Introduction:

Very, Very Early or Very, Very Late

We are in Egypt. Not Ancient Egypt, which would be a reasonable place to begin a book about time, but in modern Egypt, an Egypt out of *Condé Nast Traveller*, with the fine beaches and the tourists at the pyramids and the sun beating down on the Mediterranean. We are sitting at a restaurant above a beach near Alexandria, and at one end of the beach we can see a local fisherman catching something tasty for dinner: a nice red mullet perhaps.

We are on holiday after a punishing year. After our meal we stroll towards the fisherman. He speaks a little English. He shows us his catch – not much yet, but he's hopeful. Because we know a little about fishing and opportunity, we suggest he might move to that rock over there, just a little further out, a higher cast than his present position on his old folding stool, and a greater chance of hooking his daily haul of fish faster.

'Why would I want to do that?' he asks.

We say that with greater speed he could catch more fish, so that he could not only have enough for his dinner, but sell the surplus at the market, and with the proceeds he could buy a better rod and a new icebox for his catch.

'Why would I want to do that?'

So that you can catch even more fish at greater speed, and then sell those fish, and swiftly earn enough to buy a boat, which means deeper seas and still more fish in record time with those big nets they use on trawlers. In fact, you could

soon become a successful trawler yourself, and people would start calling you Captain.

'Why would I want that?' he asks smugly, annoyingly.

We are of the modern world, attuned to ambition and the merits of alacrity, and so we advance our case with growing impatience. If you had a boat, your haul would soon be of such size that you would be a kingpin at the market, be able to set your own prices, buy more boats, hire a workforce and then, fulfilling the ultimate dream, retire early, and spend your time sitting in the sun fishing.

'A bit like I do today?'

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Now let us briefly consider the case of William Strachey. Strachey was born in 1819, and from his schooldays had set his heart on becoming a civil servant. By the mid-1840s he was working in the Colonial Office in Calcutta, where he became convinced that the people of India, and the people of Calcutta in particular, had found a way to maintain the most accurate clocks (the best clocks in India at this time were probably made in Britain, but no matter). When he returned to England after five years away he determined to carry on living his life by Calcuttan time: a valiant move, for this was usually five-and-a-half hours ahead of London time.

William Strachey was the uncle of Lytton Strachey, the eminent Victorian critic and biographer. Lytton's own biographer, Michael Holroyd, has noted how William was among the most eccentric of all the Stracheys, which was really saying something, given the amount of general weirdness ritually favoured by the Strachey clan.*

*** Another of Lytton Strachey's uncles, Uncle Bartle, wrote the definitive book –**

William Strachey lived until his mid-80s, and thus spent more than 50 years in England on Calcuttan time. This meant having breakfast at teatime and a candlelit lunch in the evening, and making decisive calculations regarding train timetables and other routines of daily life, such as shopping and banking hours. But in 1884 it got more complicated still, as Calcuttan time jumped 24 minutes ahead of much of the rest of India, making Strachey's day 5 hours and 54 minutes ahead of London time. Sometimes it was just impossible to tell if he was very, very early or very, very late.

Many of Strachey's friends (not that he had many friends) grew used to this eccentricity, although he severely tried the patience of his family when he bought a mechanised bed at the Paris International Exposition of 1867. The bed came with a clock designed to wake the occupant at an appointed hour by tipping him or her out, and Strachey rigged it up in such a way that it tipped him into his bath. Despite his planning, he was apparently so enraged when he was first woken in this way that he saw no other option but to smash the clock to ensure he wouldn't be tipped up again. According to Holroyd, William Strachey spent his remaining years in galoshes, and shortly before he died he bequeathed his nephew a considerable assortment of coloured underpants.

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Between the serenity of the fisherman and the madness of Strachey lies the compromised life of us all. Do we want the fishing life or the clock life? We want both. We envy those

definitive up to that point at any rate – on the orchids of Burma. Yet another, Uncle Trevor, was married to a woman named Aunt Clementina, who, whenever she visited Lytton's home in Lancaster Gate, spent her time making chapattis on the living-room carpet. One of Trevor's and Clementina's children died while embracing a bear.

with a carefree existence but we don't have time to examine it for long. We want more hours in the day but fear we'd probably only waste them. We work all hours so that we may eventually work less. We have invented quality time to distinguish it from that other time. We place a clock by our bed but what we really want is to smash it up.

