SHACKLETON'S MAN GOES SOUTH

'With *Shackleton's Man Goes South*, Tony White has written a bold novel-cum-manifesto, a prophecy, satire, and warning, and a gripping polar allegory for the era of global warming and human trafficking. In the steps of Swift, Blake and Aldous Huxley, he brings a puzzlemaster's ingenuity, a political observer's despair, a voracious appetite for geo-political knowledge and a storyteller's sense to create a stark vision of a future that may be coming sooner than anyone can bear to think.' – Marina Warner

Shackleton's Man Goes South

— A NOVEL —

Tony White

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Dedicated to the memory of the forty-eight people thought to have perished when their boat was wrecked on the rocks of Christmas Island on 15 December 2010 as they tried to break into prison.

Contents

1 Albertopolis Disparu – 1
2 Patience Camp – 10
3 Antarctic Scenarios i:
Fragments of a Manuscript – 22
4 The Captain's Table – 38
5 Antarctic Scenarios ii:
Singing the Same Song – 46
6 'I Like Penguins!' – 57
7 Antarctic Scenarios iii:
An Attribution of Risk – 68
8 Patience Camp S'Éveille – 78
9 Antarctic Scenarios iv:
An Unfortunate Chapter – 89
10 Sir Ernest Shackleton's Grave
Repurposed as a Fountain – 104
11 Antarctic Scenarios v:
Convey's Law – 114
12 Jubilee – 130
13 T-shirt and Flip-flops – 146
14 The Beatification of John C. Yoo – 151

Notes – 157
Acknowledgements – 164

— 1 —

Albertopolis Disparu

Editor's Note

Some readers may be aware that I have recently been writer in residence at the Science Museum, London. While researching in those parts of the Museum's collections held at the Imperial College library I came across a number of foolscap pages which had been inserted between the leaves of Volume One of the *Cyclopaedia of Telegraphy and Telephony* (American Technical Society, 1911). To my astonishment these notes, by author unknown, formed an introduction or preface to a hitherto uncatalogued work by the late James Colvin, apparently bearing the title of *Terminal Session.*

The author, whoever he may be, acknowledges the assistance of a 'Mr Michael Moorcock of *New Worlds* magazine', with whom I have now made contact at his current home in Bastrop, Texas. Whilst Mr Moorcock did recall numerous highly amusing anecdotes concerning Mr Colvin, he was unable to recollect the manuscript in question, nor could he remember any such request being made of Colvin's literary estate.

Despite these setbacks, I felt that this short text might still be of general interest, so we have great pleasure in presenting it to you here. I ask only that if any reader is aware of the existence of either manuscript or printed copies of *Terminal Session*, or indeed has any information concerning the author of these introductory notes, they contact either myself or the department of Exhibition and Programmes, Science Museum, London SW7.

Tony White, London

Wherever the readers of this volume find themselves, it may be assumed that we all agree an interest in the streets of London. But we do well to remind ourselves that by nothing more effortful than turning a corner, opening a door, or climbing a stair can one be translated from familiar street and public haunt to an altogether different realm, seemingly without any relation to the London of common conception.

It is just such an operation that is performed in these first pages of James Colvin's *Terminal Session* – for the publication of which here we must express gratitude primarily to Mr Michael Moorcock of *New Worlds* magazine, who generously granted access to those portions of the late Mr Colvin's estate that remained as yet untouched by the archivist's hand and even less troubled, till now, by the attentions of typesetters and publishers. Quite why this of all Colvin's works should not hitherto have been offered up to the public attention may simply be a matter of changing tastes – or perhaps that Colvin himself considered *Terminal Session* to be unfinished. Certainly, his extensive annotation of the manuscript attests to some anticipated future phase of work. Where possible in the pages that follow I have endeavoured to incorporate those notes and changes which seemed to favour clarity (any mistakes that result are of course my own).

The South Kensington that Colvin describes may seem unrecognisable at first, but who amongst us has ever really looked up to wonder what manner of world might exist up there on the heights of Albertopolis! That the rooftops of the Science Museum, the Royal Geographical Society and even the Victoria and Albert Museum might well be crowded with observatories and meteorological laboratories is hardly far fetched, and it doesn't require too great an 'imaginative leap'

to picture those same rooftops as also being cluttered with tarpaper shacks, bothies, greenhouses and ramshackle sheds of all manner and description: an aerial 'shanty town' providing a home of sorts for those gangs of telegraphic engineers who lived and schemed and sinned and laughed aloft. Here were those motley regiments of men: the Shivering Jennies, the Rufflers, the Whipjacks, the Jarkmen and the Swaddlers. And what lives they led in and around and beneath skies that were dissected by a dense mesh of telegraph cables!

In Chapter One, Colvin plunges us pell-mell into this realm of wire:

> I could scarcely catch my breath for fear of losing my footing as we crossed from one building to another by means of gangways, rope-bridges and bosun's chairs. Later, after dining aloft on the finest roasted squirrels Hyde Park could offer, I shared a pipe with the Schlepper who was acting as my guide and he told me that not only might one walk without impairment for 20 miles and not leave Albertopolis, but one could do so without setting a foot upon the ground or retracing a single step!
>
> I saw that in all directions amidst the chimney stacks, ventilators, water tanks and other appurtenances radiated innumerable cables of various sizes, the heaviest being suspended from galvanised steel wires by means of rawhide slings, and all were supported on huge derricks, roof poles and standards. The largest of these was set around and atop the Queen's Tower and supported some 12,000 cables which terminated there to plunge down into the tunnels beneath, and which alone required an almost continual attendance by teams of

engineers to deal with the constant flow of repairs, re-routings, renewals &c.

The modern reader will of course be familiar with the notion that the appearance of a machine tells little of its function. We live in an age where the workings of the most mundane device are taken for granted yet would confound even the greatest scientific minds of the past. And so it was with this cable kingdom: the whole inanimate and without apparent purpose yet constituting the main medium by which the citizens below both disseminated and delivered their communications.

In *Terminal Session* Colvin reveals that telegraphy was far more than a civil enterprise; how in a world darkened by war South Kensington had need to become the telegraphic hub of the world, a place where enormous technological advances were made to secure the national advantage, and where the GPO, the Secret Services Bureau and the Ministry of War fought a secret 'information war' so closely guarded that today it has been almost completely forgotten.

With the museums closed and emptied under the pretext of preserving the national collections, the great halls of the old Science Museum, the infamous 'Brompton Boilers', and the tunnels beneath the Imperial Institute were given over to the creation of a species of 'listening post', but as Colvin rather breathlessly tells us on page 56:

> 'Machine' is perhaps too small a word to describe the complex enterprise I saw stretched out before my eyes. It was a vast network of generators, telegraphic exchanges and switchboards, difference engines, teleprint-

ers, ticker-tape machines and phonographs, with every steam engine and turbine in the building all being connected and daisy-chained together by means of a series of camshafts and belts that disappeared off in every direction, through ceiling and floor, and all were going full tilt to provide enough power to run it.

This was more 'listening factory' perhaps than 'listening post', and I soon discovered that it boasted the extraordinary capacity to 'eavesdrop' electronically upon all the telegraphic communications being carried by the network, which might be reckoned in the hundreds or even thousands at least of separate signals at any one time. Here was a fleet of difference engines that had been connected to 'the net' (the engineers' affectionate diminutive!) by means of a series of galvanometers and Maxwell interfaces, and which chuntered away like great clockwork locomotives. Each was so finely tuned it could calculate and amplify the minute variations in current and resistance being created by the very signals that were carried by the telegraphic network – detecting these almost infinitesimally small fluctuations in the manner, let's say, that a seismograph in London might register an earth tremor in the South China Sea and render it visible to the trained eye. Said fluctuations generated a never-ending series of algorithmic values that were then mechanically differentiated and transliterated before outpouring as a Babel of disembodied 'voices' or Morse code, depending on the method of transmission.

Scores of human operators sat at teletype machines or phonograph horns to monitor and record these machinic utterances, and to search for key words according to

some ever-changing hierarchy of significance which when found would prompt the operator to stand up and shout out the news thus discovered, handing the transcript to a runner in order that the information could be processed by some further category of statistical filter and subjected to further analysis.

The pace of this operation was extraordinary, and where it made some men it broke others. I heard that one or two started to listen to the machines themselves, fancying they might be able to decipher cable signals by instinct; syntactic and semantic rules defined at fantastic speeds . . .

The bulk of Colvin's book provides a technical exposition of the workings of this 'information factory', giving perhaps a greater amount of detailed and specialist information than the lay reader can entertain. He also provides extensive and comprehensive diagrams of the management and reporting structures that were put in place, and explores how the Signals Intelligence community and the GPO alike recovered from the eventual destruction of this top secret 'listening post'.

It is with this tragic event – the 'terminal session' of the book's title – however, that his account seems to enter the realm of the 'scientific romance'. Colvin suggests that the Zeppelin attack which razed the old Science Museum buildings and the bulk of the Imperial Institute was far from the conventional bombing raid that is widely documented.

London had of course become accustomed to regular visits by German Zeppelins (the raids undertaken by these slow-moving and vulnerable machines being mainly confined to

the darker phases of the moon, for obvious reasons), so when six of the cigar-shaped flying machines nosed down from the low cloud under cover of the new moon on the 28th of August 1916, it wasn't immediately apparent that this would be any different to previous attacks.

That the dirigibles assumed a circular formation above Exhibition Road is well known. Colvin, however, relies on the testimony of an eyewitness – a gunner stationed at Hyde Park Corner who told reporters of an unusual device that seemed to be slung from the gondola of each – to conclude that the airships were in fact 'armed' with Tesla receivers and 'magnifying transmitters' capable of generating potentials of several million volts. He goes on to suggest these Tesla arrays were capable of ionising helium from the airships' own envelopes, and that by means of this controlled ignition the scientists of the Imperial German Navy were able to create a vast 'plasma loudspeaker' between all six airships – a sonic weapon, greater in extent than the dome of the Royal Albert Hall. (This introduces a strange anachronism for those students of aeronautics to whom it is 'common knowledge' that the German Navy had no access to helium, and that hitherto the first recorded use of said gas as a lifting agent was by the United States Navy with their C7 dirigible in 1921!) Colvin postulates that a teleharmonium aboard each ship facilitated the generation of low-frequency oscillations along the lines of William Duddell's 'singing arc' to create, in effect, a giant airborne 'electronic organ' that was able to bombard the target area with blasts of ultra low frequency sound. In other words, Colvin attests, this was a suicide mission: the Zeppelin commanders were cannibalising their own engines, exhausting the very substance that

enabled them to remain aloft, in order to carry out their unprecedented attack.

Those who deduce from all of this that Colvin's thesis contradicts all the official and scientific literature of the time would certainly be correct. War records clearly state that anti-aircraft fire destroyed all six vessels before they were able to release their payloads of conventional explosive – and that it was the combination of hydrogen combustion and TNT that left naught but the Queen's Tower standing between Exhibition Road and Queen's Gate.

Looking now at both the handsome grey stone facade of the new Science Museum buildings that were built at war's conclusion and opened in 1919, and the well-equipped and internationally celebrated laboratories and classrooms of what is now the equally prestigious Imperial College, it is almost impossible to reconcile the grandeur and permanence of these great institutions with the story related in *Terminal Session*. The casual reader then may be forgiven for needing to remind himself that, in Colvin's words, 'the scenes recorded in the following pages are not literature but history; the actors not "puppets of the imagination", but real men and women'.

Colvin also claims to have located within the Science Museum collection a single wax cylinder from the Poldhu Wireless Station near Mullion, Cornwall. Upon this fragile artefact is recorded the moment when – he says – a huge electromagnetic pulse from the airborne Tesla transmitters knocked out not only the Albertopolis telegraphic hub and the 'Listening Post' below a few seconds before the main sonic attack, but precipitated a chain of 'system failures' throughout the network. Carried on this pulse, perhaps by some strange

atmospheric radio effect, can quite clearly be heard a voice crying out, '*Welche Wunder Gott tut!*' – the Lutheran translation of Numbers, Chapter 23, verse 23, a phrase more familiarly rendered in our own King James Version as, 'What hath God wrought!'

– 2 –

Patience Camp

History is being unwritten.
Fragments scatter like migrating birds.
Populations flow in helpless waves:
From Europe, from scarcity of water,
From Africa, from her advancing foe,
From Asia, the race to be got out.
Those who are most at risk, such as the poor,
Are banished, and an ocean race once more.

They could smell South Georgia long before it appeared on the horizon. The potent and unmistakably human cocktail carried to them across miles of ocean by strong sou'westerly headwinds was both repulsive and welcoming. There were gusts of complex chemicals and solvents, the smoke of wood fires and smog of crude fuels. A stench of sewage and death. Disgusting smells that could only mean one thing.

Emily put her arm around her daughter's shoulder. Exhausted, filthy and cramped as they were after weeks with no sight of land, smelling a distant city felt like coming home.

It wasn't home, and it wasn't really a city either.

It was Patience Camp, a shanty settlement that huddled along the shoreline and around the perimeters of the militarised zones of an island whose bare mountains they later

watched drawing closer above the slight swell. This was South Georgia, the gateway to the Southern Ocean and last port of call for Atlantic routes to Antarctica, both official and unofficial.

At one point the winds carried with them a smell of roasting meat and Emily had felt delirious with hunger. She could practically see the crisp fat turning golden in the heat and in her mind's eye she watched hot fat dripping to sizzle and smoke on the rocks around the fire. She could almost feel the weight and texture of the juicy flesh in her mouth.

If she could have reached across the miles of water and grabbed a hunk of whatever that was she would have eaten it, cooked or not.

After weeks of nothing but flat bread – rock hard and smoky-tasting when it was baked slowly overnight on the meagre heat of a few covered embers, tough and and blackened when the fire was good – the smell of meat cooking was like a sweet torture. It made everyone long for land, comfort and rest; for reunions with loved ones and families and spouses; for safety and sleep; for the resumption of 'normal life' and everything else real or imagined that had become wrapped up with their desire to risk everything in this expensive and dangerous dash to the south.

They had only had meat a few times on this journey, devouring whatever Browning could bait and catch. A couple of times they shared the rancid, oily flesh of sea birds that had been too sick or stupid to escape. Once they had found a turtle entangled in old fishing nets which Browning had cut free, only to throw it still alive onto the brazier where upside down it paddled the air in reptilian slow motion, mutely opening and closing its mouth and turning its head this way

and that until Browning, cursing, had cut its throat with the big knife he wore in his belt and turned it over in the fire: 'Damned thing shouldn't have looked at me like that!'

It stank like nothing you could imagine but they had all eaten the disgusting fatty meat just the same. These past few days they had had no food at all and only the smallest drop of water.

Dawn brought them close enough to see the foreshore through the chaos of shipping that had been gradually building up around them. Junks, tankers and tugs, cargo ships and barges, all dodged each other in a dance of impossibly intricate navigations.

As they nudged and nosed their way through, Browning stood in the bow barking orders back. He wasn't a big man but he was strong like a sailor. He was a 'Cape pigeon', Emily could tell by his accent, with its flattened vowels and the way that he rolled the letter *r*. People did what Browning said. As they got closer, he handed out oars to a few of the other men on the boat. They could barely lift them but somehow he coaxed and organised them into helping steer. Tiny dinghies darted between the tankers and cargo ships, their occupants hawking everything from pornography to bananas, books, engine spares and different kinds of weaponry or ammunition.

The very real dangers of collision were outweighed by the safety in numbers that rendered pirate attack less likely the closer to port they came.

They had been terrified to hear stories of deliberate capsizings and plunderings, of thugs not even deserving of the name of pirates who would take women and girls and then scuttle boats, leaving crew and passengers alike to drown. Despite these dangers, thousands of people still set off every

day in boats of all sizes to make the journey south. It was a risk worth taking. It seemed as if nothing could be worse than what they had escaped in the north.

Browning told them of pirates who would gamble with survivors' possessions and whose ruthlessness gave them a complete disregard for the lives of others. He spoke of bodies that were washed up on South Georgia with such appalling injuries that they could only have been man-made. He told them that this was the work of a terrorist organisation that called itself 'Black November' and which preyed upon illegals, recruiting through fear and killing anyone who resisted. Impossible choices were visited upon the victims; performances demanded. There were acts of casual brutality and rape. Murders by gun, hammer or screwdriver.

These were vicious men and impossible to bribe because if you had enough money to do that then you had even more to steal.

Browning said that not just some but most of the illegal boats setting sail for Antarctica disappeared, at the hands of either groups like Black November or the authorities. Only those who were very lucky or who had the backing of a big man were left alone. Luckily for Em and Jenny, Browning worked for such a man. Captain Smiler was a very big man in more ways than one. Otherwise . . . And here Browning would stop talking and simply shake his head, as if unwilling to speak of the depravities he had seen. 'That Black November crew,' he would say in a whisper, as if simply speaking their name aloud might invoke their arrival.

Even as they had sailed, they had passed some empty boats that were simply drifting. They had seen clothes, a cardigan, floating in the water.

For now, thank God, that risk was past, at least until the next leg of the journey. Here in the waters around South Georgia the Coast Guard was the greater worry. Their heavily armed, high-speed launches continually patrolled the natural harbours formed by the fjords of Cumberland Bay and King Edward's Cove and the pontoons that had accreted along the coast west of Thatcher Point and which formed Patience Camp's interface with the rest of the world.

At one point Emily turned and almost jumped out of her skin when she caught the eye of a policeman in just such a launch. Her heart was beating fast enough to escape from her chest, but he looked right through her as if their boat was invisible.

Emily wondered at the magic that could do such things, but knew that it was an expensive kind of *Candomblé*.* Browning had boasted incessantly about his power in this place. 'No one knows Antarctica like me!' he would say, but his talk was not of *Orixás* and *Axé* but of money. He conjured up vast parallel economies where payments were like keys that could open all kinds of doors. Where exchange rates and investments were measured in entry papers and visas. Where bribes were as dependable as savings that could be cashed in kind. This was not idle boasting. They watched as other boats just like theirs were boarded. They glided past in silence as fellow irregulars just like them were led off dead-eyed on bitter final journeys to the notorious immigration

* The Brazilian name for the belief system of African origin distributed across the Americas and the islands of the Caribbean by the slave trade. Orisha or *Orixás* in Portuguese language are spirits or deities in *Candomblé*, and *Axé* (ashe) is the life force and the power to make things happen.

tribunals who doled out deportation orders as fast as they could print them. Tickets to hell that randomly dispatched people north to the horrors of Buenos Aires or the Cape.

Emily knew they couldn't go back. They'd given Browning everything they had to make this journey. If they went back they would be lost.

As they slipped through the gaps in the water-borne traffic they could see a crowded shanty town of irregular, stilted and brightly coloured patchwork shacks that clustered along the filthy, litter-strewn waterline and stretched back higgledy-piggledy towards the once ice-carved rock of the mountains behind.

Just as people who live in forests respond to those particular environmental constraints and build their houses of wood, and those who live on river banks with clay, so it was here that people built with whatever was most freely available. This was architecture as a compromise solution, trading off the need for shelter with the costs of building in the first place, against what is available. In this case the rubbish that got washed up or entangled along the shore – with the resulting shanties, sheds, shacks and water-can igloos each representing the most economical solution.

Huts were built of styrofoam panels, wire and nautical detritus.

Here were modified shipping containers, grain hoppers and industrial debris of unknowable function. There were hovels made from ladders, trucks and the hulls of boats, or from aeroplane wings and tarpaulins sewn together with knotted plastic carrier bags.

Other dwellings looked like mud huts. Squat and rounded, they were built with plastic soda bottles and a kind of pebbled

mortar, strengthened with old knotted trawler nets that poked through here and there.

Many thousands more lived on the rusting hulls that had been strung out in great pontoons to create the unofficial harbours of Patience Camp.

The whole place had a kind of washed-up, high-water-mark appearance which reminded Emily of the layer of plastic bags, bottles, marine detritus and carrion that might be deposited to create a tangled and semi-organic contour high up a beach or riverbank by the worst storm of winter.

And life went on here, she could see.

Washing hung from rusting window frames, improvised chimneys poked out every which way and tents were strung from the cables that secured everything to everything else. People were cooking on open fires.

Emily tried to imagine herself into this place and to look back at the group of them arriving on their little boat. If anyone caught sight of her from one of those windows as they hung out washing or emptied a bucket, what would they have seen? Just another woman in a brightly painted boat full of irregulars. Take her out of that filthy, smoky coat she has been wearing these past few weeks and she might look a bit like you, if you are a woman; about the same height and build. If you are a man, she looks a bit like your sister if you have one, or a cousin or female friend; one who is quite close to you in age.

Now that they were right up close, the smell of Patience Camp was indescribable. It caught in their throats and made them gag. If it wasn't for the wind that most days whipped it out to sea it might have been unbearable. Browning told them that they had better get used to it because they would

smell nothing else until they set off on the final leg of their journey. He said that once they rounded Cooper Island at the eastern tip of South Georgia, and were upwind of Patience Camp, *then* they would be able to smell the trees and forests of Antarctica.

For now the water they sailed through was a toxic sludge of sewage and chemical slick. A large dead creature floated past. Just about recognisable as a cow, its skin was green in places and its stomach distended like a balloon.

Even then, it was not the scale or squalor but the noise that shocked the most.

It was almost deafening after so long at sea where the only accompaniment had been the gentle applause of water slapping the sides of the boat. It was as if sound was the medium in which Patience Camp and South Georgia were suspended. As if noise superseded air and water to create a sonic atmosphere that battered with acoustic weather, a great percussive cacophony. It felt as if they were at the centre of some chaotic universe of sound created by so much humanity on the move and this vicious wind that whipped and tore and rattled at everything.

Emily was in a daze as Browning skilfully threw the painter and pulled the boat fast to a pontoon jetty that she could see had been adapted from the lifting arm of a crane, but she was alert enough not to let go of her daughter's hand as they stepped ashore. Not that Jenny was going to go far. Emily nearly tripped over her feet a couple of times because the little girl was following her so closely. Half-stupefied, Emily didn't notice cargo being unloaded or that they gradually parted company with their fellow passengers as Browning led them through the maze of alleys which criss-crossed the camp,

skipping over the gullies that ran with all kinds of nameless effluent. It took all her effort to concentrate on keeping going, putting one foot in front of the other and not falling over. After so long at sea, each sudden step on the unforgiving ground of South Georgia seemed to jar and rattle through every joint of her body. Then they were no longer moving and Browning was saying something and gesturing. The three of them had stopped in front of one of the countless thousands of improvised shelters that made up the camp. Part of this hut was formed from the ragged curve of a wrecked fibreglass hull to which had been added some scaffolding poles and screen walls made of old rice sacks and mailbags sewn together with a kind of ragged rope made from plaited plastic carrier bags.

In front of the shelter was a tarpaulin awning held taut over two vertical struts by guy-lines that were decorated with what at first glance appeared to be a kind of coloured bunting.

Closer still and she realised that they each bore a few words and some simple image. A bit like Christmas cards, they appeared to be crudely produced covers for some sort of pamphlet.

At one end of the awning propped up on lumps of rubble stood a tin stove made from oil drums. Next to this was a simple wooden chair, like the ones Emily remembered her family having in their kitchen when she was a child, but this one was as grey and bleached as driftwood and looked as if it had been left outside for many years.

Stacked up to make a kind of windbreak wall at one side of the awning were a number of five-gallon plastic water cans. In front of them, a coil of blue nylon rope and a two-wheeler trolley.

Hard up against the back of the old hull, 'inside' the

shelter, were several wooden and plastic pallets of the kind that would be used for loading cargo. On these pallets were strewn piles of blankets and clothes. The forms of the three women who slept there were not immediately obvious. It was only when one of them shifted in her sleep that Emily noticed them at all.

Emily realised that she had better say something cheery to comfort Jenny, who was staring at the sleeping women and clinging to her mother's waist with the timidity of a child half her age.

'So, this is Patience Camp?' was about all she could manage. She said it as brightly as she could, and with half a laugh, hoping it didn't sound too scornful. 'Hmm? The famous Patience Camp?'

The sound of her mother's voice stirred Jenny as if from sleep. Looking around she was shocked, but took the bait. 'Patience Camp?' Jenny hadn't laughed in ages. 'Rubbish Camp more like. Dump Camp!'

'Hey! Damp Camp!' said Browning, not missing a beat.

Jenny let go of Emily's waist. '*Tramp* Camp.'

In an instant Emily looked and felt ten years older. 'That's not so funny. Don't be rude, think of people's feelings . . .' Their feat of endurance in getting this far suddenly felt like a defeat. 'But I *do* feel like a tramp,' she said, looking down at the filthy drab she was wearing. 'I mean, look at the state of us.'

'Em,' Browning started.

'No!' she went on. 'I wouldn't care if I *never* saw the inside of another boat. The monotony and the fear of it. That same flat horizon day after day.'

'Forget about that!' Browning stamped on the ground like

a boy. 'Look, Terra Firma!' He flung his arm back. 'Mountains! What a sight, eh, Jen?'

The girl looked up and stared open-mouthed. The rock face behind the camp was so vast that without thinking or really looking she had just assumed it was the sky: a dark mass of cloud.

'Come on, Emily. Where's your spirit? You are a survivor. I should know because I've seen you fight. You've got real backbone. I know what you are capable of. And we can't stay here. Look around! It's no place for a child.'

