “gamble.” Hence, the answer to the question: “*You're not helping. Why is that?*”, is that the options for helping are always going to be a game of dice.

Choosing not to throw the dice is still possible. Choosing-not-to-choose means our tortoise dies of dehydration, staring at us as we watch it die. We can hedge our bet on whether the chicken should cross the road. We cannot hedge our bet when playing the Mortal Game. The bet that confronts us in Act III: the Dice carries the weight of the ends of the earth and the end of (this) world.

Together, these three acts paint a picture that is indeed blacker than bleak. Every ink blot darkens the otherwise white canvas. Recall also that something else is etched within the layers of paint, beyond forlorn and foregone forecasts. This elusive something is a kind of searching for home that has always been difficult to express, and is now also increasingly difficult to see between the layers, because it celebrates the co-existence of cosmic chaos and cosmic order, while commiserating with the grief of living during a human-caused mass extinction. This search to be at home in the universe embraces the complete indifference of the cosmos, amidst the complete callousness of the species that flipped the turtle this time. To see the pretty bleak picture anew then, with equanimity towards being petrified and becoming petrified, is to not just embrace a new worldview for a new world coming. It is to be at home. Not here on earth. Here in the universe.

Did you ever see such a sight in your life?



Fig. 1: Welcome Home: Buster Keaton, *Steamboat Bill, Jr* (United Artists, 1928).