Time, once passive, is now aggressive. It dominates our lives in ways that the earliest clockmakers would have surely found unbearable. We believe that time is running away from us. Technology is making everything faster, and because we know that things will become faster in the future, it follows that nothing is fast enough now. The time zones that so possessed William Strachey are rendered almost obsolete by the perpetual daylight of the Internet. But the strangest thing of all is this: if they were able, the earliest clockmakers would tell us that the pendulum swings at the same rate as it always has, and the calendars have been fixed for hundreds of years. We have brought this cauldron of rush upon ourselves. Time seems faster because we have made it so.

This is a book about our obsession with time and our desire to measure it, control it, sell it, film it, perform it, immortalise it and make it meaningful. It considers how, over the last 250 years, time has become such a dominant and insistent force in our lives, and asks why, after tens of thousands of years of looking up at the sky for vague and moody guidance, we now take atomically precise cues from our phones and computers not once or twice a day but continually and compulsively. The book has but two simple intentions: to tell some illuminating stories, and to ask whether we have all gone completely nuts.

I recently bought the smartphone app Wunderlist. It's designed to 'sort out and synchronise your to-dos for home, work and everything in between' and 'take a quick peek inside a to-do' and 'swipe down from any app to get a glance of

your due to-dos with our Today widget'. Buying the app was a tough choice, for there are also apps named Tick Task Pro, Eisenhower Planner Pro, gTasks, iDo Notepad Pro, Tiny Timer, 2Day 2Do, Little Alarms, 2BeDone Pro, Calendar 366 Plus, Howler Timer, Tasktopus, Effectivator and many, many hundreds of others. In January 2016, these Business and Productivity apps – the vast majority concerned with time-saving, time management and increased speed and efficiency in all aspects of our lives – accounted for a greater share of smartphone apps than Education, Entertainment, Travel, Books, Health & Fitness, Sports, Music, Photos and News, all of which were also vaguely concerned with improving efficiency and getting more done faster. Yes, that name was 'Tasktopus'. How did we arrive at this terrible and exciting place?

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Timekeepers examines some important moments in an attempt to find out. For most of the time we will be in the company of contemporary and modern witnesses, among them some remarkable artists, athletes, inventors, composers, film-makers, writers, orators, social scientists and, of course, watchmakers. The essays in this book will consider the practical rather than ethereal applications of time – time as a lead character in our lives, and sometimes the only one against which we judge our worth – and examine a few instances when our measurement and notion of temporal things enhanced, restricted or restructured our lives in significant ways. The book will not scold us for our fast living, although several people will suggest how to apply the brakes. Nor will it be a book about theoretical physics, so we will not figure out whether time is real or imaginary, or what came before the Big Bang; instead, the book examines what came after the big bang of the industrial

revolution. Equally, we're not going to mess around with science fiction or the mind-bending mechanics of time travel: all that going back to kill your own grandfather and suddenly-waking-up-in-the-Field-of-the-Cloth-of-Gold rigmarole. I'm leaving that to the physicists and *Doctor Who* fanatics, and taking the rational Groucho Marx line on all of this: time flies like an arrow but fruit flies like a banana.*

Timekeepers tracks time's arrow in the modern age. The pace picks up with the railways and the factory, but our tour is primarily a cultural one, and occasionally a philosophical one, gathering momentum with Beethoven's symphonies and the fanatical traditions of Swiss watchmaking. There will be the occasional sampling of wisdom from Irish and Jewish comedians. The timeline will be cyclical rather than linear, because time has a habit of folding back upon itself (the early days of cinema appear here before the early days of photography, for example). But, chronological or not, it comes with one inevitability – that sooner or later we will track down the person responsible for the adverts that claim 'You never actually own a Patek Philippe, you merely look after it for the next generation', and try not to kill him. A little later the book will also evaluate the wisdom of time-saving gurus, examine why the CD lasts the length it does, and explain why you should think very seriously before travelling on 30 June.

But we begin at a football match, an event where timing is everything.

*** The joke is *attributed* to Groucho Marx, although one can spend a very pleasurable weekend searching in vain for even one occurrence of him actually saying it. The expression probably originates in an article on the uses of computers in science written for *Scientific American* in September 1966 by the Harvard professor Anthony G. Oettinger.**

Chapter One

The Accident of Time

i) Leaving the Ground

You know that thing they say about comedy being tragedy plus time? The thinking is that any terrible misfortune can be made hilarious given a suitable period to recover and reassess the situation. The film director Mel Brooks (who found that the passage of time permitted him to make fun of Hitler in *The Producers*) had his own version: 'Tragedy is when I cut my finger. Comedy is when you fall into an open sewer and die.'

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We had been to a football match. After three minutes of extra time, my son Jake and I untied our bikes from the railings and cycled towards Hyde Park. Chelsea's opening game of the season had been an easy thing, 2–0 over Leicester, goals from Costa and Hazard, and we'd enjoyed being back at the ground after the summer layoff. The cycle home was good too: late August sun, the park packed with tourists.