'Me a survivor? I don't think so.' Emily felt utterly defeated. 'Give me a bed and I'll sleep for a year. I'm so hungry I can't tell you. A fighter? No, no, no. I just want to forget all of that. I thought the crowd had come to wave us off. It was terrifying. I thought we were dead. My God, you wouldn't treat dogs like that.'

As if to deliberately cut herself off from this conversation, Jenny began to sing a familiar nursery rhyme to the tune of 'For He's a Jolly Good Fellow': 'The dogs are in their kennels,' she sang. 'The dogs are in their kennels. The dogs are in their ke-hennels . . .'

Browning spoke over the child, to Emily, 'Yes, you are a survivor, and we're here! I told you I'd get you here, and I have!'

'*Don't* call me a fighter.' She raised her voice. 'We were *running*, not fighting.'

'You are a dog with a bone, E. You're tougher than me! Look, trust me, I got you this far, didn't I? And with Smiler's help we'll be on our way in a few days. Following the Southern Cross!' He looked over at the girl. 'Hey, Jen! How do we set our course? Can you remember what I taught you?'

'With the stars?'

'Which ones, Jen? How do we navigate?'

'The Pointer Sisters! We'll use them to set our course due south.'

'Yes, I'll make a sailor of you yet, young lady. And we'll be like the beggar, remember?'

His enthusiasm was infectious. 'Yes!' the girl said joyfully. 'Diving every day! And working hard. Because until he finds his pearl he is a beggar, but once he has found it *he is a prince*. Like my dad. Is Antarctica our pearl?'

But Emily's spirit was not so easily lifted. 'These damned stories and sermons of yours won't buy our food, Browning. They won't buy our papers.'

'You haven't starved yet, eh? I got you this far, didn't I? There'll be plenty gravy on Antarctica Emily, believe me. That Smiler is a Hercules. My amigo will see us through, don't worry.' He glowered at Emily, darting a quick and purposeful glance towards Jen as if to say, 'If not for you then for her, remember?' As if to say, 'Pull yourself together.'

He was right and Emily knew it. She reached out to take her daughter's hand. 'Yes, it *is* our pearl, Jen. And Daddy is our prince!'

If Jenny could hear a slightly false note in her mother's voice she didn't let on, because right now it was the words themselves that provided comfort and a kind of sustenance. Emily gently squeezed her daughter's fingers: 'Just one more journey, my darling, that's all. And then we'll all be together.'

– 3 –

Antarctic Scenarios I

Fragments of a Manuscript

You pick up a book and it begins with some sort of disclaimer about the provenance of what follows. Perhaps as with William Hope Hodgson's 1908 novel *The House on the Borderland*, this is signalled on the title page:

> *From the Manuscript discovered in 1877 by Messrs. Tonnison and Berreggnog in the Ruins that lie to the South of the Village of Kraighten, in the West of Ireland. Set out here, with Notes.*

A contents page might be followed by an introduction that comments on the circumstances of the discovery and the state of that original manuscript, and which by drawing attention to some act of translation or a reluctant editorial hand will invite the reader to make some allowance for what follows. As Hodgson puts it:

> I trust that my instincts are not awry when they prompt me to leave the account, in simplicity, as it was handed to me.
>
> And the MS. itself [. . .] A small book it is; but thick, and all, save the last few pages, filled with a quaint but legible handwriting, and writ very close. I have the queer, faint, pit-water smell of it in my nostrils now as

> I write, and my fingers have subconscious memories of the soft, 'cloggy' feel of the long-damp pages.

There might follow some further explanation of the discovery of said text. In Hodgson's case it elaborates how a couple of upper-class – and thus reliable? – ramblers stumbled upon an unlikely ruin abutting an eerie chasm wherein they discovered the 'MS.', as Hodgson calls it. (And not for nothing, since allusion to other systems of knowledge whether linguistic, scientific, sociological or purely technical by the apparently casual deployment of such detail is often used to reinforce the illusion of veracity: MS. here being publishing terminology for 'manuscript'.)

'The found manuscript gag', as this device is known, is one of the oldest tricks in the history of the book. And here I was playing it too! But sometimes life can imitate art, for having pretended with 'Albertopolis Disparu' to have found a long-lost science fiction text of some contemporary significance in the archives of the Science Museum in London, I then really did find one. To be precise, what I found was a long-lost or certainly an overlooked and – strictly speaking – an unpublished Edwardian science fiction story of what seemed to be some contemporary, even scientific, significance. And I found it in an unlikely setting, albeit once again a kind of scientific archive but, being concerned with science rather than art, not the first place one might look for lost works of fiction. Which may be why it had remained unnoticed, or at the very least unremarked for so long.

I was researching papers and publications relating to the explorer Sir Ernest Shackleton, who as every schoolchild knows set out in 1914 on an expedition to cross Antarctica

on foot, his ship the *Endurance* becoming trapped in ice before they reached land. Faced with the destruction of the *Endurance*, he led the members of his expedition on two perilous journeys. First sailing three small boats to Elephant Island, where the majority had to wait for rescue or death, and then with four crew taking the largest boat of the three, the *James Caird*, across 800 miles of open ocean to the island of South Georgia, their only hope.

It was an extraordinary and redemptive act of heroism and survival. An achievement that is generally held to have surpassed even their original ambition.

Less well known is that Sir Ernest Shackleton was a lover of poetry, especially the work of the 19th-century British poet Robert Browning, to which he had been introduced by his wife Emily during their courtship and which he was fond of quoting (and even – according to his biographers – misquoting) at times of extreme hardship. In such moments he might recite Browning's 'Prospice'.

'Fear death?' it begins,

> [. . .] to feel the fog in my throat,
> The mist in my face,
> When the snows begin, and the blasts denote
> I am nearing the place.

The poet describes bearing the brunt of death in a single 'black minute' before – and because of – the reunion it will bring with the loved one: 'O thou soul of my soul! I shall clasp thee again . . .' So perhaps it is not surprising that during their long separations, Shackleton and Emily used the poem's title in their letters as 'a symbol of hope'.[1]

Shackleton's wider belief in the importance of arts and entertainments also had a material impact on the expeditions that he led. It was for this reason that he had allowed the young meteorologist Leonard Hussey to rescue his banjo from the wrecked *Endurance* and take it on the journey to Elephant Island, despite its weight: Hussey's playing of the banjo being described by Shackleton as a 'vital mental tonic'.

The oil paints, too, of the expedition's official artist George Marston found a new and unexpected utility when they were used to caulk the *James Caird* to make it seaworthy for that final, desperate journey from Elephant Island to South Georgia.

There was also a photographer and film-maker on the expedition: a young Australian called Frank Hurley. He wasn't the first person to have taken moving images in and of Antarctica. That honour went to Herbert Ponting, who had accompanied the earlier *Terra Nova* expedition of Captain Robert Falcon Scott. It was thought that the many photographs and filmed sequences that Ponting would record could be used for retrospective fundraising and income generation, to reduce the expedition's losses following its successful completion, but after the terrible deaths of Scott and his men such plans were no longer necessary and Ponting's filmed footage and his photographs were not made public for several years.

Two years after that tragedy, Shackleton too saw moving images as a means to extend his expedition's afterlife and – alongside his own planned speaking tours – an invaluable way to recoup costs. Frank Hurley's footage was subsequently edited for theatrical release and shown in its own right under various titles including *South* (1919) and *In the Grip of the Polar Ice* (1920).

Hurley's film-making is rudimentary in places, but when he shot his black and white footage of the *Endurance* being crushed by ice, the term 'documentary' had not yet been coined.

The film opens with a caption card describing the

> wonderful and true story of British pluck, self-sacrifice and indomitable courage displayed by a small party of men who set forth on a voyage of discovery into the hitherto unexplored lands and uncharted seas of the great Antarctic continent.

This gives way to footage of men with the weather-beaten skin of sailors who are wearing military uniforms and speaking with tight lips, nodding and laughing to Hurley, who must be standing behind the camera. The footage is black and white, washed with a pale sepia tint. First we see Sir Ernest Shackleton himself, then Captain Frank Worsley, who shows his gums when he smiles. Next comes the expedition meteorologist Captain Leonard Hussey, silently playing that banjo. The reason these men are here at the beginning of the film is because they reached the end of it, which is to say the end of their journey, the journey that is just about to begin on the film. They are smiling because they survived. They are wearing uniforms because the country they have returned to is still at war.

Blue-tinted footage of the *Endurance* leaving Buenos Aires in October 1914 is followed by scenes involving the expedition's 70-strong dog team: a seasick dog being given medicine, a puppy being walked along the ranks of kennels that line the *Endurance*'s upper decks, clouds of condensation in

the breath of a barking hound. Most of the film is coloured in this way, with a series of washes that tint Hurley's black and white footage blue, green, yellow, mauve or sepia, adding an additional poetic register to each shot.

We see a man sitting out at the end of the *Endurance*'s bowsprit and Shackleton taking observations at the binnacle. A shot of the distant Antarctic coastline beyond the rigging is followed by footage of the ship's prow breaking through sea ice, onto which is cast the cross-shaped shadow of the bowsprit. Shackleton climbs to the crow's nest and shouts directions down to Worsley, who in turn semaphores the instructions to his man at the wheel!

There is dramatic footage of hundreds of seals swimming north to avoid the onset of winter, of enormous icebergs, and 'leads' – cracks or channels in the pack ice – which the ship followed for 1,500 miles, until it became irretrievably frozen-in for the next nine months: '. . . like an imprisoned bird,' the caption reads, 'she lies in the hands of her ruthless captor'.

It is not a criticism to observe here that the film-making is often artless and repetitive: one panning shot of the trapped ship will be followed by several others which seldom add more to the whole than a longer running time. However, elsewhere come wonderful insights into everyday life on the expedition. Men hauling sarsen-like slabs of ice that once melted will provide a water-supply. Dogs being harnessed and exercised in readiness for the day when the expedition would eventually reach land. A day that never came.

In August 1915 the pressure of the ice surrounding the *Endurance* finally proved too much and the ship was crushed in a matter of days before being thrown out onto the ice at a 30-degree angle. Hurley's footage of these events, which

comes almost forty minutes into the restored version of the film, begins with a still of a man looking over the railing of the broken, listing ship. We cut to a panning shot, from left to right, which then tilts up and past some men milling about on deck to the top of the masts. A three-quarter view of the stern is followed by a shot which pans slowly from left to right, from right to left and then left to right again. We see the ship from the stern, then tilt up one more time to take in the line of the masts.

Shortly after those shots were taken, *Endurance* was abandoned: 'orders were given for the dogs and stores to be got out immediately onto the floe'.

Frank Hurley was not able to document the most dramatic parts of the men's escape. Partly because his camera would necessarily be packed away while he and the others fought for their lives, but also because he was among the party that was forced to winter on Elephant Island while Shackleton made that final desperate journey to South Georgia in the *James Caird*. These parts of the story are reconstructed in the restored film from painted magic lantern slides that Shackleton had used to illustrate his talks. The story is also padded out with wildlife and landscape photography. A further, closer shot of ice formations ashore, still tinted blue, is followed by an untinted left-to-right panning shot showing a deserted South Georgia shoreline of glaciers, rocks and sea ice before tilting up, up and up to the peaks of snow-covered mountains. A left-to-right panning shot of scree slopes and shore is followed by brief images of a glacier, the mountain peaks and some strangely eroded and almost architectural-looking ice formations.

Another caption card:

> Many quaint birds and beasts were discovered on the island and the following remarkable pictures were obtained only after a good deal of time and trouble had been spent.

A people exhausted by the First World War flocked to the cinemas to see Frank Hurley's film of the triumphant rescue! They watched as Shackleton and four others set out in the *James Caird* in appalling conditions at the beginning of their truly extraordinary 800-mile journey to the nearest whaling station and telegraph facility, and the expedition's only hope of rescue.

It seems fitting somehow that when Sir Ernest Shackleton died on 5 January 1922, he was buried on that same island of South Georgia that had given him life at the end of their heroic struggle in 1916. His grave in the cemetery at Grytviken is marked by a rough-hewn block of pale stone upon which, beneath the carved and black-painted outline of a nine-pointed star, is written, 'I hold . . . that a man should strive to his uttermost for his life's set prize.' This is a misquotation (aptly enough, then) of a line from the end of Robert Browning's poem 'The Statue and the Bust' which reads, 'Let a man contend to the uttermost / For his life's set prize.'

But all that was much later, for even after having reached the safety of South Georgia and safely traversed its treacherously mountainous interior, Shackleton had to find a way to rescue those of his men who had been forced to wait on Elephant Island. It took a further three months, but he succeeded on his third attempt, returning in August on a Chilean tug named *Yelcho*.

'All saved! All well!' reads the caption card at the end of

Hurley's film, but this is not completely true. While Shackleton did lead both *Endurance* parties to safety, his ill-equipped supply team, the so-called Ross Sea Party who had sailed to Antarctica in the *Aurora* under the leadership of Lieutenant Aeneas Mackintosh, faced hardships just as great and dangers every bit as grave as Shackleton or those who'd been stranded on Elephant Island. The *Aurora* too had become trapped by ice, but without all of her crew, so when both ice and ship were swept away during a winter storm the ten-man shore party were stranded. Hopelessly ill-equipped – their stores, including supplies of winter clothing, had been left on board the *Aurora* – they nonetheless faced the near impossible task of laying supply depots for Shackleton's main trans-Antarctic parties, whom they wrongly thought would be setting off to cross the continent that season.

They had thought not unreasonably that the lives of those *Endurance* sledging parties were in their hands, so between January and March 1915 they hauled supplies first to a landmark called Minna Bluff and then to a point on the planned route at 80° south. Starting again when the southern winter had cleared in September, they spent an incredible five months hauling supplies to points 81°, 82° and 83° south before laying a last depot at Mount Hope. Incredibly, by the end of January 1916 they had managed to lay all of the expected supplies along the route of an expedition that had not even been able to land on the continent and which would never need them. After such privation it is perhaps unsurprising that not all of the men survived the barely imaginable four-month journey back to their base camp at Cape Evans. Arnold Spencer-Smith, Victor Hayward and Ross Sea party leader Lieutenant Aeneas Mackintosh

died. The bodies of Hayward and Mackintosh were never found.

In the meantime, freed after months of drifting in ice, the remaining crew on the *Aurora* managed to sail her back to New Zealand, arriving almost a year after they had first been swept away. It was from here that some months later Shackleton joined a final relief expedition which left the port of Dunedin on a refitted *Aurora* just before Christmas 1916, to arrive at Cape Evans, Antarctica, on 10 January 1917.

Sir Ernest Shackleton erected a simple memorial to Spencer-Smith, Hayward and Mackintosh at Cape Evans, and the reader may not be surprised to learn what Shackleton chose to use for his men's epitaph. There would have been little space for words on the wooden cross he erected, so he wrote the lines on a piece of paper, which he rolled up and sealed inside a copper tube that was buried near the foot of the cross. It was found lying in the snow some thirty years later by members of a United States Naval Task Force. Upon opening the tube, they discovered Shackleton's paper and the lines that he had written for Spencer-Smith, Hayward and Mackintosh. It was, of course, an extended quotation from 'Prospice' by Robert Browning:

I was ever a fighter, so – one fight more,
The best and the last!
I would hate that death bandaged my eyes, and forebore,
And bade me creep past.
No! Let me taste the whole of it, fare like my peers
The heroes of old,
Bear the brunt, in a minute pay glad life's arrears
Of pain, darkness and cold.

For sudden the worst turn the best of the brave,
The black minute's at end,
And the elements rage, the fiend-voices that rave,
Shall dwindle, shall blend . . .

After having fought so hard and with every sinew of their bodies, every ounce of strength, for every waking moment and through all those months to claw their way back to life rather than the certain death that faced them following the destruction of the *Endurance*, it seems beyond tragedy that two members of Shackleton's expedition were killed in the trenches of the First World War shortly after their eventual safe return to the UK: Alfred Cheetham, who had been in the crew of the *Dudley Docker* for that desperate journey to Elephant Island, and Timothy McCarthy, who had struck out for South Georgia with Shackleton in the *James Caird*. Ernest Wild, too, a survivor of the Ross Sea Party, died on active service in the Mediterranean.

'All saved! All well!' indeed. But just as not all of Shackleton's men survived, not all of Captain Robert Falcon Scott's men perished.

They knew each other: the relationship between Sir Ernest Shackleton and Captain Robert Falcon Scott went back to 1901 when Shackleton had been appointed Third Officer under Scott on the expedition that would become more popularly known by the name of their ship the *Discovery*, and where the young Shackleton's duties among the ship's company included arranging the entertainments.[2]

It is perhaps surprising, given his subsequent achievements and feats of extraordinary endurance, that Shackleton's health had proved a problem during this earlier expedition.

He was sent home early after an attack of asthma had put himself and others, including Scott, at risk during a sledging trip. Before he left, however, he became the founding-editor of a ship-board scrapbook-style 'newspaper' that was modelled on the *London Magazine* and was intended, as Albert Armitage humorously put it, to have the 'largest circulation of any periodical within the Antarctic circle'.[3] The name of this paper was the *South Polar Times*.

As well as being an entertainment and a way to pass the long winter months, the *South Polar Times* was also a means of sharing information. Expedition members wrote illustrated guides to the particular experiments or bits of specialised kit that they were responsible for – perhaps so that if they died the knowledge might not be lost with them. There were meteorological reports and other factual materials, but the paper was also intended to raise spirits by providing a home to poetry – of course – as well as art and satire, with each issue being lavishly illustrated with beautiful watercolours and drawings. The *South Polar Times* was not printed, but typed and then combined and collated with its various illustrations and frontispieces into a single volume which had needs must to be passed from one crew member to another.

It was while researching the beautiful, three-volume 1907 and 1914 facsimile editions of the *South Polar Times* in the Rare Books and Music reading room of the British Library in London that I made my own discovery.

Among the articles, poems and sketches, the Antarctic heraldry, the expedition accounts and the locally satirical pieces, the *South Polar Times* contains some fiction. There are one or two very short stories in almost every issue. In some of these tales the authors speculate upon how their deeds might

be portrayed far into the future. One such story by Frank Wild, published under the pseudonym of 'Shellback' and entitled 'An Old Document (Found in 2198 AD)', is a fragmentary description of their expedition apparently put together from documents found 'during some excavations of ancient London'.[4]

But it is another story, one entitled, 'FRAGMENTS OF A MANUSCRIPT FOUND BY THE PEOPLE OF SIRIUS WHEN THEY VISITED THE EARTH DURING THE EXPLORATION OF THE SOLAR SYSTEM'[5] and written by G. C. Simpson in 1911 that seems truly striking, not least because it is a science fiction story about the melting of Antarctic ice, but also because Simpson even uses the specific construction 'climate change'.

'FRAGMENTS OF A MANUSCRIPT FOUND BY THE PEOPLE OF SIRIUS WHEN THEY VISITED THE EARTH DURING THE EXPLORATION OF THE SOLAR SYSTEM' is itself also of course, as the title suggests, a great example of the found manuscript gag, and one that was written just a couple of years after William Hope Hodgson's *House on the Borderland*. Unlike Hodgson's upper-class chums on an angling holiday, Simpson's extraterrestrials are cast as the finders of his particular manuscript, although more perceptive readers will have noted that however alien they may be, the visitors from Sirius are 'people' too.

It is a very short piece spread over three or four pages of blue type, and styled like a transcription of said manuscript. Perhaps it was intended to be read aloud – listened to – as much as to be read on the page. Simpson makes extensive use of erratically formatted ellipses to represent those places where the manuscript is irretrievably worn or the text illeg-

ible. In the brief quotations that follow I have – for purposes of clarity – standardised Simpson's ellipses to a conventional three-points.

'I know not why I write,' the narrator begins,

> for there will be none to read; but the history of the human race since the dawn of civilisation has been written, and I feel impelled to set down the manner of the end.[6]

In the story, Simpson describes a world in which Antarctica's central role in driving the world's oceans is disrupted by massive climate change and a melting of the polar ice following its industrial exploitation. At one point, Simpson's narrator also blames 'effeminacy' for the downfall of humanity, but such period homophobia notwithstanding, the story is if not great literature a fascinating piece of writing, albeit one that paints a pessimistic picture of the future of humanity:

> Only in a few places were the sciences and arts cultivated, and the great libraries containing the results of the fervid striving after knowledge, which had been characteristic of the previous ages, were deserted and given over to oblivion and decay. The Science of medicine was the only one which continued to be pursued with vigour, and this was mainly with the object of reducing the death rate. The love of truth for its own sake had departed . . .[7]

Within Simpson's text, water is recast metaphorically yet aptly as an elixir of life:

> . . . liquid was of crystal clearness, but had the faintest fluorescent glow, which gave it exquisite colours when agitated . . . it was the production of great extremes of temperature . . . electric furnace . . . liquid air . . .[8]

The impact of the discovery is explored. The elixir allows humans to live forever, but it can only be produced by the freezing and thawing cycles in Antarctica and thus:

> The ice-bound shores of McMurdo Sound became the centre of the world. From it flowed the life-giving fluid which alone sustained the human race.[9]

But these benefits produce complacency, and a dependency which has fatal consequences, for when Antarctica warms and there is a 'decrease in the number of blizzards, failure of the Ross Sea to freeze, absence of very low temperatures on the Barrier . . .',[10] the elixir can no longer be produced. In their struggle to understand this, the scientists of the day

> bitterly regretted their failure to keep Meteorological records . . . records of the British Antarctic Expedition were unearthed from the highest shelves of the lumber rooms of the libraries and were perused with avidity . . .[11]

In a particularly striking passage the 'great question of the day' is revealed to be, 'Does climate change?' It continues: 'The greatest authority, the Physiographer of the Expedition 1910–12 was quoted. He took for granted that ice age succeeded tropical age, and tropical age succeeded ice age.'[12]

But in Simpson's story this knowledge comes too late. The

cycle has been disrupted and science can do nothing to save humanity. The narrator is revealed to be the last human being. 'My dying thoughts,' he writes, 'are of the folly which neglected the teachings of the Scientists of the British Antarctic Expedition."[3]

Even this last premonition, of science being neglected, or ignored, seems astonishing.

My own surprise at finding this century-old climate-change science fiction story in the archives was echoed by contemporary polar scientist Professor David Walton of the British Antarctic Survey, who has more reason than most to be familiar with the *South Polar Times,* and who when I told him about it wryly agreed that this small branch of polar literature had 'certainly been overlooked'.

– 4 –

The Captain's Table

A bird is imprisoned in a flooded library, the cinema deserted,
A sudden combination of disturbances, a pile-up; production at an end.
The old stories of leaders, of 'vital men' and great technologies,
Of global economic growth – from the dawn of organic carbon
To the last port of call – have been replaced by
An unexplored manuscript, seasickness, a mal de mer.

An enormous fence separates the edges of Patience Camp from the island's various military installations. It stands more than eight metres tall in places and is made of prefabricated steel and concrete sections, partly to facilitate transit and installation, but also so that it can more easily follow the contours of the land. Floodlights and watchtowers are spaced along this border, and in places there are anti-vehicle ditches on the Patience Camp side.

There are regular patrols on both sides of the fence, and defensive measures including barbed wire and movement detectors. Where space and terrain allow, a three-fence system sees barbed-wire coils forming outer fences on either side of a lower-profile, central fence with movement-sensing equipment and patrol access on both sides.

Every mile or so there is a gate or a checkpoint, and here the alleys and paths of Patience Camp widen and the nature

of its buildings appear to change. They seem to grow more substantial and to serve other purposes than the simple provision of shelter. It is as if this increased density of shops, bars and fast-food joints has been produced by some effect of the more concentrated traffic and the confined space, just as the sudden faster flow and pressure differential caused by the lifting of a sluice creates an eddying turbulence that traps whatever chaff and debris, leaf litter and styrofoam might be carried in the water. There are souvenir shops piled with T-shirts, and faded postcards bearing seemingly random images of countless cities, cathedrals, beaches, castles; a Babel of greetings. Forgotten celebrities of all nationalities and ages blindly stare from the racks as if waiting for some statistically ever more improbable moment of recognition when they will be snatched up by a member of whichever diaspora and revived, reanimated. More rudimentary stalls sell salvaged goods and bric-a-brac of dubious function and origin, servicing unlikely markets and unimaginable demand. There are vacant lots piled high with electrical and other components: motors, cabling, circuit boards. There are relics: here a box of broken calculators and there – trailing wires and hydraulics, partly covered by tarpaulins, bigger than their shelter and recognisable from illustrations in books – the best part of the flight deck of an airliner. A chandelier the size of a bell tent buckles under its own weight. Some people have set up improvised book stalls while others sell street food, varieties of fritter and flatbread.

These few gates and checkpoints allow essential communication and traffic between the two worlds, the controlled movement of aid lorries, heavy plant and personnel: the refugees who are allowed to work on the base, the soldiers

and security men on a rare night's leave. Through these checkpoints and a system of illegal tunnels flows a constant exchange of contraband, construction materials and commodities, and especially money, which washes in and out of Patience Camp like the tide.

Moving quickly or at night, when the temporary nature of the buildings is less evident, this more commercial district might look like just another town, instead of what it is: an illusion created from stolen concrete and corrugated iron, summoned from paint and glass and hacked electric light by the presence and movement of such great numbers of people.

Some of the larger buildings are built so close to the wall that they seem practically a part of it. Nightclubs such as The Captain's Table are so well lit that the floodlights on the fence behind seem dimmed; but brightly lit or not, travellers would need to keep their wits about them in a place like this. It is said that late at night and after too much hooch or one too many games of cards plenty of people have taken a wrong turn backstage in one of Smiler's clubs and found themselves empty-pocketed or trouserless, sick and sore and paperless, on the wrong side of the fence or the law. Lost and with no means of return, or worse.

In the daytime this club looks like what it is, which is a machine for emptying the pockets of those who cross its threshold. It is a low-ceilinged hangar, a barn, with a bar running perhaps three-quarters of the length of one wall and a low, circular stage at the back of the room, lit by a couple of rudimentary overhead lights, now dark. A tatty curtain of plasticised foil strips hangs against the wall at the back of the stage, topped by wreaths of fairy lights, and behind this curtain is a door that leads to 'the facilities', the single changing room-

cum-lavatory, and beyond this a backstage labyrinth of offices and corridors and accommodations of various kinds. To the right of the stage, from the audience's perspective, are a scattering of tables and chairs and it is here that Captain Smiler holds court. He is a big man in more ways than one and powerful enough to hide in plain sight, protected by a network of bribes and unspoken instructions, a web of nods and glances, by the opening of guarded doors and the closing of them.

Here, Smiler might appear simply to be sitting at his usual table by the side of the low circular stage at the back of the bar and talking about this or that with a succession of visitors and supplicants who are each nodded in for their brief allotted audience. He might appear to be ordering or invoicing, to be filling permits and customs declarations, writing way-bills or pay-bills and shipping documents, but from where he sits Smiler can see every inch not only of his bar but of his whole operation. No movement or fluctuation escapes his attention or control and a decision might be communicated by little more than an imperceptible lift of the chin or a cherry-stone being spat onto the floor, followed by an underling shown out through one or other door. To the innocent observer this might all appear to be 'legit', to be the simple stuff of business and completely above board, but there are not many innocent observers invited to The Captain's Table when Smiler is holding court.

Occasionally though, some will just blunder in, ripe as a peach.

Two fresh-faced soldiers wearing more and cleaner uniform than most have rolled their money and stuffed it inside their trainers, keeping some minimal amount in a shirt pocket. Plump and green, to have got this far they will have

been waved through a number of invisible checkpoints that they didn't even know existed to play a game that they have already lost.

They cannot see it but they are caught as surely as lobsters in a wicker pot. Even if they wanted to, there would be no way for them to back up and return the way they came.

It was still light outside a second ago, but not here. They look around blindly until, seeing the figure of the Captain sitting at his usual table by the side of the stage, one of them steps forward and mimes the dealing of a deck to several players, saying in broken Spanish, '*Nos dicen . . . aquí . . . el mejor juego de* naipes *. . . en Georgias del Sur!*'*

Captain Smiler didn't get his name for nothing. Beaming broadly, he lifts his chin in the direction of a man who has been sitting in the shadows at the other side of the stage all this time and who now stands up and bows slightly with a decorousness that is almost sarcastic, saying, 'This way, gentlemen.' He opens a door and light fans briefly onto the stage as he shows them through.

In the daytime most visitors to The Captain's Table are Smiler's 'employees, agents or assigns', and Browning is just such a one. As he is nodded through from the street, Browning can't help but notice that Smiler seems genuinely pleased to see him, standing up and embracing him as warmly as it is possible to do at arm's length. The big man smells of expensive soap and cologne while Browning still smells like rancid turtle grease that's been burned on the fire, even though he has spruced up since they landed.

* Rough translation: 'They say . . . here . . . the best game of *cards* [archaic] . . . in South Georgia!'

'Come, come,' says Smiler, beaming. 'Bosun Browning! I was expecting you. How is the fruit business treating you, eh? Come, come!'

They have a lot of catching up to do. Browning has been away for weeks. He hands over a roll of cash which Captain Smiler quickly counts then tucks into his breast pocket.

It is still light outside but it is dark in the bar as, head bowed, Browning nods and frowns and listens intently to the very big man standing next to him. Every now and then a thought flickers across Browning's face and he opens his mouth as if to speak, but there is no break in the singsong of self-regard and status-affirmation that flows from the mouth of his host and so the flicker is gone and Browning finds that he is still nodding and frowning and knowing that of course he has no say in just how long he might be standing here like this.

The Captain is wearing an enormous, patterned open-necked shirt and a pair of canvas or denim trousers that seem to be uniformly encrusted with a whole lot of flash and unnecessary decoration of fraying and stitching and piping. Tiny bits of what could be mirrored glass are sewn into the fabric of his shirt and they catch the light whenever Captain Smiler moves, or when he picks up the bottle and pours himself a drink.

As he nods and frowns and listens and watches the clear spirit splashing into the glass, Browning is suddenly self-consciously aware of just how filthy and poorly dressed he must appear to his boss.

'Why the long face, Bosun Browning? You should cheer up a bit,' Smiler says, sloppily filling another glass and sliding it towards him. 'Cheers! See, if I was you I'd be smiling! I wouldn't be able to believe my luck! Because what else was it,

eh? You must be one hell of a lucky man, because what else could have washed you up in here to work for me? It must have been your lucky day when you walked in here.'

Browning shrugs and nods, smiling.

'So I don't know why you're frowning when – look around! – luck has thrown you into a situation where taking care of my interests and taking care of your own amount to the same thing. The more you do for me, the better it is for you! That's what I call lucky, Bosun Browning. What else would it be? I know they say that everybody is out for themselves these days, but in your case being lucky cuts both ways! So, by looking after me you are also looking after you, and that way we can both have a nice easy life!'

Browning knows that whatever it looks like, this is not really a conversation he is having, but a kind of ritualised performance in which he must play both underling and pupil to Captain Smiler's big boss and teacher. He knows that he is obliged not to contradict Smiler, so he affects the expected air of one who is undeserving of such beneficence. But while he is nodding and frowning and listening intently he is also remembering and totting up and ticking off and making a mental note of the various business transactions that are being accounted for and planned and it is this, his quick brain and his ability to get things done that have landed him here, not luck at all, or not only.

'It's men like you and me, Bosun Browning,' Smiler crows, 'with an eye for property, we create prosperity! Understand?'

Browning nods eagerly.

'You've got to race the days, Bosun Browning. Every tide of refugees is . . . What?'

'An opportunity, Captain!'

The 'business case' as Smiler calls it is well-rehearsed and Browning knows what is expected of him. He knows how this routine goes! 'We've got peach,' he retorts, to Smiler's evident satisfaction, 'and seedless grape. We've got mango too.' Then, with a sly look to his benefactor: 'Fortune smiles on men who run with Captain Smiler's crew!'

'Everyone's fair game, Bosun Browning. Right? Exploit both sides equally: Refugee and military! This land won't build itself, will it, Browning? Who'd fetch the water? Fell the trees? If not them it might be . . . you!'

Browning is nodding so hard his head might fall off. 'Orange, fig and honeydew, all kinds of fruit we stock,' he enthuses. 'Importers and exporters of mango by the box!'

Smiler claps a large and expensively adorned hand on Browning's shoulder. 'You've got to learn to swim,' he says, 'or you'd drown in this new economy. Are you listening?'

'Amigo!' Browning begins, then checks himself, hoping he hasn't overplayed his hand, quickly reverting to the familiar formality of rank: '*Captain*, sir,' he says. 'I need more document, sir. I need another twenty visa.' Then, quickly, as if realising his mistake, as if to cover up this admission: 'And when does the *Crux* sail? You want me to skipper her over?'

'Yes, maybe so,' says Smiler, seemingly falling for the diversion. 'I'll think about it.'

'Thank you, Captain! Thank you, sir!'

'Wait!' Smiler puts on an air of pantomime surprise: 'Twenty visa, Browning? So why have you only paid for ten? You are lucky that I like you, Bosun Browning. But tell me, why do I always feel like I'm going out on a limb for you?'

– 5 –

Antarctic Scenarios ii

Singing the Same Song

In the literatures of that 'Heroic Age of Antarctic exploration'[1] the reader will find tales – yes! – of heroism, and of remarkable endurance. He or she will read of 'firsts' and 'farthests', of discoveries and pioneering scientific research, and all achieved in spite of the gravest dangers faced in the most inhospitable and extreme of environments by men driven beyond recognition and close to insanity by unimaginable levels of cold, exhaustion, illness and other unspeakable hardships. Stories of the barest survival, of men beset at every turn by the fatal threat of crevasse or killer whale, of winter extremes suffered in ice caves, tents or upturned boats on starvation diets of seal blubber, but also of harsh words and miscommunication, of bungling and crossed wires, where the very means of salvation might be thrown away out of sheer ignorance: the telegram not sent, the message not passed on, the cure unrecognised and discarded. Stories too of futuristic, propeller-driven sledges and paddle-wheeled motor tractors sinking through rotten ice the minute they are unloaded, or proving comically useless on the uneven ice fields where they are stymied by hump and pressure ridge. Tales of Christmas puddings smuggled onto sledging expeditions in a sock and games of football played in the half-light, of regular debates staged or holiday shows and black-faced minstrelsy. There will be found discussion and

documentation of lives both scientific and domestic lived in cramped and sooty conditions, the nicknames and the friendships, the alliances and fallings-out, the various pastimes and habits of both mess-deck and wardroom* during those long, dark polar winters; the maintenance *in extremis* of class, rank and naval discipline. However, anyone wishing to survey this great honour roll of extraordinary human achievement and sacrifice is directed elsewhere, for within these pages it is sufficient simply to remember that it was against such a background and in such conditions that contributions to the *South Polar Times* were solicited and written.

When Michael Barne (1877–1961) wrote his famous poem 'Ode to a Penguin' for 'Shackles' during the *Discovery* expedition of 1901–4, he didn't mention that according to some sources officers were served the bird roasted while 'the men' of the lower deck ate it boiled, though he did eloquently describe the taste as being 'like shoe leather steeped in turpentine'.[2]

A decade later, and again under Captain Scott, George Simpson (1878–1965) wrote his story 'FRAGMENTS OF A MANUSCRIPT . . .' in officers' quarters that were delineated by an improvised wall of packing cases dividing the hut at Cape Evans, for a *South Polar Times* which had been revived under the editorship this time of the *Terra Nova*'s assistant zoologist Apsley Cherry-Garrard (1886–1959). Readers may have formed their own impressions of Simpson's story from the brief excerpts above, but it seems striking that in his lucid science fiction he should have written about 'climate change',

* In the British Naval tradition, officers (and scientists) were accommodated in a wardroom, 'the men' within a distinct mess deck sometimes also known as 'the lower decks'.

about 'tropical age succeed[ing] ice age', about the impacts of warming and the consequences of scientific discoveries being neglected, and that he did this in the expedition hut at Cape Evans at the end of a brutal Antarctic winter in 1911.

When he sat down to write about a 'decrease in the number of blizzards, failure of the Ross Sea to freeze, [and the] absence of very low temperatures on the Barrier',[3] was it merely wishful thinking or did it relate to the research that he and others were doing, a growing body of knowledge about Antarctica?

Simpson's image of Antarctica as a hub and driver of the oceans, where, to use his metaphor, the 'ice-bound shores of McMurdo Sound became the centre of the world [and from where] flowed the life-giving fluid which alone sustained the human race',[4] was playing on my mind because it seemed to strike a chord with a radical, contemporary approach to looking at the world and its oceans that has been devised not by scientists or geographers (or 'physiographers') but by a US artist called Peter Fend.

There is a revolutionary English folk song from the 17th century called 'The World Turned Upside Down'. In fact there are at least two such songs, but one of them gently and metaphorically proposes a series of reversals of the social order:

Air. Since all the world's turn'd upside down

If buttercups buzz'd after the bee,
If boats were on land, churches on sea,
If ponies rode men and if grass ate the cows,
And cats should be chased into holes by the mouse,
If summer were spring and the other way round,
Then all the world would be upside down.

Derry down, down, hey derry down,
Then all of the world would be upside down.

Peter Fend's innovative projection does just this. He turns our image of the world upside down by placing Antarctica at the centre of a new kind of global map. In so doing, Fend shows us a world that is almost unrecognisable at first glance. Gone is the familiar, broad, white margin along the bottom of the map: Antarctica as seen on the Mercator projection. Gone too, even, are the familiar shapes of continental land masses. Instead of showing, say, North and South America as a single discrete entity, Fend has dissected them according to water tables and where these outflow. His map reorganises, he says, 'geographical information according not to land masses or hemispheres, but to ocean basins'.[5]

'The point of the map is to make clear how ocean currents function,' Fend writes, when I ask for more information about his radical projection. 'The Arctic is subordinate, oceanically, to Antarctica. It is at a *cul-de-sac* in ocean circulation, the main gyre of which lies in the Southern Ocean, with splays out into the Atlantic, Pacific and Indian oceans.'[6]

With an Antarctica-centred Earth and apocalyptic, Edwardian thoughts of melting South Polar ice echoing in my mind, I take the train from London's Euston Station. To find out more about the contemporary relevance of George Simpson's story I have been making contact with people who are working in Antarctica or researching climate change now, a century later. The first scientist I have arranged to meet is Professor Robert Spicer of the Open University in Milton Keynes, an hour or so north-west of London.

It takes me a few minutes to find our suggested meeting

place amongst an abundance of institutional-looking low-rises and their accompanying infrastructure – boiler rooms, access ramps, connecting bridges, directional signage and flower beds – that is suggestive of hospitals as much as schools or universities. Stripped of any other function, the Open University's Milton Keynes campus would make an effective open air museum of late 20th-century British civic architecture.

Professor Spicer is a paleobotanist. He studies fossilised plants. We are meeting because I contacted him after attending a presentation that he had given about his research at the British Library in London,[7] where elements of his talk had seemed to echo George Simpson's *South Polar Times* science fiction story, his idea about 'tropical age' succeeding 'ice age'. Professor Spicer – Bob – generously gives me a couple of hours of his time, even though the following day he is leaving for a two-month fieldwork trip to India.

As we settle in his office, Bob Spicer tells me that while other major continents broke away from the prehistoric super-continent of Gondwana, Antarctica has been roughly in the same position for most of its existence over the last two-to-three hundred million (2–300m) years.

I tell him of my discoveries in the *South Polar Times*, of tales set in ancient London in 2198 and of George Simpson's short story about climate change and a melting Antarctica, and read some relevant parts aloud. Spicer is not surprised, since from the early days of Antarctic exploration at the end of the 19th century, coal and other plant fossils were found in the ice. These included the palm-like cycads, which, because they are found in tropical and subtropical regions, 'really did indicate to people that the Poles were once considerably warmer than they are now'. Around 100–150 million years

ago, Spicer continues, Antarctica had a small ice cap, perhaps the size of the Greenland ice cap and possibly at an altitude above 2,000 metres. So it would have sat on the mountains and all around it you would have had forests. The closest analogue would be the kind of forests you see in New Zealand today: trees belonging to the conifer group, *Podocarpus* and araucarias mainly, again some cycads, ferns, *et cetera*. At that time, 100 million years ago, you wouldn't have had any flowering plants, though these turned up on the Antarctic peninsula around about 95–90 million years ago. So Antarctica was a large continent with a nice small ice cap in the middle, and it was clothed in these lush forests teeming with dinosaurs, marsupials, primitive mammals, *et cetera*.

'From around about 50 million years ago, we start to see the development of ice caps on the scale we are familiar with, and over the last million years the ice has tended to wax and wane over periods measured in a cycle of about 100,000 years. This waxing and waning is related to things like the Earth's orbit, the amount of energy received from the sun. Looking around the world we can see that 100 million years ago sea levels rose and fell something like 5–10 metres on 100,000 year-type timescales, and the only way you can drive that is by changing the amount of ice that's perched on land in ice caps, and the only place where there was enough ice to drive that was in the interior of Antarctica.

'This story, in rough terms, was known a long time ago, but initially, because of things like fossilised cycads, people jumped to the conclusion that this meant you were dealing with tropical climates. However, when we started looking in detail at these fossil cycads what we found was that their leaves were deciduous.'

As we talk, Bob Spicer retrieves a large slab of pinkish stone from one of the many cabinets that line his office. Preserved in the rock is a mat of fallen cycad leaves and stalks bearing what – once he points them out – are the very familiar-looking, crescent moon-shaped leaf scars of deciduous trees. The rock itself is a naturally fired clay: 'These clays were laid down on the margins of rivers and in lakes on a flood plain, a big delta north of the Brooks Range in Alaska, and they are associated with ancient peat swamps. Peat turns to coal and lightning strikes can start that burning and it bakes the clay so you end up with this natural red brick colour. It's like a natural terracotta, and because it bakes hard – unlike most clays which fall apart – this stuff hangs together.'

He raps the stone with his knuckle, and it is as if he had struck a xylophone: 'Listen to that ring! It's like a tile, but formed entirely naturally. And it carries with it a message from 95 million years ago. But if you want to know what an extreme greenhouse is like, without any significant ice caps, you do have to go back into deep time.'

Spicer goes on to tell me that he and a colleague have just published a paper which focuses on findings from the continental interior of Siberia, in a study that compared climate modelling simulations for the Late Cretaceous period (100–70 million years ago) with indicators of climate that are actually found in the rocks. He explains how this is done.

'When we look at plant architecture in the fossil record, these are engineering solutions to particular environmental constraints. The architecture of a leaf is a compromise solution, trading off light interception with the costs of building the tissues in the first place, against the way in which the plant exchanges gases, sheds water, et cetera. All those fac-

tors go to determine what a leaf looks like – with the resulting leaf being the most economical solution. So when you look at these leaves, what you end up doing is decoding that architecture in terms of climate.'

Professor Spicer and his colleagues use a technique which involves analysing leaf character states ('in multidimensional hyperspace') in order to then plot them on a 'calibrated climate vector'. Put simply, where a fossilised leaf ends up along the vector tells you what the ancient climate was like. The burden of his recent article is that the fossil records, analysed in this way, challenge climate modelling programmes, or as Spicer *et al* put it in the article abstract:

> Geological evidence from the Late Cretaceous continental interior of the Vilui Basin, Siberia, suggests a far wetter, warmer, and more equable annual climate than General Circulation Models (GCMs) can reproduce. [This could] have important implications for the prediction of future climates and would suggest that we may currently be underestimating future climate change in such regions.[8]

As he tells me: 'It doesn't matter what you tell the computer models in terms of atmospheric composition, orbital parameters, continental geography or all this kind of stuff. If you look at where the modern vegetation grows that is most like the fossils it is northern Florida, but if you look at the climate that is most like the models are saying it was it's contemporary Southern Siberia around Lake Baikal.'

So why might such a mismatch be occurring?

'Perhaps because the models have their ancestry in

weather forecasting and operate at quite coarse grid scales, which means that there are number of shortcuts in the models which describe the planetary physics as we understand it today, since the physics are tuned to give a very good representation of what tomorrow's weather is going to be. And yet when we ask the models to tell us what the weather is going to be like in twenty, fifty, one hundred years' time, we are intrinsically asking the model to do something different than tell us what the weather is going to be tomorrow. And therein lies the problem. It may well be that we don't understand the physics of a warm world. One area where it's been suggested that there is an issue is the way that the hydrological cycle works: evaporation, transportation of heat, precipitation and so on. In a warm world you get more evaporation, you get more movement of heat from one place to another in storm systems and so on. Maybe we don't understand the physics of that to the extent that we should. So what this means is that all our projections for the future warming are likely to underestimate the degree of change.

'The scary thing,' Spicer continues, 'is that we tried to quantify the uncertainties in our methodologies, from using the fossil record and the geology, and we tried to quantify the uncertainties in the models, and the two sets of uncertainties are nowhere near overlapping. So it's a genuine data model mismatch. And here we are using those models to design adaptation and mitigation strategies on a global scale. My modelling colleague who wrote the paper with me would take a slightly different stance and say the geological data ought to be questioned, and I would say yes, but you have to overcome what we call consilience, that is that a larger number of different geological indicators are all singing the same song.

Some are biological and some are not biological, and when that happens you should listen to what the song says.'

Perhaps this is an apt metaphor.

'Well, yes,' he says. 'The Earth is singing us a song about how the past was, and we should listen to it.'

So does this data mismatch between climate models and analysis of the fossil record suggest that we are listening to the song at the wrong speed? Spicer graciously allows my over-extension of his metaphor: 'Or maybe they are singing in a different language!' he offers. 'But the physics of the models are the physics of how today works, whereas the Earth is saying, "This is how it used to be", and there is a discordance between the two narratives. Part of our jobs as geologists and modellers is to try and bring those two songs in tune. At the moment they are not, but if we don't bring them in tune it spells disaster for us all because we are not going to adopt the right strategies for managing climate change on a planetary scale. One reason that the Poles are so important is that whenever the planet has changed its temperature in the past, it's at the Poles where you get the most change happening. They warm up and cool down far more than the equator so they give you a much more sensitive record of what change has happened.'

So the Poles are a *crucible* for further change?

'Or a kind of amplifier. Maybe the Poles sing louder. It's certainly a clearer message. A clearer record of climate change is available from the Poles than from anywhere else.'

Is this a cause for worry?

'It's grounds for concern. If you read the reports of the Intergovernmental Panel on Climate Change (IPCC) bear in mind the political process that goes into the IPCC, in

particular the fact that in order to get ratified you have got to get governments around the world agreeing with the outcome, and the wording is chosen so that everybody can sign up to it. Well, that immediately gives you the lowest common denominator in terms of signal. And when that is coupled with the fact that the models underpinning the IPCC's projections are themselves inherently conservative, you end up with a story that is the best possible view of the future you could imagine.'

As Bob Spicer says this I can't help thinking of Voltaire's hapless hero Candide who in the eponymous novel is beset by catastrophe at every turn, but for whom nevertheless, 'All is for the best in the best of all possible worlds.'

'The reality,' Spicer continues, 'is likely to involve more rapid and extreme change than we currently anticipate. For example, the latest IPCC report didn't include the last five years of melt-rate!'

Before I leave, Professor Spicer shows me through the astonishing collection of fossils that he and his colleagues have amassed during the course of their research: fossils of Ginkgo and Metasequoia, and some platanoid leaves that are very like the leaves of the familiar London plane trees – all of which came from regions that are now frozen but which once were warm temperate. Thinking back to the date of 2198 given in one of those *South Polar Times* science fiction stories, a question is nagging at me: 'How many thousands or tens of thousands of years might it be before we see significant melting of the Antarctic ice?'

Professor Spicer's answer is more disturbing than I could have anticipated. 'No,' he says. 'Not even thousands, but hundreds of years.'

– 6 –

‘I Like Penguins!’

Increased risk of wildfire; negative effect.
Reduced yields, heat stress; negative effect.
Crop-damage increased the negative effect.
Wind-throw, inundation,
Thawing increased the negative effect.
Melting, drying, methane rising,
Warfare increased the negative effect.

Jenny was sitting on the chair beneath the awning so that her mother could plait her hair. Emily had washed it with water warmed on the stove, and then combed it through. It was so tangled at first that every tug of the comb seemed to have Jenny wiggling and moaning and crying big splashy tears, but there was something comforting about it for the child, too, because it was like normal life. For Emily the fact that it was a difficult and fiddly job helped to take her mind off everything, because she really had to focus and concentrate on each plait, and once she had started there was no way she could leave her daughter’s hair unfinished!

‘I like penguins!’ said Jenny, repeating a favourite non sequitur which had become something of a catch-phrase, and Emily laughed. Around them the other women were getting ready to go to work. Their names were Agnes, Felicia and

Matilda. They had shampoo and make-up. They were kind to Jenny and gave her a tiny packet of fruit-flavoured candy. It was just flour and syrup and chemicals, but that didn't matter.

Emily and Jenny would not be staying in Patience Camp long, but despite that mother and daughter were settling into some sort of routine. They had been able to wash and clean up with a bowl of lukewarm soapy water, which had been heavenly. Emily had gratefully accepted Matilda's offer of a change of clothes. It had been like Christmas and birthday rolled into one, the day they had put her drab and filthy old clothes into the stove. Now she wore a striped dress that looked half-presentable, and over this – to try and keep it clean – she wore one of Browning's old shirts tied around her waist like an apron.

Jenny had clean clothes too, a skirt and tights and some kind of knitted or fleecy top. Even Browning seemed to have a spring in his step. His skin was glowing now, instead of being all salty and open-pored as it had been at sea.

While they talked, Emily combed through and parted Jenny's hair, starting in the middle. Using the comb and some grips to hold the rest of the hair in place and out of the way, she would take a finger of grease and run that 'down the path' as she called it, massaging it into Jenny's scalp and hair before pulling the hair into tight plaits which clung to Jenny's head. Plaiting her daughter's hair reminded Emily of her own childhood. She could remember when it was her sitting where Jenny was now, with her mother fussing over her and saying that the grease would help her hair to grow.

'The tighter it is,' her mum used to say when they were finished, 'the longer it will last.' Then she used to stretch out the

old nylon stocking cap that Emily had to wear to protect the plaits and stop them fraying. They would be pulled so tight that Emily used to feel as if she couldn't smile for a week.

Just like now, chatting with Agnes and the others, it used to be a social time. Emily could remember how the door would be left open to let a breeze through, and all the neighbours would be there, sitting around and talking. There was always a chatty atmosphere. It would be a time for talking and laughter, never just the two of them. She could even picture the particular colour and texture of their old blue sofa and the framed religious prints that were hung on the green-painted wood panelling. As Jenny squirmed, Emily couldn't help wondering what she would remember when it came to be her turn to plait her own daughter's hair. Would she remember the old life or the new one?

'Just be patient!' she said, with a hair grip in her mouth. 'You think this is bad? You are lucky! When I was your age the most terrifying thing was the straightening comb! Believe me, that was worse than the tightest plait! My mum used to heat it up on the stove and she would always burn my ear.'

Emily laughed to herself: you would know something was going on in the street when you could smell hair-straightening! 'Hold still now,' she said. 'Nearly there.'

Agnes was putting on her make-up, using a little handbag mirror that she sometimes let Jenny play with. She said that the reason that they slept during much of the day was that they had to go and work every night in a bar over by the military perimeter, a fortified fence behind which were garrisoned thousands of troops. The soldiers were there to defend Antarctica, but it was their presence and their dollars that drove the businesses of Patience Camp. Jenny didn't

understand this at all and thought it was funny that anyone would want to work while everyone else was sleeping.

'Well, maybe we will get to have a nap ourselves, too,' said Felicia, 'because God knows I've done a day's work already.'

The evidence of that was all around them. All three women also worked for one of the so-called *cartonera* publishers* in the camp. This was a kind of cottage-industry media that had arisen to satisfy the demands of Patience Camp's transient population for reading matter, whether for educational or entertainment purposes. The *cartoneras* got their name because they produced cheap and roughly printed books with covers made out of salvaged cardboard boxes, for which the publishers paid litter-pickers a few more pennies per kilo than any one else. The pages of the books were printed with whatever print technology and paper could be begged, borrowed or stolen. Sometimes the pages might even be written out by hand. Agnes, Matilda and Felicia did not have to pick the cardboard themselves, but every few days they would take the trolley and go and collect new piles of printed paper and new bales of cardboard. The next few days would see them collating the sheets then sewing them into the roughly painted covers that were hanging up to dry all around the hut.

'At least this way I don't have to buy books,' Felicia would joke.

'I like penguins!' Jenny would say.

* A type of publishing that arose during the economic crises of the early 21st century in Argentina where the sight of people who were reduced to selling litter for a living (the '*cartoneros*') had become emblematic of a new kind of urban hardship. The *cartonera* publishing movement was started by artists and writers in Buenos Aires, Argentina, and quickly spread to cities across the South American continent.

It was piece-work, paid by item, but it was simple enough, too. The books would be trimmed with an almost comically big pair of tailor's scissors that were too heavy for Jenny to lift with one hand. Finished books were stacked up in the corner and Agnes showed Jenny how they sandwiched each pile of twenty finished copies together and sat on them to crease the spines properly and make the pages lie flat.

The three women were very friendly and made them both feel welcome. They made it all seem like a big adventure to Jenny, who loved reading anyway. In return for helping them, Matilda gave Jenny a book that she said was a good one, and told her she could help again the next day if she wanted. Felicia read the story aloud to her, first in her own language and then more slowly in Jenny's.

This particular book was a story called *O Pequeno Príncipe*[*] and its cover bore a crudely stencilled image of a fox, a rose and a snake. Jenny couldn't understand Portuguese, but she knew the story more or less so felt that she could almost follow it as she bobbed along on the current created by Felicia's lovely voice. She enjoyed trying to speak some of it out loud too, even though there was no connection between the sounds of the words and that immediate unthinking knowledge of what they meant, as comes with a mother tongue. The cover of this book had evidently been made from a cardboard box that once contained oranges or grapes and underneath the painted title she could see the words Montichelvo, Valencia and Spania printed in red ink. These words and the glimpse they gave her of a vanished world made Jenny feel sad. They

* A Portuguese-language edition of *Le Petit Prince* by Antoine de Saint-Exupéry, first published Paris: Reynal & Hitchcock, 1943.

had lost so much and travelled such a long way, and yet they still seemed no nearer.

'I like penguins!' Jenny said, to cheer herself up. Then, once Matilda, Agnes and Felicia had gone to work: 'Mum?' She put the book back down on her lap and turned to look up at Emily. 'Can I ask you something? Are we stuck here too?'

'No, sweetheart, we're not stuck. We just got here! What makes you say that?'

'Are we ever going to get there?'

'Of course we are. Will you hold still!'

'How much further is it?'

'Be patient my darling, it won't be long. We've just got to keep going. Your father will be waiting when we get there . . .'

'Why did he have to go first? Why did we have to go at all?'

'We were lucky, Jen, you know that. We were able to get out. But he had to go ahead and find a job. A new home, so we could follow. Say a prayer for him tonight and we'll see him really soon.'

'I'm too hungry to sleep.'

'Well, Browning said he was going to get food, didn't he? What do you think he'll bring?'

'I don't care what it is as long as it isn't flat bread, or turtle. Yuk! It makes me feel sick just thinking about turtle.'

'Well, *don't* think about it then. Didn't he say something about some fruit?'

Jenny stopped squirming, and held up the book: 'Oranges?' she said, pointing at the book's painted cover, then, 'No! I want roast chicken. Like we used to have. Do you remember?'

'Remember? I can just taste it now. John would peel the potatoes. You'd lay the table. I'd make the gravy. Then we'd all wash up.'

'And next day daddy would make chicken soup!'

Emily laughed. 'A mess, more like.'

'I miss our house, Mum.' Jen's sudden frankness was disarming. 'Our kitchen. My friends.'

'Oh, my poor little water lily,' said Emily, her fingers still now. 'Remember the penguin song?' She hummed the first line of 'Twinkle Twinkle Little Star', then began to sing: 'Oh creature which . . .?'

'. . . which,' Jenny joined in,

> in southern waters roam,
> to know some more about you I would wish.
> Though I have seen you in your limpid home,
> I don't think I can rightly call you 'fish'.[1]

Leaning down to kiss the top of her daughter's head, Emily stopped for a second: 'I like penguins, too! You are very beautiful when you sing, sweetness, do you know that? I wish I had a camera. Come, let me finish this. It'll soon be time for bed.'

*

At the end of the alley Browning and Smiler watched motionlessly. Smiler's hand was still reaching out where it had silently commanded Browning to stop. The Captain's face was illuminated by the glare of the searchlights from the fence. He was looking well, as Browning had obsequiously pointed out, and was wearing a patterned shirt that appeared

to be made from enough material to generously clothe two average-sized men. He wore the shirt untucked over another pair of enormous and complicated-looking trousers. Sunglasses were perched unnecessarily on his head as usual.

Smiler was transfixed, but merely whispered, 'What am I going to do with you, Browning, eh?'

Jenny was saying her prayers, as Browning had heard her do on every night of their long voyage, and he felt a pang of familial affection. 'Dear God,' she said, closing her eyes. 'When I see the Southern Cross I think of my daddy. Keep him safe. I know about the daily bread, but can we have some fruit instead. Dear God, please look after my mum

and my dad,

and Browning,

and Agnes and Felicia

and Matilda

and the penguins,

and all my new friends in Patience Camp,

Amen.'

Smiler turned to look at Browning. 'When I arrived here,' he said, 'even I was green. Like a baby. Like a puppy! I had no father figure to do things for me, so I had to make a decision: to be the dog or the master. And believe me, I'm not green now.' As he said this Smiler firmly jabbed Browning in the side.

'Look around you, Browning. These people are dogs! They think you are their friend! So, what do you do? You must use them! Harness them to your own ends.'

Smiler loved to talk about what he called 'the principles of commerce', and Browning could feel just such a lecture coming on now.

'Look around! When demand is this high, Browning, so are our margins! But the old rules still apply: don't get stuck holding too much stock, so when the market drops or push comes to shove, you can easily cut your losses. Always line someone else up to take the rap. And always, always, always collect your debts.'

He paused: 'And you – *you* have to pay me what you owe me, Bosun Browning. Ah, look! Now here's a pretty scene! So this is the famous Emily!'

'Yes!' said Browning quickly, then tempered his enthusiasm. 'Well, it's nothing out of the ordinary, is it?'

'Don't you have a heart, Bosun Browning? A mother's love is a wonderful thing! Where would you or I be without it, eh? We'll have to find a way for you to make it up . . .'

'Thank you, Captain,' said Browning. 'You know I'm good for it.'

'Browning, that child's a beauty, look at her! What a pearl! A little bird! So unspoiled, so pristine. Like a glass of clean, fresh water!'

Browning tried to think on his feet. 'If you let me skipper the *Crux*, you needn't pay me! I could make it up that way?'

'No,' said Smiler, not smiling any longer. 'I'll give you your papers, in exchange for . . .' He paused for dramatic effect. '*The child*. Yes! Why not? She's a pretty prize, a real banker's bonus!'

Wrong-footed, Browning stammered: 'Can't you give me more time? I mean, I'm only a couple of thousand short, sir!'

'What am I going to do with you, Browning? How many times must I say: don't get too attached! A mango in the box is one thing, but it's worth nothing once it has been eaten!

What is left? *A stone*. You've got to keep it cool, remember? It's only business!' He looked at Browning for a second. 'But I guess you are right. There are plenty more like her.'

Browning seized the idea eagerly: 'Hundreds!'

'OK, here's what is going to happen. I'll let you take the *Crux* on her next crossing so we're square, but if *you* want the child you'll have to buy her back from me. What would be fair? Shall we say five thousand? There! So now you have a choice! Buy her back, or leave her with me when you sail. Think of her as your *first-class ticket*! I'm offering you an *upgrade*!'

He paused for a second to allow Browning to absorb the way he has been gulled. Then Smiler reached to a pocket on the breast of his shirt and took out a folded piece of paper: 'Oh yes, and I think *you* should give this to your delightful Emily now. She will know who it's from. I'm not sure he had time to finish it, but I suppose it's the thought that counts.'

As Smiler walked away, Browning looked at the folded piece of paper in his hand. It was worn and dirtied, almost polished in places by the succession of pockets through which it had passed to reach this point. 'My darling Emily,' Browning read, as he began to carefully unfold it, but he was less interested in the letter itself than he was impressed by what it represented: the scale of Smiler's operation. He had tried before to comprehend the complexity and clout of a network of bribes, kickbacks and such naked exercisings of power as could disregard security perimeters and jurisdictions alike, but looking at this letter Browning was awe-struck by the precision and sensitivity that Smiler's power could exert and in his vanity he was also flattered to be part of such power. He was amazed that such an important man would take it

upon himself to even know, let alone care, about the little people who had fallen temporarily into his charge. And then to have gone to all of this trouble! Smiler was a very big man indeed.

Browning wondered whether Emily would be gratified or appalled that the same distribution network that was taking her and Jenny to Antarctica was also capable of reaching in and performing such a delicate act – retrieving something as small as a piece of paper and reuniting it with its intended recipient! Would Emily be impressed or terrified – Browning was genuinely curious! – by this evidence of Smiler's interest in the fate of her family?

– 7 –

Antarctic Scenarios III

An Attribution of Risk

In a pamphlet published in 1940, the then recently knighted Sir George Simpson can be seen to have moved on from the central question – 'Does climate change?' – that he had posed some twenty-nine years earlier in his story 'FRAGMENTS OF A MANUSCRIPT FOUND BY THE PEOPLE OF SIRIUS WHEN THEY VISITED THE EARTH DURING THE EXPLORATION OF THE SOLAR SYSTEM'.

By 1940 Simpson was also President of the Royal Meteorological Society, and his more functionally titled *Possible Causes of Change in Climate and their Limitations*[1] is by comparison a dry – and extra-terrestrial-free! – document which limits the stated discussion to a comparison of three factors: the changing distribution of land and water, changes in the Earth's orbit and solar radiation. By methods that are perhaps more rhetorical than they are experimental, Simpson plumps for the latter. However, he also notes that 'it is not yet clear whether the glacial epochs were caused by an increase or decrease in solar radiation'.[2]

What makes the former George Clarke Simpson's climate-change science fiction story in the *South Polar Times* of 1911 more notable then, is that he was not just a random polar explorer, not simply any scientist, but one of the most important British meteorologists of the early 20th century. According to the *Oxford Dictionary of National Biography*, Simpson

was the first lecturer in meteorology at any British university (Manchester, in 1905). He was in fact the meteorologist on Captain Scott's *Terra Nova* expedition of 1910–13, but his responsibilities and achievements did not end there. He built one of Antarctica's first weather stations and used weather balloons to test the temperature of the atmosphere at heights of up to six kilometres (reached on Christmas Day, 1911). He also bore the unique responsibility of commanding the *Terra Nova* base camp while Scott's doomed party tried to reach the Pole, although he was relieved of that position before the tragedy could be known.

Having survived the *Terra Nova* expedition and the First World War, where he saw service first as meteorological adviser to British forces in what was then known as Mesopotamia – contemporary Iraq – and then in a senior administrative role as Assistant Secretary to the Board of Munitions, and a spell in India, Simpson went on to become in 1920 the Director of the Meteorological Office, the UK's national weather service, now officially known as the Met Office. George Simpson joined the Met Office one year after it had been made a part of the new Air Ministry, which was based in Adastral House on the corner of Kingsway and Aldwych just off the Strand in central London. At the time, the Air Ministry was responsible for military, naval and civil aviation and by 1924 the Met Office had also established a separate department for airships to provide weather reports for territories along the 'proposed airship routes to Canada, India, Australia and New Zealand',[3] and to investigate 'special problems'[4] associated with the vessels. 'What exactly were those problems was not known,' Simpson himself writes in his 1930 obituary of the Airship Division's late head, M. A.

Giblett, for the journal *Nature*. 'Weather forecasting was obviously one, but there were others, not yet formulated, connected with the forces present in the atmosphere which would affect largely the success of airship transport.'[5]

The Ministry's Airship Division was disbanded and all plans for airship-based civil aviation – the Imperial Airship Scheme – abandoned in 1931 following the R101 disaster in France, when on her maiden overseas voyage the experimental British government-built airship 'dived to earth and almost immediately became a flaming wreck, just after 2 a.m. on 5 October 1930 about two miles south of Beauvais'.[6] One of the forty-eight passengers killed was the Met Office's M. A. Giblett.

During his time at the Met Office, once he had settled into the new Ministry, Simpson retained an active scientific role, publishing prolifically and continuing his earlier research into atmospheric electricity and thunderstorms as well as writing a substantial number of papers and articles on ice ages and prehistoric climate. Simpson turned out to be the longest-serving director in the history of the Met Office, not retiring until 1938.

The Met Office's headquarters today are situated in a purpose-built campus of modern steel and glass on the edge of the city of Exeter, in the south-west of England. I have made an appointment to talk to Dr Mark McCarthy of the Climate Impacts team at the Met Office Hadley Centre, currently the UK's foremost centre for climate-change research. When I arrive the wind is whipping and tearing noisily at a row of sail-like corporate banners which shepherd the visitor through a landscaped water garden towards the architecturally imposing entrance.

Dr McCarthy himself has a background in physics, meteorology and atmospheric physics, and has been working at the Met Office Hadley Centre for ten years. For much of that time he has been concentrating on historical climate records with a particular focus on the role of water vapour, which he reminds me is itself a greenhouse gas. As the globe warms up more water will evaporate into the atmosphere, which in turn would be able to hold more – an example perhaps of the kinds of positive feedback which scientists fear will further accelerate warming processes.

We talk briefly about Simpson's science fiction story and McCarthy tells me that 'at the end of the 19th century there was a very famous paper published by a Swedish physicist named Svante Arrhenius: "On the Influence of Carbonic Acid in the Air upon the Temperature of the Ground."'[7] The paper was published in 1896. 'Without the aid of computers he did tens of thousands of calculations by hand, and he did the first experiment doubling carbon dioxide in the atmosphere to see what the impact would be on surface temperature. His model came out with a warming of between 5° and 6°, which is still within the range of uncertainty we have today, one-hundred-and-however-many years later, despite the simple assumptions that he had in his model. His research was driven in trying to understand the paleoclimate records at that time. There was a lot of debate about what had driven the ice-age cycles et cetera and what had fed into that, but Arrhenius later went on to begin to speculate that the industrial activity of humans might be a driver of climate change. So for Simpson to be speculating about human agency in climate change in 1911 is very much "in period". Arrhenius won the Nobel Prize for some other work about chemical reactions, so

it wasn't his main body of work, but within the climate community it's quite a significant contribution.'*

McCarthy stresses the huge benefit that comes from the Hadley Centre being an integral part of the Met Office: 'The same fundamental physics, the same model, is used for the day-to-day weather forecast as for our climate simulations. So the benefits feed both ways and all of the developments that we discover through the climate research feed back into the model that's being developed with the weather forecast and vice versa.'

So how far into the future do these models project?

Outlining climate models which incorporate interactions between atmosphere, ocean and land surfaces, McCarthy tells me that these have been run 'across several millennia to look at historical climate variability and try to replicate the long-term cycles [but] most of the models now run at the Hadley Centre project about a hundred years into the future'.

Why not further?

'Where that becomes problematic is that it is difficult to know what a model is telling you about future climates, because the further into the future you go, the more significant the scenarios that you are driving it with become, particularly in terms of greenhouse gas emissions. We can't make any assertions about what the natural variability might do, and for example we don't know what volcanic activity is going to be like over the next hundred years or what solar activity changes there might be. So it's not necessarily sensible to

* The Nobel Prize in Chemistry 1903 was awarded to Svante Arrhenius 'in recognition of the extraordinary services he has rendered to the advancement of chemistry by his electrolytic theory of dissociation'.

try and push them beyond a hundred years to make those climate predictions.'

McCarthy explains some of the research process that feeds into the reports of the Intergovernmental Panel on Climate Change, or IPCC, which Bob Spicer had spoken about in Milton Keynes.

'We can't pretend to predict human behaviour or how people are going to respond to a change of climate, so there is an international effort to draw up a set of defined scenarios for the IPCC, to span different scenarios of population growth and reliance on different kinds of fuel technology. Those sets of scenarios fall into four broad categories to provide some span of the range of possible future socio-economic pathways that we might follow. You are creating some scenario of what human beings might do and then how that affects greenhouse gas emissions and then in turn how the climate responds.'

Creating a scenario? A word that comes from the arts, rather than from science or military planning, 'scenario' has its origins in the early history of opera, in Italy, where it used to refer to a list of scenes, entrances and exits, and a summary of the action in the play that would be fixed to the back of the scenery.

McCarthy tells me that the IPCC 'storylines' and 'scenario families' (these are the terms the Panel uses) form part of what is called the *Special Report on Emissions Scenarios*, or SRES ('ess-rez') for short.

Some of what McCarthy says about the IPCC echoes Bob Spicer's comments: 'The IPCC review process is very extensive, and there are very strong constraints on what is suitable to be refereed by the IPCC. By the time it has gone through that process it becomes the most authoritative, agreed-upon

statement of the consensus of opinion in science that there is, and in that way represents a very important body of work. The downside of that process is that there can be quite a time-lag, so obviously although IPCC 4 was only published last year, there's a lot of research that's happened in the intervening time.'

The implication is that much recent research is not included in the most recently published IPCC. So how might IPCC 5 differ or develop from the current report?

McCarthy responds by talking about the language that is used in IPCC reports and how it is coded according to very careful criteria.[8] So, for example, major statements in IPCC are assigned degrees of confidence. If something is assigned a level of 'very high confidence', this means that there is at least a nine-out-of-ten chance of its being correct. Similar arrangements are applied to the probabilities of particular outcomes or events, with a likelihood of 'virtually certain' meaning that there is a greater than 99 per cent probability of occurrence.

He suggests that 'What's interesting is the strength of the language that you can see growing through time. Certainly the physical science statements in the most recent [IPCC] reports make clear that warming of the climate system is unequivocal and so now there is a very strong use of language compared to the early reports, where there was still considerable debate about the size of the uncertainties and the historical temperature records and so on. As the science develops, as our confidence in the physical mechanisms and processes grows, then that will feed through and hopefully improve our understanding of the knock-on impacts.'

Does a kind of frisson or more likely a collective shudder go around the building when a major climate-related event

happens, perhaps something that the models had not predicted?

'There are certain events that will trigger particular activity, and of course we will be asked for comment or analysis, whether from Defra [the British government's Department for Environment, Food and Rural Affairs], where a large proportion of Met Office Hadley Centre funding comes from, or the press. So with a lot of extreme events people ask us, "Is this climate change in action?" and the standard response has usually been that we can't attribute individual events to climate change – because extreme events happen, that's their nature, and the climate varies of its own accord so you have wet summers and you'll have floods and you'll have heat waves.

'But what we are now doing a lot more of is looking at an attribution of risk. So one example that has been used extensively is the European heat wave in 2003. There were 35,000 deaths attributed to that across Europe. It was a very significant event, and it was far above any other extreme heat event that had ever occurred in the observed historical record going back to the mid-19th century. So it really stood out as particularly extreme. Work was done bringing together the historical observations and the climate model work we do to look at how climate change that has occurred over the last century has affected the risk of events of that magnitude occurring, and that work came out to show that in current climate conditions an event of the magnitude of 2003 is now about twice as likely as it was before. So you can attribute about 50 per cent of the risk of that event as having come from climate change, without having to say "That event was climate change."'

How might population movements that are caused by climate change get factored into the computer models?

McCarthy says that although the models don't include human movements *per se*, scientists can look at things like water stress (an agreed term that describes 'when the demand for water exceeds the available amount during a certain period or when poor quality restricts its use'[9]), where it might be possible to say, that this region will see an increase in water stress, based on population and water availability, while other regions may see a decrease in water stress.

'Another piece of research,' he continues, 'is looking at the number of people that would be likely to be at risk from coastal flooding due to sea-level rise under future climate change. Particularly looking at Southern Asia and the Bay of Bengal to identify where populations may be forced into mass migration as a result of exposure to those kinds of events. And there's a link between the adaptability of the nation and the coincidence of extreme events. So with the risk of sea-level rise coupled with storm surges, far more people are going to be exposed to those sorts of events.'

It's chilling reading through my notes at this point. My conversation with Mark McCarthy took place on 24 April 2008. It couldn't have been predicted, but only one week later Cyclone Nargis was gaining strength in exactly the area he was talking about, before it swept over Burma's Irrawaddy Delta region on 2 May, creating a storm surge the exact impacts of which remain unclear. Official estimates in the days and weeks immediately following the disaster suggested 78,000 people were killed and 56,000 were missing,[10] with a further 1.5 million 'at risk'. It is an indicator of the tragedy that can be wreaked by storm surge alone, without the added

danger, yet, of dramatically rising sea levels beyond the few millimetres per year that is currently observed.

I had to double-check what McCarthy had said about the probabilities of a recurrence of the European heat wave increasing because it has already happened once, because presumably the same can be said of the risk that is created by the catastrophic Irrawaddy storm surge: that having happened once it is more likely to happen again. When I telephone the Met Office to try and find out more about this escalation of likelihood, Dr McCarthy is not available to speak, but a spokesperson tells me that current understanding would suggest that 'a warmer climate is likely to lead to an increase of intense tropical storms with associated higher wind speeds, heavier rain and storm surges'.

– 8 –

Patience Camp S'Éveille

Impacts on the elderly, disruption of societies,
Salinisation: beginning of the end.
Disruption of habitats, land-use relocation,
Drinking water shortages: beginning of the end.
Changes in coastlines, extreme high seas,
Storm surge struck: beginning of the end.

It was not quite dawn but the sky was lightening and there was no breeze, so the smoke from hundreds of fires rose straight into the air and then hung over the camp, obscuring its farthest reaches. Browning often liked to come up here, to the steep rocks above the settlement. He would sit here for hours sometimes, picking through the looser stones to find the occasional bright lump of quartz. It gave him a sense of perspective when things weren't going his way. It is lucky, he would think at such times, that I am the most patient man in Patience Camp.

Other times he got a kick seeing the place like this. Like a god, looking down from some celestial vantage point at all the little people below. At such times he felt that if he grew tired of Patience Camp he could simply brush it away with a sweep of his hand, as if all this was nothing more than ants swarming over the food and crumbs that had been left on a

table at the end of a meal. Right now he didn't know what to think, but it was something like: if scum like Captain Smiler can be king of this shit-hole then what does that make me?

It felt as if he had been there for hours, unable to sleep. From where he sat, Browning could see the countless rooftops of the whole crowded shanty town tumbling down towards the rusting hulls that were strung out in great pontoons to create the illegal harbours of Cumberland Bay, Patience Camp's interface with the rest of the world. Above the camp wheeled vast flocks of seagulls and other birds. From here, too, the ocean looked beautiful. As darkness lifted, distant drifting lights revealed themselves as tankers and tugs, as junks and cargo ships and barges all caught up in their continuous, complex dance. It looked beautiful from up here, nothing like the filthy and chaotic reality.

Patience camp was waking up. Emily and Jenny would be asleep, but he knew that across the camp other women would already be walking to the fountain to collect the day's water. Emily and Jenny were safe, he was glad of that, but elsewhere in the camp night workers and musicians would be finishing work, gamblers counting winnings or reckoning losses. At The Captain's Table and a hundred other such places the barmen would be wiping and sweeping, flipping chairs and stacking them upside down on table tops.

The music had stopped. This was Patience Camp at dawn, not so much waking up as in transition from one state to another. It was the same every day. Light flooding through the camp and then receding, then flooding through again like the tide flowing in and out.

Captain Smiler might already be sitting at his usual table by the side of the stage, drinking coffee as if nothing untoward

had happened while backstage his men counted the night's takings or 'took out the rubbish' and shared any booty. On nights like this when Browning couldn't sleep he felt as if all they were doing was picking over a carcass.

It was business as usual in Patience Camp.

Far below he could see people were already moving around. Now that the music had stopped the sound of animals being slaughtered was carried on the wind from over by King Edward's. Down at the pontoons he could see bulldozers and heavy plant already at work demolishing the latest part of the camp to have been deemed unsanitary or condemned in the name of 'road-widening'. All of it was bathed in the soft pink hue of dawn. Even the concrete slabs of the fence looked pretty in this light.

He laughed bitterly to himself as he swigged beer from the can. Here we go again, he thought, then: how do all those little people do it? Waking up in that squalor and beginning again the exhausting and relentless matter of staying alive, all driven by some slim hope that they were on the way to something better! Sure he was waking up in the same squalor as them most mornings, but he had a safety net and a purpose in this place. He had important business that lifted him out of the seething chaos that lay spread out before him.

Another day in Patience Camp.

But no, this was not just any other day. That was the problem.

For a moment Browning had forgotten about Smiler, but it was their last conversation that had kept him awake all night. He had just been turning it over and over in his head. He felt that there was nothing he would rather do than go and tell Emily this latest outrage, but he didn't want to wake her. No,

that wasn't quite it: he didn't want to ruin everything! He had wanted to tell her what Captain Smiler said so they could figure it out together, but he had had to stop himself from running to her like a baby! They had passed so many days on the boat, and so many nights once Jen had gone to sleep, by talking about John-this or Captain Smiler-that, by talking about each other's families and backgrounds and what they'd used to do before, that right now Browning missed even just the sound of her voice: whispering, conspiratorial, mindful. Yes, Emily would know what to do, but how could he tell her this when they had come so far together?

It was only a couple of months ago that he'd first set eyes on these two. Hardly any time at all since they had been as undifferentiated from the rest of the passengers as grapes in a bunch or identical yellow mangoes in a box. It was just a few weeks since he had protected them without a second thought, but now it felt as if he had known them all his life, and yet Emily wasn't even his type!

The joke was that at some point near the beginning of their voyage – as if to pass an idle moment, maybe once they'd got clear and could relax a little – he remembered looking fairly coldly at Emily and thinking, in more or less these exact words, that it was on voyages such as this that a man could fall in love.

But it got worse.

Wouldn't it be funny, he had thought to himself, almost as if it were a game and never for a minute believing that it was even possible . . . Wouldn't it be funny . . . It was as if one half of him had been daring the other to do it! Wouldn't it be funny, he had thought to himself, if I fell in love with this woman during the coming weeks afloat.

Oh my goodness!

That was the real joke of it!

Because having had this thought, Browning had then watched himself inexorably doing precisely that! Like a toy train being pushed along its wooden track, he was powerless and had no possibility of changing course. He'd planted the idea in his own mind and then like a fool he'd watched it take root and grow until it dominated his thoughts and made him weak. Smiler of course had seen this weakness written all over his face. And now he was exploiting it.

How could he have been so stupid?

Distracted, he took too big a swig and felt the warm foaming liquid running down his chin and his neck and – too late! – soaking the front of his shirt. Furious with the big man and with himself he roughly wiped his jowls with the back of his hand and threw the empty as far as he could, roaring in impotent rage.

Far below Browning's eyrie, Emily had been singing her own sleepless song. She felt as if she hadn't slept properly in weeks. Every night she would endlessly go over the circumstances of their escape, wondering 'what if?' and imagining that they hadn't got away, or that she had lost sight of Jenny in the throng, or – in her darkest moments – imagining that John had forgotten about them, that he hadn't made provision, that he had somehow sold them out or betrayed them and was already setting up home with a new young girl who flattered him and who had fallen for his direct and energetic ambition, his desire for betterment and to make something of himself, just as Emily had fallen all those years ago and still was beholden now.

She knew that it was John's drive and ambition that had

saved them. It had been John who had seen it coming. It was he who had seen the need to sell everything while they still could and pay their way out, long before Emily had. It was John who had forced them to take action, who had taken everything they had to that hopeless-seeming rendezvous in the back room of some sailors' bar and had miraculously brokered the deal with one of Smiler's other lieutenants in the north. It was John who had arranged to go ahead and prepare the way so that his family could follow. John who had told them where and when to go and meet Browning for their own voyage south.

The journey had seemed so simple the way he had explained it, but her husband had never been to sea in peacetime, let alone now. Like Emily, he had never really travelled at all. The way he spoke about it was as if their destination was only a tram ride away and he would be waiting for them by the stop at the other end! He could not have known, he could not possibly have foreseen how quickly things would become difficult, or that people would be killed for places on those last few boats. That local or regional differences would be exploited and whole communities scapegoated, sacrificed, in the rush to get out. If it hadn't been for Browning! If he hadn't hidden them under a tarpaulin until they were a safe distance from the coast. If it hadn't been for Browning silencing with a single devastating blow from his machete the bigoted loudmouth who had tried to whip up the other passengers against them! If it wasn't for Browning, Emily couldn't imagine where they would be. Or rather she could, and all too easily. Whenever she closed her eyes she would see those same scenes and then she would pile scenario onto scenario, conjuring phantom separations or huntings-down, thinking

of further imaginary degradations and outrages until it was all that she could do to stop herself from screaming out, and she felt just as terrified as if it were happening all over again. Even here and now, in the relative safety of Patience Camp. She might have nodded off for a minute or two, but the camp was too much of an affront to her senses to allow anything like sleep. After the quiet rocking of the boat, every noise got her back up, raised her hackles in that sudden cold rush of fear and shame. Everything sounded like danger. How could she keep Jenny safe if she allowed herself to sleep? Someone had to keep watch, and where was Browning when she needed him? She had got used to his attentive presence, his putting her and Jenny first, his appetite for her company that could be assuaged with just a smile or a chat or by his playing cards with Jenny: a game that he called rummy but which was nothing like the rummy that Emily remembered playing with her grandmother when she was a child.

In this sleepless state her thoughts were a circular jumble of the events of the last few months. The chaos that they had survived. She remembered gunshots, a crowd scattering like starlings, shoals of bloated bodies in the water.

We're not watching the news any more, we *are* the news, she thought to herself, but there aren't enough cameras in the world for this! And yet we're alive! When perhaps we too should be floating face-down in the water.

Browning was also thinking about their journey. Rolling it over and over in his head. How in this chaos he had tried to help people survive, and not end up as yet more bodies in the water.

I do try, he thought, to be fair in my dealings, but my feelings for these two make me weak. And yet they trust me!

I've found a family, in a way. That Jenny, she is practically a daughter and – thanks to me! – not just another bloated body in the water.

*

Browning's eyes were bloodshot, his clothes were dirty and stained and he stank of sweat and beer. He was surprised to see Emily awake already. 'Morning, Em!' he tried, but the note of brightness in his voice didn't match his dishevelled appearance. He maintained it nonetheless: 'You sleep well now?'

'No,' said Emily. 'I thought I would but it's so noisy! And that damned light kept me awake. And when I did sleep . . . Hang on, what's going on? Has something happened?'

Browning smiled broadly. 'The *Crux* came in this morning fully laden, and Captain Smiler has agreed I can take her back across! Best of all, there are two places left!'

Emily leapt from the chair and threw her arms around Browning. 'Yes! Oh, thank God.'

He pulled back slightly, then blurted it out. 'But the price has gone up. I need another thousand each. Paid in advance!'

Unable to believe what she was hearing, Emily stepped back and regarded Browning as if seeing him for the first time. 'But you promised we could pay you once we get there. John's been working hard, putting it aside . . . I don't understand.'

Behind her, Jenny started to stir beneath the pile of blankets and coats that had been her bed for the night. 'Browning? Is that you?' she asked. 'Mum?'

'Hey, Jenny, did you sleep well?' he asked.

'What time is it?'

'Breakfast time,' said Browning, throwing her a food bar which she caught and, tearing open the wrapper, devoured eagerly.

'Hey, Jenny,' said Browning quickly, handing her his water bottle to wash it down. 'Last night? Did you see the Southern Cross?'

'Yes!' she said, unscrewing the top to take a drink.

He turned to Emily with a new and cocky-sounding brusqueness in his voice. 'How should I know what you can pay? People hide all sorts of things in a lining or a hem! You'd be surprised!' His eyes narrowed: 'Can you pay or not?'

Emily felt a sudden chill, but all she could manage to say was, 'Why did I think I could trust you?'

'We don't need two places, Mum!' Jenny had been listening. 'I can sit on your lap.'

'Jenny –'

'Curl up really small'

'No.'

'Hey, Jen,' said Browning brightly. 'Do you want to see the penguins? Do you want to see your dad? The *Crux* is a fast boat! We'll make a sailor of you yet!'

'Yes!' said Jenny.

'You know I couldn't pay a single dollar.' Emily was disgusted and made no attempt to hide it. 'You brought us all this way, *for this*? You *know* we've nothing left till we get there. The clothes on our backs! We were running for our lives! Remember?'

'You'll have to find a way. Sell! Or borrow! Don't you want to go? A thousand seems quite cheap for a new life!' He turned to the girl. 'Hey, Jenny, would you like to see your father?'

'Yes!' Jenny was sitting up in bed now and reaching for her shoes.

Then Browning turned to Emily. 'You see? Listen, you're *a woman*. You can earn money here. Or maybe *one of you* could go ahead . . . I'll tell you what I'll do. Pay me five hundred by tomorrow and Jenny comes with me! You know you can trust me.' He turned and beckoned to the girl. 'Hey, Jenny, we can go and find your dad!'

'Oh, yes!' she said, embracing him excitedly.

'I bet he'd meet us off the boat!' He turned to look at Emily. 'Five hundred.'

'Oh, yes, Mum please! I want to see my dad. I want my dad!'

Emily was momentarily dumbstruck at the callousness of Browning's suggestion, but realised that she was trapped. Browning had driven a wedge between her need to protect her daughter and the need to survive, between her love for her daughter and her love for John. She felt as if shards of ice had pierced her heart, but she knew too that she could not allow herself to sink here, they had come too far for everything to end like this. 'Jenny, *no*!' There was real anger in her voice. 'You're just a child. I won't allow it.'

'Why not?'

'Jenny, no!'

'And when I make another trip,' Browning continued, '*you* can follow. You have a choice! Do you want a new life for Jenny? It's up to you.'

Emily was now incandescent with rage. 'You are playing with the life of my child! How can you be so cold?' She reached to seize Browning's arms. 'After everything you've done.'

'Don't mess with me,' said Browning, pushing her away. He might have been intimidated by Emily once, but no longer. 'I need it by the morning. Look.' He fumbled in his breast pocket and threw down the paper that Smiler had given him the night before. 'He is *gone*. Don't you get it? Can't you see I'm trying to help you! Wake up and smell the coffee! Or do you want to sink, to have to carve out a life here like *Felicia*' – he spat out the name contemptuously – 'and them, *on your own*. It's not my fault. It's simple economics. The price has just gone up, that's all.'

– 9 –

Antarctic Scenarios iv

An Unfortunate Chapter

The sporadic nature of the entries in the four relatively slim volumes that comprise a personal journal kept by George Simpson during the gruelling years of the *Terra Nova* expedition is perhaps attributable to the relentless and time-consuming nature of the extensive meteorological records and experimental logs that he was responsible for maintaining, around the clock and in all weathers, as well as to his self-confessed dislike of writing.[1] In addressing himself to the chore of beginning the third of these notebooks, he apologises for the scant attention he has paid to the task, and wonders how the keepers of diaries find anything to write about.[2]

If brief, however, the journals (or their transcripts[3]) certainly make for illuminating reading. Fascinating insight into the naval discipline imposed on board ship comes with the revelation that even in those conditions white dress uniforms were worn for church on Sundays, while conversely a more egalitarian ethos than might have been imagined is also revealed, whereby officers and scientists had to take equal turns with the men of the lower deck at shovelling coal, manning the pumps and other such filthy and arduous tasks.

The journals begin with a note from Simpson requesting that he and the other expedition members' contractual relationship with Scott on matters of exclusive publication be respected and that the contents not be made public in

a newspaper or otherwise. This caveat, while no longer binding, is explained in an additional note from 2001 by a then National Meteorological Library director as relating to Scott's need, as noted above, to recover expedition costs through publications and lectures, although a further more recent caveat expresses a request – which *is* still binding at time of writing – that out of respect for the family, the journals be used for reference only and not published or quoted in whole or part. So I shall do neither. In fact there is arguably little of a controversial or private nature in the journal transcripts, but of course the fact that the expedition ended so tragically and after such hardship on the return from the Pole, with the terrible deaths of Edgar Evans and Captain Lawrence Oates, and days later of the final members of the party – Henry Bowers, Edward Wilson and Captain Robert Falcon Scott – must have created a mood of respect and a need for circumspection, particularly when the impending dash for the South Pole is discussed in the journal by Simpson himself or when the prospect is anticipated in quite surprisingly pessimistic terms by Scott in one of the expedition's regular lectures.[4]

Lighter matters will of course have seemed less noteworthy, although one mention of the *South Polar Times* comes in Simpson's journal entry for 25 June 1911. He praises the paper following its first issue on the winter solstice, and remarks particularly on the quality of the illustrations, of Herbert Ponting's three photographs and the topical articles. He also complements both Apsley Cherry-Garrard's editorship and the specially monogrammed sealskin cover made by expedition motor engineer Bernard Day, and expresses hope that there will be further issues during the expedition.[5]

After such enthusiastic discussion of the *South Polar Times* I had hope that Simpson's journals might contain rough drafts or notes relating to the writing of his own story, or even some, or any, further mention of the journal, but sadly there is none.

It seems that the release of the September edition, containing Simpson's 'FRAGMENTS OF A MANUSCRIPT . . .' coincided more or less with a gruelling spring sledging trip that Simpson undertook with Scott and others, which took up the whole of the second half of the month and an account of which takes up many pages of his journal. But even notwithstanding that notable distraction, Simpson's existing daily routine of observations and measurements at the various experiments and weather stations and the constant reconciliation of time-keeping devices comprised a grinding and never-ending series of small tasks which needed to be performed at all times of day and night and in all weathers, as did the subsequent calculations and entries in the various logs.[6] Such repetitive yet painstaking tasks must necessarily have commanded most of his attention, putting his confessed lack of diaristic application into perspective. It is perhaps no wonder that when Simpson left the expedition early in 1912 following the arrival – with a relief visit of the *Terra Nova* – of news of the illness of his Indian Met Office director Gilbert Walker, necessitating his own return to post, he had not contributed any further pieces to the *South Polar Times*.

George Clarke Simpson does make one or two further appearances in the contributions of others, however. An affectionate tribute by Edward L. Atkinson,[7] one of the expedition's two surgeons, is illustrated with a caricature labelled 'Sunny Jim' that adapts a then popular cartoon character

from the packaging and advertising of Force breakfast cereal to show Simpson as a foppishly dressed and pomaded dandy in white trousers and red tail coat, a balloon dangling from his furled brolly. 'Sunny Jim' – or 'Jim-sun' for short – became Simpson's nickname among expedition members, which may explain the fact that Atkinson addresses his panegyric not to G. C. but J. S. Simpson. 'Your published works are light and airy,' jokes Atkinson, referring perhaps to both the subject matter and the small number of scientific papers Simpson had yet published at the time, which all looked at atmospheric electrical phenomena. 'Your laboratory here is full of interesting gadgets,' continues Atkinson, 'notably the Blizzometer . . .'

Another satirical fantasy piece entitled 'Valhalla, 2000.A.D. – A Celestial Medley',[8] by expedition geologist Thomas Griffith Taylor, sees unnamed but recognisable expedition members arriving at the gates of heaven to plead their case. First is Simpson, en route to take a thermometer reading but more interested in finding some 'medical comforts',[9] the nature of which comestibles should be obvious even without seeing Simpson's own use of the term in his journal when a real-life search party – similarly provisioned – has to be sent out in a blizzard for Edward Atkinson, who has failed to return from a stint on observational duties at one of Simpson's three outlying weather stations, a short but dangerous trudge from winter quarters.[10]

George Simpson's journal ends when he arrives back in New Zealand on the *Terra Nova*, and it does so with a note of regret and an admission of depression which feels ominous in the light of subsequent events, but which, it is important to note, reflects only the news that awaited them in New

Zealand that Norwegian explorer Roald Amundsen's party had already reached the Pole months before – something that Simpson had reflected in his journal that they'd be bound to do[11] – and not the subsequent tragedy. Simpson closes by noting that the scientific work of the expedition to date at least has been a success, and that this should be of value in the end.

Simpson never returned to Antarctica but his thoughts about the expedition's scientific legacy were expressed and shared by many. Simpson himself became something of an authority on the climate science of the time, publishing widely and internationally on the subject from the 1920s onwards, alongside the continued pursuit of his earlier and central research interest of atmospheric electricity. One particular focus of Simpson's subsequent research was world climate during the ice ages, with at least nine substantial works on the subject being found in his more than eighty published works: 'ice ages and pluvial periods will bulk largely in this attempt to describe some possible causes of climatic change,' he writes in 1940. For, 'if only we can explain a single glacial epoch [. . .] I feel sure we shall have the key to the whole climatic problem in our hands."[12]

Today, Simpson is often and possibly unfairly grouped with those meteorologists who in the early and mid-20th century were dismissive of the role of carbon dioxide in climate change. In an article entitled 'Ice Ages' and reprinted from the pages of *Nature* in 1939 by the Smithsonian Institution, he notes: 'It is the problem of meteorologists to study the extent and sequence of the climatic variations in all parts of the world and to seek the cause and mechanism of the changes."[13] Within the article he continues:

> It is becoming more and more generally accepted that no change located in the earth itself – such as a change in the distribution of land and water – or in the earth's atmosphere – such as a change in the amount of carbon dioxide or volcanic dust – can explain the sequence of climatic changes associated with the Pleistocene Ice Age [. . .]. The most obvious source of climatic change would appear to be solar radiation.

Similar conclusions are reached in an earlier article of Simpson's entitled 'Climatic Changes' in which he points out that theories of climate change based on 'the amount of carbon dioxide in the air [have not] been generally accepted by meteorologists', and that 'the only theory which is seriously held is that of changes in the radiation given out by the sun'.[14] An immediate concession that measurements of solar radiation only extend over 'a period of about six years' does nothing to dissuade him from the view that 'there is no known reason' why this should *not* be the case, before ending on the slightly circular assertion that 'it is now widely held that [. . .] variations of climate [. . .] are mainly due to changes in solar radiation'.[15]

Simpson's 'Climatic Changes' article was published in 1926 as a guest contribution to a book entitled *The Pulse of Progress*, otherwise authored by Ellsworth Huntington, a then extremely prolific Yale geographer but now widely discredited for being, in the words of Martin Carr in a 2006 lecture at the Royal Society, London, 'a bad scientist, a eugenicist and by all accounts a racist'.[16]

Ellsworth Huntington was one of the leading proponents of the theory that climate change is primarily caused by

solar radiation. An earlier work of his entitled 'The Solar Hypothesis of Climate Changes' from 1914[17] lays out – at considerable length – Huntington's thinking on the relationship between solar activity and storms on Earth, drawing far-reaching conclusions about both prehistoric and contemporary climate change in the process. In Huntington's work, analogy and metaphor, and conclusions based for example on superficial visual similarities shown by maps or graphs (such as apparent correspondences between such nebulous factors as the 'Distribution of Progress' and the 'Distribution of Climatic Energy' plotted onto maps of the United States[18]) are used to create self-supporting arguments in the absence of any data: 'What we shall say is avowedly speculative,' he notes at one point. 'Nevertheless it seems to illustrate a great principle so clearly, and to spring so logically from that principle that it is worth considering.'[19]

This demonstrable over-use of extremely limited data is not exclusively his problem, of course. It has been pointed out this this has characterised much scientific practice in the past. Astronomer Roger Malina noted in 2001 that one of the best-kept secrets in his field of science was that *for the first time ever*, they had more data than they could cope with. Astronomy, he suggested (and the same could be said for other fields of science), 'used to be meaning rich and data poor', where now it is 'data rich and meaning poor [. . .] Data,' he went on, 'is not rare, but cheap and plentiful.'[20]

This was not the case a century ago, and Huntington's science is certainly 'meaning rich and data poor'. In concluding his lengthy and influential article on solar causes of climate change from 1914 he is forced to concede that 'We have *no direct evidence* [my italics] that any such change in either

sun spots or storms has taken place."[21] He was, in Malina's terms, using little or no actual data to produce a great deal of meaning.

In other works, Ellsworth Huntington goes much further than this, justifying Martin Carr's and others' characterisation of him as racist. He argues for relationships between climate and intelligence, between the weather and the development of evolutionary advantage or 'the origin of racial differences'.[22] In a characteristically odious chapter of *The Pulse of Progress* entitled 'The Evolution of Racial Character', Huntington again uses very little data to generate great sweeping generalisations about his subject, often relying on a strange rhetorical mixture of evasion and collusion, the oft-repeated invitation to complicity. 'Answer these questions thoughtfully,' he says at one point, 'and you will have given your own answer to the great question of whether there is any such thing as innate mental differences between one race and another."[23]

Huntington proves Carr correct time and again. His arguments are not only racist but inevitably self-supporting and circular, often returning to a self-congratulatory and pseudo-scientific assertion of European superiority. Through his eugenicist interpretation of Charles Darwin's theory of natural selection, Huntington argues – grotesquely by contemporary standards – that Europeans are particularly 'competent' because of 'stimulation' by the climate and because of climate change around the last ice age, when the population 'was descended from the survivors of numerous strenuous migrations [and a] process of migration and selection [. . .] enabling the evolution of man's brain to proceed faster in the regions of stress than in regions like the tropics,"[24] during which process 'a large share of the weaker, less intelligent people must

have perished or failed to replace themselves', while at the end of the ice age 'the rigors of [Europe's] sterner climate also killed off the weak and inefficient'.[25]

'Lastly,' Huntington suggests in typically self-serving manner, 'a continuation of the same process has now carried the centre of human wealth and influence across the Atlantic to America, where a new type of humanity is evolving by reason of still further natural selection,'[26] with American migration (at least, he says, 'until the last few decades') containing 'relatively few who were physically or mentally weak'.[27]

'Of course,' he adds, also typically, 'this is an inference based on only the meagrest facts.'

Simpson's association-by-publication with such racist garbage inevitably casts new light on aspects of his story for the *South Polar Times*, however. Eugenicist ideas about national identity and race, where the relative ease of modern life was blamed for supposed qualitative reductions in the 'fitness' of the population, what Hilary Rose describes in the *Lancet* as a then prevalent 'worrying about the quality of the national stock,'[28] and ideas about how a 'race' can be improved by artificial forms of natural selection (and for Huntington, such 'strenuous selection'[29] included war), find brief but unmistakeable echoes in Simpson's 'FRAGMENTS OF A MANUSCRIPT . . .':

> The great intellectual activity which had its dawn in the Victorian age was followed by a reaction resulting in a desire for nothing but luxury and self-indulgence . . .
>
> . . . human race had become almost uniform and there were no barbarian tribes to overrun and destroy the effeminate . . .

Of course the opinions of characters in any piece of fiction, including those of a narrator, need not reflect those of its author, but the writer Edward J. Larson points out that such eugenicist thinking was popular in the British scientific establishment of the time,[30] where he suggests it had been particularly influential during the creation and planning of (and even the recruitment process for) such Heroic Age explorations of Antarctica as the *Terra Nova* expedition.

The term 'eugenics' had been coined in 1883 by the future Sir Francis Galton, a cousin of Charles Darwin and a member of the council of the Royal Geographical Society (which supported both Scott's and Shackleton's expeditions) as well as of various Royal Society Committees and the Meteorological Council. According to Larson, Polar explorers like Scott and Shackleton were seen as embodying precisely the kind of vigorous and 'efficient' qualities that the British Empire needed, what Ellsworth Huntington would later characterise as the supposedly racially desirable qualities of 'high intelligence and restless activity'.[31] Larson goes on to suggest that the *Discovery* expedition itself could arguably be viewed as 'an experiment in building better Britons through selecting the best stock and subjecting it to a struggle for existence in the world's harshest environment'.[32]

Whether the expedition members saw themselves in this way, as some kind of genetic or evolutionary avant-garde, and the expeditions as an evolutionary laboratory, is impossible to say, but Simpson and others' subsequent long-term professional interest in prehistoric ice ages as the key to understanding both climate change and human evolution may be more than just coincidence. This focus on ice ages as, they thought, the crucible in which modern humans evolved –

with migration as the reagent – reads like a way of talking about themselves, or of re-imagining their own strenuous endeavours in one of the only places on earth where such extreme conditions still obtained. It was in other words a sustaining fantasy about the evolutionary advantage of their own efforts.

If that seems a bit of a stretch, it is widely reported that Charles Darwin's *On the Origin of Species* was included in expedition reading matter, and *South Polar Times* editor Apsley Cherry-Garrard reminds us that it offered Captain Scott and Edward Wilson 'a wide field of thought and discussion' when they took it on their first Southern Journey.[33] Writing more recently, Larson points out that Scott titled his own book *Voyage of the 'Discovery'* as a homage to Darwin's *Voyage of the Beagle*.[34] Simpson's fictional allusion to eugenic principles, including the evolution of humans into a state where 'Death was entirely banished',[35] might be seen as simply being 'in period' or an effect of the continued influence of thinkers like Francis Galton, but 'FRAGMENTS OF A MANUSCRIPT FOUND BY THE PEOPLE OF SIRIUS WHEN THEY VISITED THE EARTH DURING THE EXPLORATION OF THE SOLAR SYSTEM' was written – like all contributions to the *South Polar Times* – for a particular audience, as part of a 'conversation-in-print' that sat alongside and within the other forms of discourse entertained and articulated by the group. The deployment of these ideas within Simpson's story might also simply reflect, or play to, a type of 'wardroom wisdom', the result perhaps of the frequent and well-documented debates among the party during those long winter nights, a commonsensical-seeming application of Darwin's theories, but where in Larson's words, and with literally fatal irony,

'The explorers' failures never led them to question their racial superiority.'[36]

Another *Terra Nova* survivor, Thomas Griffith Taylor – the geologist who had penned the 'Valhalla. 2000.A.D.' fantasy for the midwinter *South Polar Times* – embraced such ideas much more wholeheartedly following his own early return from Antarctica aboard the *Terra Nova* relief voyage of March 1912 with George Simpson and Edward 'Teddy' (later Admiral) Evans.

Griffith Taylor had grown up in Australia and following the expedition he returned there for what proved to be a high-profile academic career as a geographer. He published numerous books – such as *Environment, Race and Migration*[37] – espousing ideas about the role of natural selection that are every bit as racist as those of Ellsworth Huntington, whose work he'd been aware of before the journey to Antarctica and with whom he shared a 'lifelong mutual admiration':[38]

> Throughout the ages the fundamental law of the survival of the fittest has obtained, but it may be expressed more exactly as regards man by the phrase 'the weakest goes to the wall.' The fittest tribes evolve and survive in the most stimulating regions; i.e., where living is not so hard as to stunt mental development, and not so easy as to encourage sloth and loss of initiative. The least fit are ultimately crowded out into the deserts, the tropical jungles, or the rugged mountains. [. . .] this 'crowding out' is still occurring . . .[39]

Drawing on 'a combination of geological theory, nineteenth-century racial science, and environmental deter-

minism',[40] Taylor 'applied the geological metaphor of zones and strata to the migration and development of human groups'.[41] He produced authoritative-looking maps and diagrams to demonstrate the role of ice ages (of course) in the evolution and migration of peoples according to a pseudo-scientific classification of races based on fairly ad hoc head measurements, which nonetheless were cited in support of his theory that what he called the 'late Alpine' peoples were the pinnacle – or using his geological metaphor, the most recent strata – of human evolution.

Taylor's eminent position in the Australian public life of the time, which included the writing of geography textbooks, might have given these racist ideas very substantial influence and impact, but he took them to such a potty extreme – suggesting at one point that 'biologically a strain of Alpine "blood" would strengthen the future Australian population',[42] and proposing that since 'mongoloid races' were better adapted to the Australian climate there should be a national policy of racial mixing to create a superior '"Alpine-Mongolian" [people]'[43] – that he was even actively at odds with, as in 'far to the right of', the profoundly Eurocentric and discriminatory 'White Australia Policy', a series of laws which from 1901 to the 1970s restricted non-white immigration to the country. This stance seems to have cost Taylor his career in Australia and he spent a couple of less controversial decades working in the USA and Canada until his retirement.

Shortly before his death in 1963, Taylor returned to thinking about Antarctica, writing a very brief article on the 'Probable Disintegration' of the continent for the Royal Geographical Society in London. This slight piece begins on a strangely personal note, with Taylor, perhaps aware of his

own mortality – his own impending disintegration – drawing a comparison between his 'research life' and the dramatic increases in knowledge about Antarctica that had taken place in the 20th century, as if both the continent and he himself had been blank canvases that were filled in simultaneously as a consequence of the Scott expeditions. In the article, Taylor then goes on to suggest that since various parts of the ice cap had recently been shown to lie below sea level, these areas might – in 'pre-glacial ages'[44] – have formed inland seas or channels, thus substantially altering the map of the Antarctic continent and notionally breaking it up into four substantial land masses.

Back at the beginning of his 'research life', as he calls it, Griffith Taylor also wrote a short piece of science fiction for the *South Polar Times*. It forms the concluding paragraph of an otherwise fairly sober geological survey entitled 'A Chapter of Antarctic History' in the same midwinter issue of June 1911 as his 'Valhalla 2000.A.D.' story, the issue that George Simpson had praised in his journal.

'What is to be expected in the future in this region?' Taylor asks, before projecting a possible vision of Antarctica in 200,000 AD[45] in a world where 'warmer conditions supervene'[46] that is based on his understanding of the continent's past. Taylor envisages – as Simpson will – an Antarctica that is free of ice, but he goes into slightly more geographical detail: 'a high level plateau crossed by the summer trails between the populous centres of Victoria Land and Graham's Land' and where 'the slopes of the Western Mountains'[47] are forested. In Taylor's future the continent is inhabited by a people whose livelihood derives both from the fertile soil that has been revealed by the disappearance of the ice, and the

exploitation of 'tourists from effete centres of civilisation'[48] who would visit in 'comfortable steamers' to take 'summer motor trips to the South Pole' or drop in 'for refreshment' during 'aeroplanist' journeys from New Zealand.[49]

The reader may or may not be surprised to learn that Thomas Griffith Taylor's futuristic Antarcticans are 'a white race'.[50]

– 10 –
Sir Ernest Shackleton's Grave Repurposed as a Fountain

Migration-related health effects, bitterly regretted.
Post-traumatic stress disorders, bitterly regretted.
Increased risk of injuries, accidents and death,
New infection vectors, bitterly regretted.
Drowning in floods, food and fuel shortages,
Risk for the elderly, the sick, young and isolated,
More widespread water stress, bitterly regretted.

Felicia and Matilda said they would take Emily to the fountain. Agnes had suggested it because she thought it might help and be comforting for Emily to have something to do, but also because, as she said, 'You need to go and check where it is.'

Matilda and Jenny had spent the best part of a couple of days sewing painted cardboard covers onto books using a big needle and some tough thread. Emily had been beside herself and was still inconsolable, so Matilda had wordlessly assumed responsibility for Jenny and thought that this would be a good way to keep the child amused. She had been correct and Jenny quickly settled into the simple monotony of these small tasks. More than this, she found that she enjoyed it: the pleasure of doing a good job and the chitchat that went along with it. She had proudly showed off her first cover like a child

at kindergarten. They worked away quietly, lost in concentration and humming or quietly chatting to each other.

As she watched them, Emily was still holding the piece of paper that Browning had given her two days earlier. She had not put it down for a second. It was a letter from her husband John, who had travelled ahead to make a home for them. She read it again, as if this time it might say something different.

'My darling Emily,' it began:

I pray for your safety every day. You and our lovely little child. Just one more journey, my darling, my wife, and we'll be together, please Lord.

But you have to be careful, my darling – promise me! People set sail, but they don't all arrive. Don't even trust Captain Smiler's little dog! I pray we'll be together very soon, my love.

Sweetness, they force us to work every day. They blackmail us with your lives. They think they can crush us, but we're organised too. I know we'll prevail by and by. Oh, Lord. I promise we'll prevail by and by.

My darling, I have to write this quickly . . . Sweetheart, I think they may suspect . . . My darling, we're going to proclaim a Jubilee! Remember Shackleton and his struggle to be free, and Isaiah 61 proclaiming liberty?

A day of vengeance!

Patience Camp need be patient no more. There's so many of us! So few of them! I hope this reach before the spring New Moon, 'cause Black November's gonna be our Jubilee! Black November's what we'll call our Jubilee.

Dearest Emily, I carry a picture with me. Of you and our lovely little child . . .

This was the umpteenth time she had read the letter, but Emily still turned the page to continue even though she knew that the reverse was blank apart from a couple of rubber stamps or seals, an index number, a date and a few sets of initials. She hadn't understood what these meant at first. Now she knew that the various marks were testament to the value of the letter to others rather than to her, who might never have seen it but for Browning's adored Captain Smiler. The matter of why exactly he had been in possession of John's letter in the first place was a question so huge that it had taken some time even to see it. The various marks and annotations on the reverse of the paper were not only the procedural traces of the letter's path through a certain legal process, legitimate or otherwise, but they were also the continuation and culmination of John's message – albeit that this was conveyed in another's hand – and thus they formed the real burden of the letter. The stamps and signatures documented the cataloguing and presentation of this letter as evidence, and its subsequent archiving as such. Browning's betrayal, grave though it was, paled in comparison to the devastation she felt at this greater loss.

She had tried not to imagine the kinds of ordeals that discovery and capture would have led to for John, but couldn't stop the horrific thoughts from crowding her mind. What he must have endured! Distraught, she stood in silence for a while amid the ceaseless din and rattle of the camp.

'I prayed for you to arrive safely too,' she whispered. 'Where I thought we could be free.' Closing her eyes, she wanted to reach out and touch him. 'Did they come for you in the middle of the night?' she asked. 'Saying, "Johnny come along with me"? Oh, Lord! "Johnny come along with me."'

Emily was not green enough to hope that she was wrong, that there had been some mistake and they might see each other again. Hope was precisely what had been taken from her the second she had started to read. She could picture just how this letter had travelled from John's pocket to her hand. She knew what this meant, for John and for her, and for their daughter, even if she didn't quite understand Captain Smiler's motivation for seeing it delivered now.

'I prayed for you to arrive safely too, John,' she said again, to no one. 'Prayed that you would survive! But they took you to the jail in the middle of the night . . .'

The fountain was a mile away, quite close to the perimeter fence in the nearest thing that this part of Patience Camp had to a town square. Matilda carried a big machete with her, 'Just in case!' The road from here led to the fence itself, so consequently this was where 'aid' would occasionally be doled out from the back of a transporter which, heavily guarded, would reverse out quickly from the base to distribute medical supplies, powdered milk, food bars, rice and other staples to those best able to fight for them.

On the back of an aid lorry was not, however, the way that most supplies got into Patience Camp. The perimeter fence was permeable. It wasn't there to separate the base from the camp or to keep people out, but as a symbol of power and so that contact and movements could be 'managed', for people and goods crisscrossed constantly in both directions and dependencies of all kinds were positively encouraged. For example, someone had hacked into the mains supply which carried water down to the base from a reservoir up in the mountains, but since the military were dependent upon the presence of the refugees for far more than simply to justify

the existence of their base, the 'theft' of the water was 'tolerated'. As they walked 'Licia told Emily that it was most likely the army themselves who had hacked the supplies, as by doing this they were able not only to contain people here, but also to control the camp absolutely. Much of the base's utilities infrastructure was routed around the periphery, and electricity supplies – which had also been hacked – were subject to similar mutually beneficial arrangements.

This meant that when the military wanted to make life difficult for people in the camp, they could. Sometimes they would do this by clearing and demolishing areas of the camp, citing the 'unsanitary conditions'. Or they might describe such 'measures' as a way of tackling 'illegal immigration', or say they were a necessary way to 'flush out' pirates and terrorists.

When they wanted to make life really difficult the military authorities could simply turn off the water supplies – or restrict access to any of a range of similarly necessary utilities – then seal the fence and use the resulting protests as an excuse for shows of strength and other 'measures' which seemed calculated to produce more protest that could in turn be used to stigmatise and criminalise those who were protesting. They did this every once in a while, especially with water, explained Matilda, who told Emily she should never leave it till the last can before coming to fetch more. You had to do it regularly no matter what.

It was a long walk and many women were already waiting in line. Men were milling around too, some engaged in conversation or doing deals, others simply standing and watching. Some were drinking or smoking, one or two others were red-eyed and raving from the ragged green bouquets of

khat they clutched in their hands. Soldiers wandered around in small groups, browsing at the ramshackle market stalls, shops and food stalls that lined the square. There was music coming from some of the more substantial buildings, which looked to Emily like bars or nightclubs.

The fountain itself was not what Emily had imagined. The picture in her mind had been of something grand and ornamental like the one back at home. She had imagined carved stonework above a bath-like pool, a raised rim that was broad enough to sit on, pewter-coloured swan-necked pipes like the spouts of teapots from which would pour a constant stream of sweet, mountain water!

The reality was a bit different.

Matilda showed her a simple, T-shaped, metal standpipe with two spigots that had been fixed to a tall and rough-hewn block of pale stone. Above the taps someone had carved a nine-pointed star and filled in the outline with black paint. It looked as if there had once been some words carved into the stone as well, but these had been worn away so Emily couldn't make out what they might have said. At the base of the stone a crudely welded metal grating rested on a stone or concrete surround, so that overspill could run away down the gully. The ground around the fountain was awash with black mud from all the slops and someone had lain duckboards over this.

As she stood there Emily's mind started to wander. She felt so numb, so alone and bereft that she thought she might just die, but she knew that it took a lot more than mere grief to kill a body, and that she had already endured far worse than this. A sensible part of herself realised quickly that she needed to know her way around just in case she ever had to come and

fetch water on her own. Looking at one or two of the men who were leering at them, she decided that if or when that happened she would definitely bring the machete, too.

Their turn at the fountain came soon enough and then at least she was able to lose herself a little in the task of holding the containers to the tap and learning how to balance them on the edge of the concrete sill.

With the containers filled, they stacked them onto the trolley, and Matilda showed Emily how to secure them all with the blue nylon rope which they lashed around each can, threading it through the handles and around the struts on the back.

They took it in turns, two at a time, to pull and bump the trolley back to the shelter. It took ages to drag it along the rutted and hummocky paths and Emily was exhausted by the effort of keeping the trolley's wheels out of the sewage that ran along the rank gullies lining every alley.

When they got back Agnes and Jenny were nowhere to be seen, but Browning had returned. He was sitting there as casual as could be be with his chair pulled up to the stove and forking mouthfuls of warmed-up vegetable stew or green porridge into his mouth from a big tin. He looked up as they arrived but he didn't offer to lend a hand as with some difficulty they untied the cans and stacked them beneath the awning. It was as if he didn't really see them any longer, as if to him they were simply women going about their work, as if they were little people and therefore somehow beneath him. Felicia started to coil the blue rope so it could be put away, and as she did so Emily kicked Browning's foot gently. 'So?'

'Emily, Emily,' he said, pompously and still chewing his food. 'Ag and Jen will be back shortly. They went to deliver

some books and fetch more cardboard. But listen, Em, about earlier. You know it's only business, nothing personal.'

Felicia and Matilda looked at Emily, who nodded imperceptibly. At this they moved so quickly that Browning didn't have time to reach for his knife. In his complacency he didn't see it coming at all.

Felicia had tied the rope in a slip knot which she threw over his head and shoulders and pulled taut. The tin of stew and Browning's fork clattered to the floor and as soon as he was fast, Matilda pushed the machete right up under his chin, reaching around with her free hand to take his knife out from his belt and hand it to 'Licia.

'I'll give you "only business"!' said Emily. 'Tell me the truth about John, about Smiler. You are killing us, selling us. It's not "Black November" that are doing the killing, it is you and Smiler's men! Tell me the truth! This nonsense about needing more money. This story about Jenny going first. Tell me the truth if you can even remember what that means.'

Browning was trying with little success to get away from the business-end of the knife. 'There's nothing to tell,' he said. 'Let me go.'

Gulls wheeled above the camp, while far above them larger birds of prey glided silently on the thermal currents that rose from the bare and sun-warmed rock. In the bay and out beyond the pontoon harbours the intricate dance of junks, tankers and tugs, cargo ships and barges continued unseen, while all around them the swarming, teeming racket of Patience Camp went unheard. Matilda pressed the blade purposefully against his throat. 'The truth!'

'Okay, okay! He supplies the papers, the visas, and leases me the boats. I bring people here then we take them across.

'Okay, okay! Maybe some don't make it, I don't know. Then I bring things back for him. "Fruit" we call it. Mines we call "pineapples" and rifles are "bananas". Fuel is "juice" – you name it! But I'm *not* his little dog like that man say.'

'So what are we to you, eh? What do you call *us*? I dread to think.'

'Mangoes,' said Browning. 'They call us "mangoes" – 'cause "man go south", see?'

'So all your rubbish about Antarctica was lies? All those promises were worthless. Nothing but theft and slavery! You're a liar!'

'Not me,' he squirmed. 'Okay! I'm a fair man! You know I'm good for my word!'

'I know you are good for *nothing*,' said Emily, who was now beside herself and resisting the urge to lash out at Browning or to throttle him, to really hurt him. 'But you *knew* John was dead! I can't believe it! You knew it all this time! How could you have lied. Not just to me but to Jenny, too. You are unbelievable. You are no better than all the rest of the disgusting shit that is floating around this place.'

'I didn't know about John,' he said, 'until I saw that letter, I swear. I'm sorry.'

Felicia tugged the rope some more and it bit into the sleeves of his shirt.

'Okay, Okay! *Smiler* wants Jenny. That's it,' he squirmed. '*That's* why I need to find more money, so we can try to buy her back, Em! I wanted to keep her safe, that's all. I wanted to help. I was doing it for you.'

Emily was furious now. 'For yourself you mean,' she spat back at him. 'To save your own skin at our expense. Isn't that it? Who do you think you are, buying and selling things that

don't belong to you? Buying and selling people! You make me sick!'

'But you have to understand, I had no choice!' he begged. 'You don't know Smiler. What he says goes, and without him I can't survive. I'd be just another beggar, and there's no shortage of them! You've got to be a lion here! You've got to hold on to your life's set prize!'

Emily spat in his face and Browning tried to turn away in shame, but she roughly pulled him back to face her.

'I've had enough of your bullshit,' she said, leaning in close enough that he could feel the hot, damp gusts of her breath. 'So let me paint a picture for you now. I'm turning the tables on you, Browning! I'm taking that boat! Trust me, man. It's your turn now, so don't even try to test me! It's your choice! The price of *your* ticket has just gone up: you can die now or join us. It's up to you!'

— 11 —

Antarctic Scenarios v

Convey's Law

From my first-floor window I can see the crown of the palm tree – a *Cordyline australis* – that stands in the centre of our London garden. Dr John Shears of the British Antarctic Survey is telling me that they too, today, are looking at the past to help them understand the future. One example of the way that they do this would be examining the gas bubbles that are preserved in ice cores taken from across Antarctica. I am speaking to Dr Shears on the telephone. He says that just as tree rings record the climatic conditions during each year's growth, so the ice that has been laid down in places like Antarctica and Greenland over millennia can be read for information about atmospheric conditions at the times of its formation. This frozen record tells scientists that current levels of carbon dioxide in the atmosphere are 'way in excess' of anything in the past 400–500,000 years.

'And if,' Dr Shears goes on, 'the West Antarctic Ice Sheet melted, it would raise global sea levels by six metres.'

The British Antarctic Survey has been known as such since the early 1960s, but UK interest in Antarctica dates back to the late 18th century when Captain James Cook was the first man to circumnavigate the continent. The Heroic Age expeditions of Captain Robert Falcon Scott, Sir Ernest Shackleton and others gave way to further voyages in the 1920s and '30s, while a series of bases helped Britain to establish a naval

presence in the national and allied interest during World War II. In the second half of the 20th century the United Kingdom's involvement in Antarctica became known as the Falklands Islands Dependencies Survey, before changing to the current name of British Antarctic Survey, or BAS.

Dr Shears tells me about a recent BAS expedition to the Pine Island Glacier, one of the most remote parts of the Western Antarctic, which 'moves more ice into the sea each year than any other individual drainage basin in the world'. But glaciers are changing. Satellite measurements show that the depth of ice on the Pine Island Glacier is reducing every year while the speed at which the ice flows into the sea is increasing.[1]

Echoing Bob Spicer's comments about the Poles being amplifiers of change, Dr Shears says that Antarctica really is 'the canary in the coal mine', that the continent will be 'impacted' by climate change far more quickly than other parts of the world. Another factor is the danger of invasive non-native species being brought to places like the Antarctic Peninsula, which itself is the 'fastest warming' place on the planet.

Regardless of what seems at the time of our conversation to be an emerging international consensus that taking action on climate change could limit the global mean temperature rise to 2°C, that a 2° rise should be a target, the Antarctic Peninsula has already undergone a mean temperature rise of 3°C over the past fifty years, and a seasonal mean rise of 8°C in the winter months. Not only is there now more bare ground on the Antarctic Peninsula, but human visitation to the region has increased from something like 4,000 people per year ten years ago, to 49,000 per year today, with the majority being tourists who visit on cruise ships like the MS *Explorer*.

'MS' is shipping terminology for 'motor ship' – rather than 'manuscript'! – and on 23 November 2007 the MS *Explorer* hit an iceberg and capsized whilst taking a party of tourists on a cruise that, ironically enough, had set out to re-enact parts of Sir Ernest Shackleton's voyage. All 154 passengers and crew were saved before the ship sank some twenty hours later. Luckily for these tourists a number of factors were working in their favour, not least that the accident happened during a very brief window of clear, mild weather; although within five hours that had turned. Dr Shears reminds me that in Shackleton's day it had taken nearly two years to get word to the outside world about the disaster that had befallen their expedition, whereas now, within two hours of the *Explorer* hitting an iceberg, the accident was being reported on global news networks. Indeed, Shears explains that the first the Emergency Response Team at BAS heard of the incident was when it was reported on the *Today* programme on BBC Radio 4.

A further unexpected connection with the Heroic Age of Antarctic exploration was that the MS *Explorer* was equipped with old-style open life boats, not so different to Shackleton's *James Caird*. Dr Shears notes that BAS vessels are all now equipped with covered life-craft that are specially designed for the region. The tourists rescued from the stricken cruise ship were, he says, 'lucky to survive'.

With probably fewer than 1,000 people currently based in all the international research stations across the whole peninsula, the idea that 2,500 people might visit on just one cruise ship is something Shears suggests that 'Shackleton couldn't have dreamt of'. There's also a risk of species being introduced inadvertently, whether from spores or seeds, or from

ships expelling ballast water from their holds into waters that are themselves also now warmer than they once were.

The scale of this tourist traffic reminds me of something the artist Peter Fend had written during our email exchange about his Antarctica-centred world map: 'It is not important to "go" to Antarctica,' he wrote. 'Indeed, it would be better for that place to not go there.'[2]

Once again, but this time in light of the vulnerability of the West Antarctic Ice Sheet, the five-year time lag involved in preparing, refereeing and publishing the IPCC reports is a source of anxiety. BAS feeds into the IPCC process: one of their experts, David Vaughn, is a lead author for the chapter focusing on the Polar Regions, while a further dozen staff are expert contributors. However, emerging data about climate impacts on the West Antarctic (and the Greenland Ice Sheet) wasn't included in 2007's IPCC 4 because there wasn't enough robust data during the review period.

Does this mean that IPCC 4 underestimates the severity of the risk to the Antarctic?

'Yes, because that report was based on data from five years previously, and things have moved considerably since then, with what we now know from remote satellite sensing *et cetera*. So IPCC 4 is under-estimative. The next round has to take more account of current knowledge about Greenland and the West Antarctic Ice Sheet.'

Dr Peter Convey of the Biological Sciences division at BAS seems initially to be a little more sanguine, preferring to talk about 'response to variability' than 'climate change'. He explains: 'The world is variable anyway, so if you want to understand change in the future, you have to look at how things are responding to change now, and to understand how

change has happened in the past.' He describes visible changes, glacier retreats, the Antarctic Peninsula becoming greener. This doesn't necessarily mean that new, non-native plants are being introduced, but that existing plants and some that were there before are definitely expanding. 'It's a pretty simple terrestrial ecosystem,' he tells me, 'and not very diverse, the current flora consisting of lichens, mainly, one type of grass and one tiny rockery plant. So we can explore the effects of a whole raft of changes on this simple system.'

So how *are* things responding to change now? What kinds of things are we talking about?

Convey draws analogies with changes that we might all see in our own gardens – impacts from the introduction of new species, from pollution, from changes in land use – but he notes that because Antarctica is so isolated and without as many 'confounding influences' it's much clearer to see how the simple Antarctic ecosystem, and therefore other ecosystems, might respond to change.

Through the course of these conversations with scientists at the cutting edge of climate change research, with paleobotanist Bob Spicer, with Mark McCarthy at the Met Office and John Shears of BAS, my understanding of the rate at which dramatic, climate change-driven impacts might be occurring in Antarctica has already shifted down from periods of millennia to Professor Spicer's centuries, but when I ask Dr Convey about timescales his reply really shocks me: 'Dramatic things are happening *now*,' he tells me. 'With further significant change happening certainly on a decadal or century timescale.'

Perhaps sensing my shock at his introduction of a timescale for dramatic change in Antarctica that can be measured

in tens of years, Convey does add quickly that a return of trees to the continent is 'a long way away yet'.

On a bright and blustery spring day I head for King's College, just off the Strand on the north bank of the river Thames in central London, where Dr Emma Tompkins – then of the School of Earth and Environment at the University of Leeds – is due to speak. Dr Tompkins is researching the impacts not simply of climate change but, more subtly, of the government policies that are designed to drive adaptation to it.

I stroll down Kingsway from Holborn Station, passing – at the corner with Aldwych – the former Adastral House, Met Office HQ when George Clarke Simpson was director in the 1920s and '30s. The former Air Ministry is now, some seventy-two years later, a rather anonymous office building with few if any reminders of its colonial and governmental past in those days when it was briefly the home, even, of the nascent Imperial Airship Scheme. I think I spot a Canadian maple-leaf detail above a side door, while two classical-looking stone *fasces* prop up each of a series of imposing first-floor balconies, including one above the new, modern, smoked-glass entrance. After Simpson's time, from the mid-1950s when the British commercial television service (ITV) was launched, the building became Television House, home of the first independent television production studios in the UK as well as of Independent Television News (ITN) and what would later become the Thames Television company. Now it is called Centrium House and merely comprises a series of office suites owned and operated by an international property developer, and occupied by entities as diverse as international oil and pharmaceutical companies and the UK's Nursing and

Midwifery Council. The street-level windows running along Kingsway now open onto a furniture showroom selling international contemporary office furniture, or 'Researching the work space' as the slightly grandiose claim that is picked out in transfer lettering on the window would have it. What is on show here are the ephemeral stage sets of business fantasy and lifestyle refits: desks and chairs of ergonomic design, but also sofas, chill-out spaces, high-performance cushions. Places to pose between fag breaks.

After his time here at the Met Office, Sir George Clarke Simpson continued with his research, publishing right up until the late 1950s. But his studies into the effects of solar radiation on the atmosphere proved inconclusive, something about which he was very open. One set of results would completely contradict another and thereby render much of the contemporary knowledge on the subject obsolete. The findings of others* in the field were proved merely coincidental and 'of little value'.[3] The results, for example, that were published in Simpson's own paper 'Some Studies in Terrestrial Radiation' (1928)[4] had been, he wrote later that same year, both 'surprising and unsatisfactory'.[5] Drawing boards had to be returned to, assumptions unmade, models taken apart, reasons for failure discussed, calculations complexified and redone.

Further investigations were called for: Dalton's law on the total mass of water in the stratosphere was invoked, coefficients calculated, low values maintained, general rises considered, observations made, Hettner's curve modified, graphs

* Works thus dismissed included those of close colleagues such as Met Office assistant director Ernest Gold, who would later write the short biography of Simpson for the Royal Society after his death in 1965.

plotted, water vapour and CO_2 dealt with, absorptions shown, proportions transmitted, the two curves combined, irregularities removed, no great mistakes made, radiation of all wave-lengths accounted for, total outgoings determined, values extracted, computations carried out, clear skies considered, questions discussed, temperatures of the cloud layer used, work tested, scattering neglected, limits set, humidity conditions represented, effects expected, points investigated, excesses calculated, increases considered, reasons indicated, other things taken into account, average intensities found, results collected, whole positions reviewed, previous methods dignified, lessons learned, problems re-examined, approximate values obtained, radiative equilibriums found, conclusions drawn, possibilities discussed.[6]

It is reassuring, this side of George Simpson. The quiet, steady diligence of his painstaking research stands in stark contrast to the grandstanding of some of his peers and contemporaries in the scientific community of the early 20th century, their use of half-baked studies and pseudo-science to prop up the unsupportable. While the likes of Ellsworth Huntington inflated and exaggerated the 'meagrest facts'[7] to create theories more rhetorical than scientific, Ernest Gold tells that as George Simpson approached the end of his life, he confessed 'a feeling of dissatisfaction that forty years of investigation in several countries has produced such meagre results'.[8] It is a perhaps characteristically modest self appraisal, but one with which many would disagree.

Sir George Clarke Simpson died after a short retirement in 1965 and, as far as I can tell, the author of 'FRAGMENTS OF A MANUSCRIPT FOUND BY THE PEOPLE OF SIRIUS WHEN THEY VISITED THE EARTH DURING THE EXPLORATION

OF THE SOLAR SYSTEM' had never written another short story in his life.

Taking the stage in the wood-panelled, glass-roofed and steeply-raked former anatomy lecture theatre at King's College, London, in 2010, Emma Tompkins asks the audience who might be the winners and losers from government policy decisions on the adaptation to climate change. Her talk draws on a substantial 'working paper'[9] that she co-authored and which is entitled *An Inventory of Adaptation to climate change in the UK: challenges and findings*.[10] There is a certain amount of specialised language involved but Tompkins is a good and effective communicator and she speaks slowly and clearly so that we can all understand.

Dr Tompkins and her colleagues set out to answer the questions of whether adaptation to climate change is occurring already, and if so: how, where and why? They approached this question by systematically categorising adaptation measures that are currently being taken across the UK in relation to four areas of activity: water (both water supply and flood management), construction, rural land use and transport.

Such adaptation measures in the UK could range from something concrete like the strengthening of a flood defence to more abstract initiatives like the passing of a new piece of legislation, or the development of a policy by a local authority – measures designed to *encourage* adaptation.

Tompkins illustrates her talk with slides, using Microsoft Powerpoint rather than a magic lantern. One slide shows a table listing 161 research projects, fifty-nine strategic plans, twenty-one pieces of legislation, and seven specific training projects, all of which originate in the UK and all of which are expressly concerned with adaptation to climate change. The

projects listed include, to give just three examples, Shoreline Management Plans, the publication of new planning policies relating to building development and flood risk, and the work done by the UK Climate Impacts Programme that was set up by the government in 1997.[11] The inventory logged 299 current climate change adaptation projects in all, as well as the reasons for those projects being commissioned or commenced.

So Tompkins is able to tell us that ninety-nine of the projects that they catalogued were triggered by changing weather patterns, fifty-two by flooding, twenty-eight by conservation issues, twenty-four by 'risk management', twenty-four by legislation, etc. The issues and language begin to get more specialised and complex but also rather familiar. Looking beyond the UK, the ideas that Emma Tompkins is discussing echo the language that is used in documents such as the IPCC's *Climate Change 2007: Synthesis Report* with its talk of 'adaptation and mitigation options and responses, and the inter-relationship with sustainable development, at global and regional levels'.

Some of the 'adaptation and mitigation options' described in that *Synthesis Report* do seem alarmingly simplistic. Here is one example: a suggested response to the predicted loss of Alpine snow in Europe is given as 'shifting ski slopes to higher altitudes'.[12]

This is an example less of the science behind IPCC of course than of the ratification process around its publication or, in other words, what governments will agree to sign up to. Try and imagine the Alpine snows receding year by year and every ski resort in Europe being moved another mile up the mountain, then another, following those receding snow-lines.

Imagine the labour involved, the planning that would be needed to enable some entity or other to drag all of that infrastructure – hotels and ski-lifts, roads and cable cars – higher and higher up the mountains of Europe, chasing an ever smaller snowfall. Never mind that cheap ski holidays might be the last thing on people's minds in a substantially warmer world, or the as yet unknown impact of snow loss on the stability and functioning of Europe's major arterial rivers, many of which have been fed by melt-waters from Alpine snow and ice for millennia. Never mind all of that, the strategy seems to say, Let's simply move the ski resorts higher up the mountains!

I had asked Dr Mark McCarthy about this ski resort example when I visited the Met Office. Did it show that governments are focusing on the wrong thing?

'Well, every individual – whether that's an individual person, or country or company – has its own concerns and potential vulnerabilities to the climate, so if people have issues that need to be addressed then [. . .] that's why agencies like the IPCC have been very careful to quantify their uses of language, their statements about whether something is "likely" or "very likely" . . . And so there is always, as there is in any science, there's always an element of uncertainty, but the question is about relating that to what people need to do to respond to it. You have to assess what level of risk is acceptable whether it be ski resorts or water resources in the Sahel.'

So it's more to do with the fact that currently these are all vital parts of different local economies?

'Yes, absolutely,' he agrees. 'And it's also I suppose in terms of the ski resorts they have to think not just about climate change in the Alps, but in displacing populations that will come to Europe.'

Underpinning the development of such adaptation and mitigation strategies are those four 'scenario families' that McCarthy had also told me about: the IPCC's *Special Report on Emissions Scenarios*, or 'ess-rez' for short. The scenarios, as he put it, 'of what human beings might do and then how that affects greenhouse gas emissions and then in turn how the climate responds'.

The introduction to these 'ess-rez' reports should carry a jargon warning about what follows, but it begins in relatively plain English:

> All four storylines and scenario families describe future worlds that are generally more affluent compared to the current situation. They range from very rapid economic growth and technological change to high levels of environmental protection, from low to high global populations, and from high to low GHG [greenhouse gas] emissions. What is perhaps even more important is that all the storylines describe dynamic changes and transitions in generally different directions. Although they do not include additional climate initiatives, none of them are policy free. As time progresses, the storylines diverge from each other in many of their characteristic features. In this way they allow us to span the relevant range of GHG emissions and different combinations of their main sources.[13]

Reading these words against a background of ongoing global financial meltdown, it was genuinely shocking to realise that *all* of the IPCC SRES scenarios, and thus at the time of writing all global governmental planning for adaptation

and mitigation in response to climate change, were built on a model of continuous economic growth: '*All four storylines* . . . describe future worlds that are *generally more affluent* compared to the current situation.'

Again, this probably says more about the ratification process than the science, and reflects the kinds of messages that governments are prepared to sign up to, but a 'more affluent' world? Nothing could have been further from what was then emerging as the new economic reality of house-price bubbles bursting, mortgage foreclosures, sackings, fears of bankruptcy, discounted cash-generation schemes, Chapter 11s, falling home sales, divisional closures, negative forecasts, heavy losses, takeovers, losses of authority, bailouts, rescues, Fed comments, rising defaults, asset-seizures, slipping indexes, redemption requests, markets freezing, credit crunches, 'fine-tuning operations', worst days, cash injections, shore-ups, share plunges, liquidity problems, interest rate cuts, tightenings of lending terms, asset sales, job cuts, repossessions, borrowings from Federal reserves, slumps, injections, rapid sales, lifelines, criticisms, pledges, defaults, revelations, interventions, intensifications, exposures, roles as lenders of last resort, rescues, queues, guarantees, U-turns, short sales, Treasury Select Committees, admissions, defences, secret talks, revivals, superfunds, write-downs, hits, falls, drags, bad times for builders, resignations, second rate cuts, fresh losses, temporary freezings, unveilings, declines, sharp slowdowns, raised provisions, lopsided majorities, entire financial sectors, insurance losses, bids below current market value, difficulties, woes, set asides, benefits, havens, market conditions, bargains, sharp drops, further bad debt losses, lowering forecasts, slowings, risings, retirings, fallings, earmarkings, worsenings,

share issues, signs, signals, warnings, outlines, costs, co-ordinated actions, balance sheets, auctions, easings, lendings, full disclosures, subprime losses, deteriorating outlooks, reports, unveilings, postings, worries, net losses, biggest falls, biggest cuts, dismissals of rumour, predictions, investigations, declines in values, cripplings, concerns, worldwide losses, sufferings, worsenings, charges, questionings, emergency lendings, underminings, fractions of share pricings, profit-halvings, criticisms and further writedowns.[14]

Not even *one* of the IPCC's planning scenarios factors in the possibility of bust as well as boom, that the world might not always be wealthier in the future, let alone that in the face of rampant climate change the global economy might not always be able to pull continuous growth out of the hat. However this idea that when climate change happens we'll all be better off does makes sense of the ski-resort scenario, and the idea that you can just keep moving higher up the mountain, spending your way out of climate change. Talk about *Candide* and the best of all possible worlds! Pushing all of the scenarios that underpin global planning for climate change adaptation forwards into some more prosperous future seems like a way of saying, 'We'll cross that bridge when we come to it, and you know what? We'll be wealthier then! So we'll be able to afford it!'

In the classroom up in the roof of King's College, Dr Emma Tompkins turns to the audience and asks us to participate in an experiment: how would *we* allocate the adaptation resources that are available within the UK? She conducts a straw poll, presenting us with the following five choices, each of which prompts immediate nods of agreement around the auditorium.

'Should funds for climate change adaptation be distributed *equally*?' she asks. 'With money allocated to each community or household so people can plan and act accordingly?

'Should communities that *reduce* their emissions be rewarded? For example, the "greenest" local authorities.

'Should those facing severe exposure to the impacts of climate change be targeted? Such as rural coastal communities and urban areas prone to flooding.

'Should the majority of funds be allocated to those *least able* to adapt on their own? This would include vulnerable groups such as the country's 175,000 child carers,' she adds, 'and the elderly or infirm.

'Or should adaptation funds be used to aid wider *development* of "failing areas" by addressing long-standing inequalities, addressing crime and other social issues and supporting communities that lag behind "developmentally"?'

Dr Tompkins asks us to vote on these options and as I do so – raising my hand, rather indecisively, for these last two – I find myself remembering again my conversation with Mark McCarthy at the Met Office about the European heat wave of 2003 which caused the deaths of 35,000 people[15] precisely among vulnerable groups, as well as the counterintuitive idea that, as he put it, 'there's a link between the adaptability of the nation and the coincidence of extreme events'. I think about how under the disapproving gaze of *Terra Nova* expedition veteran 'Grif' Taylor in 1927, such vulnerable groups and communities would have been among those he considered the 'least fit',[16] the ones who would have to go 'to the wall' for the betterment of the species.

I also think about the scientist Dr Peter Convey of the British Antarctic Survey working on the Antarctic Peninsula,

and his attempts to understand climate change futures there by looking at how 'things' – plants in a simple ecosystem – are responding to change now.

How might Dr Convey's rubric – dare I call it Convey's Law? – be applied to what Emma Tompkins is doing, her *Inventory of Adaptation*? If we borrow Convey's idea, and try to understand our own climate change futures by looking as he does at 'how things are responding to change now', then what kind of 'things' might we talking about? For all the thoroughness and focus of Emma Tompkins's inventory, the only adaptation projects that it captures are ones that are more or less expressly 'tagged' as being to do with climate change. Perhaps to understand the wider implications of what Peter Convey says, one needs to dramatically increase the scope of his question to include other kinds of activity, other kinds of change.

How are things responding to change now?

His question is deceptively simple yet it is robust enough that with a slight shift of focus it can be applied to people, to institutions, governments or industries, and asked in relation to different types of change – whether social, political or economic, etc. – just as well as it can be applied to the simple terrestrial ecosystem of the Antarctic Peninsula.

Applying Convey's question more widely in this way suggests that to understand what climate change futures could look like we need to ask not how *things* are responding, but how *we* are responding to change – any kind of change – right now.

— 12 —

Jubilee

And yet I feel impelled to breathe,
Impelled to fly, impelled to leave;
Impelled to change.

The theatre-like space known as Education 1 is crowded and the audience's attention and enjoyment is measurable as much by the moments of silence when they are hanging on to the performers' every word as by the gusts of loud appreciation that greet a few crowd-pleasing gags and locally satirical asides that were improvised during rehearsals and which are now part of the script.

Education 1 shares many features with the other rooms in the facility. The same rounded edges, pale grey-painted walls and ceiling. All of the standard light fittings are protected by white, plasticised metal cages, as are two compact loudspeakers set above each side of a simple stage.

This stage is without curtains or wings. It is recessed perhaps three or four metres into the wall, with a short drop of about one metre, and is accessible only by a shallow flight of steps that climbs from right to left across the front of this drop. Facing it is a raked concrete floor that incorporates solid, moulded benches into a series of shallow steps that rise towards the back of the room. A small window set high in the wall behind

the back row could be that of a projection booth or control room as much as a point of surveillance. A simple lighting rig is set into the ceiling of the main space, facing the stage.

We are in the flagship CBCP Endurance 'fast track' immigration processing facility, one of a number of such centres built or adapted as part of the Coalition's Capacity Building for Continental Protection (CBCP) strategy, in fulfilment of their promise to assume more responsibility for refugees and asylum seekers.

Like other CBCP centres, the Endurance complex is an offshore processing facility built in response to the enormous increase in asylum seekers and illegal migrants (usually designated as Irregular Maritime Arrivals or IMAs) picked up by Coalition forces in the South Atlantic and the Southern Ocean. The centres provide an increased and more efficient detention facility where clients can have their claims heard by the various in-house tribunals, or be tried quickly and fairly, before in most or many cases being transited back to the reception facilities in northern ports such as Valparaíso, Buenos Aires or Cape Town.

The CBCP Endurance was recently awarded Centre of Excellence status and has a regular use capacity of 800 adults. Recently the contingency capacity has been increased to 688 giving a total capacity of 1,488. The main compound comprises detention camps 1 through 3 as well as Camp Echo, where pre-commissions are held. Accommodation units in unfenced areas in the Alpha and Charlie compounds are suitable for single women, unaccompanied minors, families, or vulnerable clients. The area has capacity for up to 594 people, depending on family composition. Both Alpha and Charlie Compounds are also used to accommodate

Endurance staff, military and security personnel and other contractors and service providers involved in the processing or care of IMAs. A separate fenced area around the Bravo compound is available, if required, to accommodate an additional 480 adults.

Construction Camp, which is located adjacent to the main Endurance facility, has demountable-style, i.e. tented, accommodation with a medical area, gymnasium, recreational areas and commercial kitchen and cafeteria. The camp has an operational capacity of 200 and since completion of the construction phases has been made available for overspill accommodation of vulnerable client groups when Alpha and Charlie Compounds are full. There are a number of properties in the community surrounding the facility that can be used flexibly for Community Detention or for staff accommodation depending on operational requirements. An Associated Press report indicates that a seventh camp, named Camp 7, comprises a separate facility within the Endurance complex. It is considered the highest-security jail within the CBCP centre, and its location is classified.

Education 1 is part of a suite of educational and recreational facilities in the main compound of CBCP Endurance, which provide flexibility to respond to the individual needs of IMAs and complement other permanent, purpose-built facilities including accommodation compounds, medical centres and first-aid rooms, commercial kitchens, cafeterias, laundries and a range of sporting facilities. The windowless room, with its recently painted, pale grey walls and ceiling and its unpainted concrete floor would seem stark to many eyes, but unfurnished rooms nearby are almost completely devoid of features. By contrast this one is rich with detail,

and such things in this place speak of privilege or of good behaviour being rewarded.

At first glance and in the gloom of the emergency lights it is not so easy to tell the difference between the different constituencies that make up the audience. The various client groups and IMAs, the service providers and security contractors are all crowded together. There are no easy racial or ethnic signifiers of power and no one is wearing more than an improvised uniform: a military-style khaki shirt worn over 'Western style' civilian clothes, say, or a camouflage-print soft cap with T-shirt and shorts. Insignia are worn where appropriate or available. Weapons of course are conclusive but not always immediately evident. Aside from these, the most significant difference is currently that most clients are seated and watching the stage, while most guards are standing and watching the audience.

Every year, educational facility staff at CBCP Endurance work with a small number of trusted clients to put on a Christmas show, a musical review designed to boost morale. This year they are staging a ballad opera called *The World Turned Upside Down*, which tells the story of a group of refugees fleeing to the safety of Antarctica who arrive in a refugee camp on the island of South Georgia.

Centre stage is a simple set which takes the form of a ramshackle shelter, improvised from what looks like an overturned longitudinal section of a boat and some 5-gallon water canisters. A tent-like awning is stretched out in front and lashed at each side to two tripod-legged speaker-stands with blue nylon cords that stretch out like guy-lines. The cords are tied off to the handles of cast-iron weights set on the floor of the stage at either side.

This is set design as a compromise solution, trading off the need for a more or less naturalistic evocation of place – two places! – with the costs of making it, against the unique security demands of the venue and what is available. In this case, bits of an old PA, some rope, a chair and a section of fibreglass hull that someone found washed up on the beach.

The IMAs in the audience – today mainly pre-commission clients from the Camp Echo accommodations – are people whose boats have been intercepted on the Southern Ocean and who are currently being processed and awaiting hearing or trial.

Audience members use the sudden bursts of laughter and movement to pass notes and printed materials relating to the political life of the camp and the various protest movements that are rising here and in other CBCP flagships. The rumour is that four women said to have been ringleaders of the hunger strikes in Alpha Compound have been snatched en route from the hospital to transitional accommodations, while a further seventy women have been summarily deported following their detention in a corridor for several days with no access to food and water or medical facilities.

Related protests against overcrowded conditions in Bravo Compound have seen a number of relatively kinetic measures being taken by security contractors, resulting in the temporary relocation of approximately 250 men to an exercise yard where they were detained overnight, while ringleaders and those convicted of criminal damage or violent offences have been summarily deported.

The performance is leavened with verses and airs that are set to recognisable folk songs and standards: 'Bonanza', 'Twinkle, Twinkle Little Star' or 'John Hardy'. Some in the

audience sing along, tentatively at first, or under their breath, to test the parameters of the seasonal goodwill, then a little louder, but not too loud! No one wants to feel the butt of a rifle in the stomach or jaw, or to find themselves in the cooler, cradling a broken limb and picking bits of tooth from their mouth while they wait for a medic.

The show is drawing towards its final act. The audience have seen Emily, Jenny and Browning arriving at Patience Camp. They watched Browning trying to bargain with Captain Smiler and getting gulled by the wilier big man, and then they saw 'the Bosun' try to extort money from Emily in turn. They have laughed to recognise a fellow client in the cast, or at the simpering and vamping of the man playing Agnes. The ballad opera form had been chosen precisely so that such satirical asides and topical commentary might be incorporated – carefully! – into the script. Sudden squalls of laughter greeted some of the 'in-jokes' – the name of Captain Smiler's boat! – then died just as quickly. They cheered as Emily turned the tables and delivered her ultimatum to a helpless Browning. Now, as the scene finishes, players and chorus members quickly move away from their positions in front of this improvised shelter.

*

DETAINEES SEW LIPS TOGETHER
IN SOUTH GEORGIA PROTEST
November 25, 2198

Ten detainees have sewn their lips shut at South Georgia's CBCP Endurance detention centre, the Immigration Ministry has confirmed. A Ministry official

confirmed that 160 people were engaged in a peaceful protest, 10 of whom have sewn shut their lips. He said they had declined medical and psychological assistance but warned the protesters their actions would be futile.

'Applications to come and stay in Antarctica are dealt with on their merit. They cannot and will not be changed by any protests,' he said. 'A protest such as this will not achieve the desired outcome.'

The official said he had no plans to visit the centre outside regular scheduled visits. 'I would like to express my support for all CBCP staff including those at the Endurance Centre. The government stands with them on this matter.' He also flagged further protests: 'I think we can expect more tension at our detention centres as our recognition rates continue to fall,' he said. 'Where we have people who are making an application to stay in Antarctica, we can expect them to become frustrated. We can expect them to continue making protests to say that they wish to stay in Antarctica, that they wish their refugee application to be approved.' He went on to say that the detainees who had sewn their lips were taking water and sugar, and that the government would not allow any fatalities. 'We have the power to intervene if necessary,' he said. Asked what would happen if the detainees didn't want to be treated, he replied: 'We do have the powers but that's not something I want to get into at this point.'

A Department of Immigration spokesperson said the situation on South Georgia was calm and that the 200-odd asylum seekers were camped peacefully around the memorial to Sir Ernest Shackleton in Grytviken – effectively the detention centre's 'town square'. The spokes-

person said none of the detainees was engaging in 'involuntary starvation', while those who have self-harmed have refused medical attention.

Conflicting messages emerged earlier today. A CBCP spokesman, said that about 250 detainees were on a hunger strike for a third day at the centre. The detainees declared a hunger strike immediately after they heard about the death of a detainee in another part of the centre on Tuesday. It is believed that about 22 detainees at the CBCP Endurance started eating again on Thursday, two days after they went on a hunger strike following another client's suicide. There were chaotic scenes at the centre on Wednesday, sparked by the death of a woman who had been in detention for more than a year.

*

On stage, the performers turn to the set, and with a series of well-rehearsed and confident movements they collapse the awning and right the boat section so its one good flank faces the audience, using the two weights to make it fast. Behind this they make each speaker-stand into a kind of improvised mast, between which the tarpaulin is slung as if a canopy to shelter people or goods that are being carried amidships. At one end of the boat the water cans are stacked and a blanket is draped across them as a gesture towards the appearance of some sort of steering assembly – an improvised 'bridge' or 'wheel'. It takes one minute and seven seconds precisely to transform the shelter in Patience Camp into Smiler's boat, the *Crux*.

While they work through their practised and fluid movements, the actors sing a simple round which continues as they take their places. Jenny climbs onto one end of the 'boat' and

sits on the prow and Smiler takes his place at the other end, as if at the wheel. Emily climbs in beneath the awning, lifting his dress as he does so in a well-rehearsed parody of lady-like behaviour which gets a few hooting laughs from the audience.

Jenny is cold, so she pulls up the hood of the coat which Agnes gave her as they were leaving. They are offshore, far enough away from the maritime traffic that constantly dances around Patience Camp to be undisturbed, but close enough to those great pontoon harbours that the powerful perimeter lights still illuminate her face. She sings a nursery rhyme in her sweet voice. It is a favourite of hers, a kind of memory game with a list of names that builds with each iteration.

Air. For He's a Jolly Good Fellow

The dogs are in their kennels, the dogs are in their kennels,
The dogs are in their ke-hennels: the kennels are on the ship.
The ship is on the sea. All the dogs have names.

Rugby, Upton, Bristol, Millhill, Tim and Songster,
Sadie, Sue and Samson: the kennels are on the ship.

The ship is on the sea. All the dogs have names.
Sammy, Luke and Jasper, Slippery, Chips and Stumps,
Spotty, Sidelights, Spider: the kennels are on the ship.

The ship is on the sea. All the dogs have names.
Painful, Bob and Snowball, Hercules and Satan,
Who's not in their ke-hennels? Hackenschmidt! Caruso!

Jenny is not alone. She is with her friend Smiler who stands at the wheel of the *Crux*, but he is not joining in with the song. Smiler is a big man at the best of times but he seems even more pumped up than usual, as if his clothes are struggling to contain him. He wears a pair of expensive sunglasses pushed back on the top of his head and a loudly patterned shirt which is tucked in on one side revealing the machete in his belt.

The *Crux* is a big boat for a big man: a smuggler's launch, a powerboat that is fast enough to outrun almost anything else on the sea. Smiler is taking Jenny to see her dad. That is why she is so happy and that is why she is singing.

'A little bird has landed on my boat,' he had thought to himself as they set off. 'Fallen from the sky, into my boat! A foundling separated from the flock! She fell into my boat. This precious little bird!'

But that was then. Hearing footsteps coming out of the cabin he turns: 'Did you make the cargo fast, Bosun Browning?'

'Amigo! Yes I did, it's all stowed away!' Browning is wearing a baseball cap and the sleeves of his filthy khaki jacket are rolled up. Beneath this he wears a black T-shirt with a picture of Bob Marley on the front.

'Hey, Browning!' says Jenny excitedly. 'Look at me, I'm on the boat! I'm gonna see my dad! My amigo's taking me! Hey, Browning! Can you see the Southern Cross? The Pointer Sisters, there! Showing us the way!'

'A little bird has landed on my boat,' thinks Smiler at the wheel, a little more jaded now. 'Singing her songs. I liked them for a bit. They were as refreshing as a glass of crystal water, but the water's getting stale. These stupid bloody songs.'

He turns to his underling: 'Can't you shut her up, Bosun Browning? She's getting on my nerves.'

Jenny is oblivious: 'Hey, Browning! I'm off see my dad!'

'*Listen*,' Smiler spits, 'there *aren't* any penguins where we're going! They died out long ago.'

'Browning? What's he mean?'

'You haven't *got* a dad, you've got me now,' Smiler snaps. 'So give me a break from this incessant row, before you drive me mad! You *haven't got a dad*!'

Jenny stares at him in a shocked silence. 'There!' says Smiler. 'That's better, thank you. A little peace and quiet!'

In Education 1 everyone knows how the story goes.

They know what is going to happen next.

'Hey, Browning,' Jenny will say, 'Captain Smiler is saying horrible things.'

Emily will again have had to conceal herself under a tarpaulin, down amidst the cargo, but hearing Smiler speaking sharply to her daughter she will reveal herself and point a gun at the 'big belly man' who is steering the boat. She will be wearing a big leather jacket of Smiler's over her floral print dress and will have tucked her hair into a camouflage-print soft cap. 'That's not very friendly,' she'll say, prodding him with the muzzle of the weapon. 'You think you are a big bull elephant, but really you are nothing. You are pathetic, just another scavenger picking at the carcass. This is all blubber!'

Hearing her mother's voice will stir Jenny from her silence. 'Mum? Mum!' she will exclaim. 'This man says Daddy's dead. And the penguins! Hey, Browning, is it true? Mum? Are you coming too?'

Smiler will be unaffected by Emily's appearance. A little disdainful perhaps, but so confident of his superiority that

he'll be no more annoyed by her than by a fly or a mosquito buzzing near his face. 'What's going on, Bosun Browning?' he'll say. He will probably lazily scratch his nose to show how little he cares. 'I thought you'd put this bitch to work to make her earn her keep. I'm bored of this family now. Get rid of her.'

Browning will be standing as far from Smiler as the restricted space of the boat allows, and pulling his own gun will point it at Emily's head. Jenny will run for her mother and hold her around the waist as a child half her age might do. Smiler will order him to shoot her: 'What are you waiting for!'

But instead of obeying his Captain, Browning will quickly turn to aim the gun at him instead and say, 'My God, Em. What took you so long?'

Smiler won't be in the least bit afraid. 'A featherweight like you?' he'll say, scornfully. 'Don't make me laugh, Bosun Browning! Didn't you hear me? Just get rid of her and we'll say no more about it!'

But Browning will shoot the big man through, firing as many bullets as he can into that great chest, as many as it takes. 'Sorry amigo; it's nothing personal!' he'll say, and Jenny will scream as Smiler falls.

Browning will lift the body and struggle to drag the dead weight to the side of the boat, but before he can tip it overboard Emily will stop him. She will take a gold ring from Smiler's finger, unfasten his watch and go through his pockets, removing money, papers, a photograph. Standing, she'll stuff the booty into her own pockets and spit on the body. Then she will help Browning push Smiler over the side using her foot and a boat hook. They will listen to the splash that

Smiler's body makes as it hits the water, the *Crux* will rock and pitch as for a few seconds they watch the body floating away in their wake.

Jenny will run and embrace her mother. 'Mum! What did he mean about my dad?'

'Oh, my darling,' Emily will begin, but then she'll fall silent.

Browning will respond quickly: 'Hey, Jen,' he'll ask. 'What'll you do when we get there? Remember what I said?'

'Be brave for my dad?'

'That's it!' he'll say, pushing down the hood of her coat and tousling the girl's hair. 'You are a true sailor, Jen! But just think! Where we're going is not like Patience Camp. You'll be able to grow! You can learn! You can live!'

'Of course I'll grow!' Jen will say. 'But go to school? I'd rather sit in bed and read! Eat apples all day long!'

'We'll be free,' Browning will say. 'Free to make a change.'

The conductor counts in the musicians who are positioned to the side of the stage. There are two of them: a guard wearing shorts and flip-flops who plays the piano, and seated next to him a colleague who wears his military shirt loose over a T-shirt with a colourful design on the front depicting a cartoon-like image of a strangely anthropomorphic automobile with an oversized chrome engine. Tapping his foot he starts to pick out a line on the banjo, smiling as he does so, his fingers moving as if independently of his gently swaying body.

Browning begins the round in his beautiful tenor voice. He is a 'cape pigeon', which shows in his flattened vowels and the way that he rolls the letter *r*. The others join in line by line:

Air. Clarion Round

Free to breathe, free to fight.
We'll be free to make a change.
To rebuild, to relight,
To renew; free to change.
Free to share, to delight,
to conceive and make a change.
To make love, to do right,
to believe we can change.
Free to grow, free to be,
To be free. Free to change.

The actor who had been playing Smiler has now dropped down to floor level where he stands, motionless, at the right of the stage facing the audience. The oversized clothes, the padding and the sunglasses of the Captain Smiler costume form a tidy pile at his feet. The conductor nods him in, and his bass voice enunciates the words slowly and clearly over the faster descending melodies of the round.

Air. John Hardy

Patience Camp won't be home any more.
Black November's underway!
They thought they could crush us, but they couldn't!
Oh, Lord!
We killed Captain Smiler and we threw him overboard,
We threw Smiler's body overboard!

Patience Camp will be patient no more, it's
'Black November!' come what may!
My darling, we're fighting to proclaim a Jubilee!
Remember Shackleton and his struggle to be free,
and Isaiah 61 proclaiming liberty!

He holds the note until suddenly the lights are cut in Education 1. There are sound effects of distant explosions as if targets back on the island have been bombed. The percussions echo and ricochet around the snowless peaks of South Georgia high above Patience Camp, and the searchlights along the military perimeter suddenly go dark.

At this given signal that the rebellion has truly begun, a lamp would be lit upon the *Crux*.

Looking around in the sudden darkness of the spring new moon, Emily, Jenny and Browning would see that dozens of other lanterns were being lit on countless other little boats suddenly thus revealed in the waters around them. On stage the effect is produced by the manual rotation to face the audience of a series of mirrors, first one and then another and another, which, reversed and unnoticed, had been leaning against the back wall of the stage all along. There is an audible murmur from the audience as the movements and the sudden multiple reflections in the mirrors and their bevelled edges create the fleeting illusion of a ghost multitude, a phantom flotilla.

Aboard the *Crux*, Emily, Jenny and Browning would finally know that they were not sailing alone, that Black November had begun and that they would have their jubilee and more. A day of vengeance, but also one of freedom. A chance to complete their journey and start again, to build a new life in

a new land. The *Crux* would lead the way. It was a big boat: a smuggler's launch. A powerboat fast enough to outrun almost anything else on the sea.

Browning would start the engine with a great roar, but still they would need to take advantage of the darkness offered by this spring new moon, so Emily would lean forward and blow out the lantern, plunging the stage into darkness.

As the house-lights come on there is applause. It is muted at first, like the sound of water slapping the side of a boat, then grows louder. Smiler/John jumps up onto the stage, so they can all join hands and line up to take their bows. They beckon the three-man chorus to join them. 'Agnes' holds his skirt up and dances that little jig of a curtsey that he does, which always gets a laugh and a few wolf whistles. The conductor extends his hand towards the uniformed musicians before making a final small gesture towards the audience.

Now it is possible at least to tell the various groups in Education 1 apart, or to distinguish roughly between them, because by and large the guards are not clapping.

– 13 –

T-shirt and Flip-flops

Only by the most stringent laws
Could the indulgence be maintained.
Warming was used as a battering ram,
Civil rights subservient
To the 'management of change'
Amid phenomenal extremes.
In retrospect it can be seen
That the arming process was directly linked
To temperature increases
And larger peak wind speeds.

A man whose hands are tied in front of him is led into a room by two other men who are wearing elements of a military-style uniform. The uniforms are incomplete and slightly improvised. Both wear khaki shirts with epaulettes and some insignia on the breast. One has his sleeves rolled up and wears this uniform shirt open over a T-shirt that has a colourful design on the front depicting familiar landmarks of the city of Rio de Janeiro in Brazil. He also wears bleached denim jeans and sandals.

The other is wearing shorts and flip-flops.

The one being led is not wearing any items of uniform, but rather generic and nondescript clothes in 'the Western style'.

His tatty-looking green and blue-checked shirt is worn loose over a pair of ordinary, if dusty, black trousers.

From a distance he could look a bit like you, if you are a man. He might be about the same age as you but he looks much older. He is about your height and build. If you are a woman let's say that he is about the same height and build as your brother or your cousin if you have one; the adult male who is closest in age and familial relationship to you. The buttons which ordinarily might fasten the cuffs of the shirt he wears are missing so these hang open around his wrists, which by contrast are bound tightly with the sort of domestic plastic tie that a plumber or electrician might use to bundle up loose cables.

Cuffs resists T-shirt and Flip-flops in the smallest possible degree by dragging his feet and leaning back very slightly against the hands that are gently pushing him, but he also seems acquiescent, as if exhausted or resigned.

He knows what this is.

It is not the first time.

No one speaks.

Everyone knows how it goes.

The room they enter is shabby and functional. It is part of a cluster of older buildings that have been subsumed by a newer, larger facility yet do not show up on maps of that larger institution. It may once have been a changing facility or shower room in a hospital or some other kind of public building or industrial complex; a latrine block in a whaling station.

There are several thicknesses of peeling white paint on the walls. There are no windows and what light there is comes from two arrays of exposed electric light fixtures in

the ceiling, each of which is fitted with a single bulb where there might be four. This light is supplemented by what spills in from an electric light in the passageway beyond the door. In the centre of the room – defining it – is 'the boat', which is to say a table, the legs of which have been very roughly sawn off at one end so that it stands crookedly as if no thought has been given to finish or precision, but so that the very least anyone could say is that one end is lower than the other. It seems grotesque to observe that the sloping table top is reminiscent of the lid of an outsize school desk. Four stout metal rings are fixed through the wood of the table top, one at each corner, and it is the client's physical acquaintance with these four rings at wrist and ankle which give this vile board its other names: 'The Crux' or the 'Southern Cross.'

On the floor around the legs at the higher end of the table are more plastic cable ties like the one that is being used to restrain Cuffs, although these appear to have been broken or cut, perhaps in order to cut down previous occupants.

Midway along each side, an inverted-V-shaped chunk of wood has been gouged or sawn from the short planks that form the apron or frame upon which the tabletop sits. The apex of each V is worn smooth and broadened by some precise and repeated wearing down, as might happen on a boat where a wooden rowlock would be smoothed by the action of the oar, or where the movement of the sea and the rising and falling of the tides over time causes the painter to wear a groove into a wooden bow.

Set against the wall opposite the door is a solitary cold water spigot atop a standing pipe that has been lagged with hessian and string. The spigot is not properly closed and it lets out a steady trickle of water which makes the pipe sing

a low, whistling tune. Next to it on the floor is a blue plastic bucket in which a small watering can has been placed, of a kind that might be used for watering house plants.

There are traces of other plumbed-in fittings. Cut-off pipes project unevenly through the concrete floor in one corner, while a broader-gauge ceramic pipe which may have been a sewage outflow is truncated at a joint and has been filled with concrete.

The floor is inclined slightly to direct run-off into a central dip or gully, at one end of which is a circular, slatted metal drain cover. The tap or spigot stands more or less above this drain. At this same end of the room the floor is tiled and the tiles have been roughly covered with some kind of terracotta-coloured floor paint. The rest of the floor is bare concrete with tile adhesive still evident.

There is damage on the walls where a series of stalls have been removed, and an air of compromise, of rough-and-readiness, about the place. Nothing has been finished off beyond the needs of bare functionality.

The floor is drenched in places as if the room has been recently hosed down and the water not yet evaporated. The table is soaked, too, and the area around it particularly so. A piece of fabric like a dishcloth seems to have been used recently to partially wipe down the table top, but has been left there rather then being hung to dry.

The space is relatively clean apart from a tiny rectangular piece of paper, smaller than a bus ticket, which is printed with an ochre-coloured cork-like pattern and lies across one or two of the slats on the drain. Next to this, lying against the slight rim of the drain, is the cigarette filter that it once wrapped and which is shot through with yellow tar. It is cold,

as if the door and passageway beyond have been opened to allow in air from outside, but there is also a lingering scent of tobacco smoke, as if this particular cigarette had been smoked an hour or so before.

The only other furniture is a plain chair made from now weathered wood which is quite grey and shows the grain as if it has been outside in the elements for many years. Coiled loosely on the seat is a substantial length of coarse, blue nylon rope which may once have had some nautical function such as tying up a boat and is now rather frayed and dirty. The wood of the seat is much darker and water is still pooling slightly where it has run off the coil of rope and has not yet completely soaked into the wood.

T-shirt leads Cuffs towards 'the boat'. He picks up the wet cloth with one hand while turning Cuffs around so that he has no choice but initially to sit on the table edge before being pushed back so that his head is at the lower end of the table. T-shirt then pinches his prisoner's nose to provoke a reflex opening of the mouth that will allow him to push the cloth in, to force it between his teeth. The sequence is effected in a couple of easy and impersonal movements, with a confident but distracted touch that suggests these actions have been repeated many times. Flip-flops meanwhile leans over, grasping the chair-back with one hand to take up the

– 14 –

The Beatification of John C. Yoo

Editor's Note

While some versions of *The World Turned Upside Down* include a much longer, more graphic and elaborate – if not gratuitous – description of proceedings 'at the Captain's table', the unknown author of the original *Mariqueta Cartonera* edition evidently chose to spare readers the need to witness or imagine such scenes by simply 'turning the tap' to cut off the text of Chapter 13 (above) in mid-flow. In bringing this new edition to life we have followed that lead, so would direct the dissatisfied reader elsewhere.

However, the matter does not entirely rest there, for while researching this new publication in those parts of the *Mariqueta Cartonera* archives held at the British Library, Stromness, I came across a number of tightly folded pages which had been inserted into a bundle of what appeared from the nature of the corrections therein to be the anonymous author's galley proofs.

To my astonishment those few sheets of paper comprised a copy of a copy (at least, and exactly how many generations of duplicate stood between myself and anything that could be called an 'original' I cannot be sure) of a transcript of fragments of the so called 'High Seas Memorandum' of celebrated 21st-century humanitarian and anti-torture campaigner John C. Yoo.

I could scarcely believe what I was reading! Long believed lost, and still suppressed in many jurisdictions, the 'High Seas Memorandum' is a candid and impassioned piece of writing, a simple plea for humane conduct and the abolition of torture, which clearly displays Yoo's almost childlike and now near-legendary lack of sophistry. I

have been able to find no reference to this document in the library's integrated catalogue so cannot know whether it was placed there by accident or for safe-keeping, as a point of reference or because it was intended that Yoo's words should be incorporated into the book itself. The reader may infer as I have that the High Seas Memorandum *was* intended to be published as a companion text to the incomplete passage above. We reproduce that transcript below for this reason as well as for its undoubted historical value and because reproduction is in itself a form of preservation. I believe that to do so honours the spirit and ethos of John C. Yoo himself as well as that of the *Mariqueta Cartonera* pioneers who risked so much to publish within the harsh conditions of the notorious CBCP Endurance detention centre.

The reader should also note that in many places the source being transcribed was either irretrievably worn or beyond legibility. In the interests of clarity and to save both ink and paper I have standardised all such redactions, omissions and/or deletions to a simple 4em* block throughout. It is my hope that this preserves as much of the sense of John C. Yoo's famously eloquent plea for 'a statutory prohibition on torture' as is possible.

'Wordy', Stromness, South Georgia

* The em is an archaic unit of horizontal measurement in print and typesetting which corresponds to the width of a capital 'M' in a given typeface.

FRAGMENTS OF A M[redacted] FOUND BY [redacted] OF [redacted] WHEN THEY VISITED [redacted] DURING THEIR EXPLORATION OF [redacted]

U.S. Department of Justice
Office of Legal Counsel
Office of the Deputy Assistant Attorney General
Washington, D.C. 20530

March 14 2003

You have asked our office to examine legal standards governing [redacted] interrogations. [redacted] we conclude that [redacted] criminal laws of general applicability [redacted] apply [redacted] to [redacted] interrogation [redacted].

[redacted] we [redacted] believe that [redacted] Torture is not [redacted] an interrogation method [redacted]. [redacted] that [redacted] the [redacted] Supreme Court [redacted] provides [redacted] rights to non-citizens who have no established connection to the country and who are held outside sovereign United States territory [redacted] that [redacted] Courts [redacted] and [redacted] government [redacted] must establish [redacted] a [redacted] statutory [redacted] prohibition on torture [redacted].

[redacted]we[redacted] require [redacted] that a jury [redacted] criminalizes [redacted] the commission of war crimes [redacted] because [redacted] interrogations [redacted]within the special maritime and territorial jurisdiction [redacted] cause [redacted] prolonged mental harm.

Additionally, the threat of [redacted] (1) severe beatings using instruments such as iron barks, truncheons, and clubs; (2) threats of imminent

death, such as mock executions; (3) threats of removing extremities; (4) burning, especially burning with cigarettes; (5) electric shocks to genitalia or threats to do so; (6) rape or sexual assault, or injury to an individual's sexual organs, or threatening to do any of these sorts of acts; and (7) forcing the prisoner to watch the torture of others [redacted] would not constitute [redacted] interrogations.

Given this definition [redacted] treatment as generally falls into the category of 'police brutality,' [redacted] does [redacted] amount to 'torture.'

[redacted]This understanding accomplished two things. First, it ensured that the term [redacted] would be understood [redacted]. Second, it [redacted] took an amorphous concept – excruciating and agonizing mental pain – and gave it a more concrete form [redacted] "the needle under the fingernail, the application of electrical shock to the genital area, the piercing of eyeballs, etc." [redacted] In short, intentional acts such as those designed to damage and destroy the human personality [redacted].

[redacted]Executive Branch Officials [redacted] suggested that torture [redacted] is [redacted] literally shocking to the conscience.

The methods at issue [redacted] were: (1) Wall Standing. The prisoner stands spread eagle against the wall, with fingers high above his head, and feet back so that he is standing on his toes such that his all of his weight falls on his fingers. (2) Hooding. A black or navy hood is placed over the prisoner's head and

kept there except during the interrogation. (3) Subjection to Noise. Pending interrogation, the prisoner is kept in a room with a loud and continuous hissing noise. (4) Sleep Deprivation. Prisoners are deprived of sleep pending interrogation. (5) Deprivation of Food and Drink. Prisoners receive a reduced diet during detention and pending interrogation. The [redacted] Court [redacted] concluded that [redacted] the five techniques [redacted] amount to torture. [redacted] According to the court [redacted] which specifically defines torture as '"an aggravated and deliberate form of cruel, inhuman or degrading treatment or punishment."' [redacted] For example [redacted] severely beaten and forced to stand spread eagle up against a wall [redacted] while [redacted] kicked [redacted] 'continuously on the inside of the legs' [redacted] receiving injuries that were 'substantial' [redacted] 'massive injuries' [redacted] 'comparatively trivial' beatings [redacted] perforation of the detainee's ear drum and [redacted] 'minor bruising' [redacted] is not [redacted] permissible. [redacted]

Torture [redacted] is [redacted] torture [redacted] is [redacted] torture [redacted] is [redacted] torture [redacted] is [redacted] torture [redacted] is [redacted] torture [redacted] is [redacted] torture [redacted].

[redacted]cruel, inhuman, or degrading treatment or punishment [redacted] and [redacted] the violation of customary international law [redacted] is not [redacted] an interrogation method [redacted].

In particular [redacted] the evil involved in violating [redacted] another's life [redacted] is not limited to certain types of harms. [redacted] Clearly, any harm that might occur during an interrogation

[redacted] would still be a crime [redacted].

[redacted] obtaining information – no matter what the circumstances – cannot justify an act of torture. [redacted] As the Court of Appeals [redacted] has explained: [redacted] "the [redacted] use of deadly force [redacted] within [redacted] interrogation [redacted] is [redacted] not actually [redacted] permissible." [redacted]

Torture [redacted]is [redacted] so [redacted] not [redacted] interrogation. [redacted]

Customary international law does not [redacted] provide justifications [redacted].

Please let us know if we can be of further assistance.

John C. Yoo
Deputy Assistant Attorney General

Notes

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The converging dual narrative structure used here – bringing fiction and non-fiction elements together within the form of a novel – is loosely derived from Georges Perec's novel *W, or the Memory of Childhood*. Emily and Jenny's story was initially developed from a shot-by-shot analysis of Frank Hurley's contemporary documentary feature *South: Sir Ernest Shackleton's Glorious Epic of the Antarctic*. The first outline (and early drafts of Chapters Two and Eight) were developed during two week-long workshops at The Jerwood Space, London, in November 2007 and August 2008, with John Fulljames (then artistic director of The Opera Group) and composer Martyn Harry, with additional contributions from mezzo soprano Melanie Marshall, soprano Claire Wild and singer John Moabi. Special note should be made of the support of the British Film Institute, which also included producer Jan Faull generously working with me to produce to my specification an alternative and substantially shorter working edit of Frank Hurley's film from the BFI's restored masters.

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The verses at the beginnings of Chapters 2, 4, 6, 8, 10 and 13, and the verse and rounds in Chapter 12, were written by applying 'the cut-up technique' to three original text sources – the Intergovernmental Panel on Climate Change's *Climate Change 2007: Synthesis Report,* George Simpson's 'FRAGMENTS OF A MANUSCRIPT . . .' and the caption cards in Frank Hurley's *South.*

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Parts of Chapter 12 adopt the layout of a ballad opera, a form that allows for the inclusion of topical or satirical content, a function that I have tried to retain. Ballad operas often used or adapted folk or popular music and nursery rhymes to create recognisable scores, so where possible I have set the various songs, duets and airs to such standards, as referenced in the text. One exception is 'Since all the world's turn'd upside down' in Chapter 5, for which both music and lyrics are traditional. I am grateful to John Renfro Davis for the resources he has collated about this particular song on Lesley Nelson-Burn's *Folk Music of England, Scotland, Ireland, Wales and America* website.

Description of the fictional 'CBCP Endurance' detention facility in Chapter 12 is derived for satirical purposes from official descriptions of the UK Border Agency's immigration removal centres and Detained Fast Track process at Yarl's Wood and Harmondsworth, the Australian Government Department of Immigration and Citizenry's accommodation at the Christmas Island Immigration Detention Centre, and of compounds at the US Government's detainment facility at Guantánamo Bay, Cuba. The news report entitled 'Detainees sew lips together in South Georgia protest' (also in Chapter 12) is adapted for satirical purposes from an Australian Associated Press story in the *Sydney Morning Herald*† about protests at the Christmas Island Detention Centre which were taking place at time of writing in November 2010.

* www.tippingpoint.org.uk.

† Australian Associated Press (AAP), 'Detainees sew lips together in Christmas Island protest,' *Sydney Morning Herald*, 19 November 2010.

Chapter 14, 'The Beatification of John C. Yoo', was first published by Situations as part of artist Alex Hartley's *Nowhereisland*[*] in July 2012 during my week as 'Resident Thinker'. With thanks to Claire Doherty, Katie Daley-Yates and Michael Prior of Situations. The text of Chapter 14 is derived for satirical purposes from then US Assistant Deputy Attorney General John C. Yoo's infamous memo from the Office of Legal Counsel in the US Justice Department to the US Department of Defense of 14 March 2003. That document was declassified and reproduced around the world in 2008. The transcript I drew upon was a facsimile published by *Washington Monthly*.[†] My text was produced by redacting around 99 per cent of Yoo's original to create a new series of simple anti-torture statements in strict order of the appearance of their constituent parts in his original text and without any rewriting or insertions (this extends to capitalisations, italics, spacing and punctuation, which are all Yoo's own) in repudiation of his chilling argument to the contrary.

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* See: http://nowhereisland.org/resident-thinkers/44.

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