The day was dominated by a fixture list that had appeared two months before, and the kick-off time was dictated about a month after that by the television companies. But when the day of the match finally came it was all about old rituals: when to meet up, when to have lunch, how long the pizzas take, how long until the bill arrives, the walk to the ground,

the length of the turnstile queue, the songs on the PA before the game – always Blur's 'Parklife' these days, coordinated with the big-screen video of past glories. And then the game itself: how slow it seems when you're winning and waiting for the final whistle, and how quickly it goes when you're behind.

We left a minute early to avoid the crowds, also a temporal negotiation: how does one measure the possibility of missing a last-minute goal with the value one attaches to saving ten minutes of crowd congestion? Many in the crowd chose the early departure, which almost defeated the object, and we weaved our bikes through the throngs on the Fulham Road. My youngest son Jake was 24, full of energy, slightly ahead of me along Exhibition Road and past the Albert Hall. The nice thing about Hyde Park is the modern division of the pavement, half for cyclists, half for pedestrians, and you glide past the Serpentine Gallery, a show by an artist I'd never heard of, and then suddenly I had blood pouring from my face, a pulsing gash just above my eye, my sunglasses smashed, my bike in the road, a heavy numb pain around my right elbow, a lot of concerned people, the sort of frowns on their faces that suggested to me that my head wound must be serious. Someone was calling an ambulance and another was giving me paper towels to clutch to my head, and the towels were turning crimson.

It was just as people had said: time did indeed seem to slow down. I can see the fall not exactly in slow motion but extended, each tiny event surrounding the accident elongated and logged as if it might be my last, my flight from bike to ground an elegant swoop through the air rather than an ungainly, panicky confusion, people saying 'ambulance' all the time. The ambulance arrived in six long minutes or so, probably finding it hard to work itself past all the supporters, and I can remember being worried about my bike, and who would

tell my wife. One of the ambulance men cut open the sleeve of my jacket and flinched a little as he saw the state of my elbow. No bones exposed, but swelling like a dinner plate, and he said, 'You'll have that X-rayed, but I can tell you now that it's broken!!', and we sped on to the hospital on the Fulham Road we had passed not fifteen minutes earlier. I asked him if they were going to put the sirens on, and he asked me what had happened.

I had been undone by time. I wasn't going fast, because the pavement was crowded. Jake was ahead of me, and there were a lot of people on our left up ahead, and one of them, a visitor from Portugal we find out later, drifted out slightly from her friends, and walked directly into my path. I knew I was going to hit her before I did, but there was no time to brake or even put my hand out, and my bike seemed to disappear underneath me as I fell forward. The Portuguese woman, perhaps mid-20s, was shocked and concerned, and Jake took her mobile number, but we have no idea where that is now. Even at the time, sitting on the grass near the Serpentine Gallery, I think I knew it could have been much worse, and my sunglasses could have shattered into my eyes, and I would have lost my sight.

Neuroscientists may be a little worn out with the amount of stories they hear of time slowing down at the scene of an accident, and they will tell you why it seems that way. Accidents are alarming and fearful things. For those tumbling over a bike or a precipice, our brain finds plenty of space for new memories to imprint themselves upon our cortex. We remember them as significant events with lots of vivid action, and when we reframe that narrative in our own heads, or tell it to others, there appears to be so much going on that it

simply must have taken longer than the split second it actually did. Compared to familiar occurrences that have hardened in our cortex until we no longer have to think about them (the drive to the shops with our mind on other matters, the routines so familiar we say we can do them in our sleep), a sudden new event will require more of our brain's attention. The unfamiliar shape of a woman as she crosses a painted white line, the loose chips of gravel, the shrieks of brakes and passers-by – these are unusual things to process when one is trying to limit the damage to vulnerable flesh.

But what actually happens in this flashbulb moment? How does a flashbulb moment seem to collide with a long exposure, something that we know to be impossible? Two small portions of our brain known as the amygdalae – groups of hyper-responsive nerve bundles in the temporal lobe concerned primarily with memory and decision-making – commandeer the rest of the brain's functions to react in a crisis. It is something that seems to stretch a one-second fall to five seconds or more, set off by fear and sudden shocks that hit our limbic system so hard that we may never forget them. But our perceived duration distortion is just that; clock time has not in fact offered to pause or elongate for us. Instead, the amygdalae have laid down memories with far more vivid detail, and the time distortion we perceive has just happened in retrospect. The neuroscientist David Eagleman, who has conducted many experiments into time perception and as a boy experienced a similar elongation of time when he fell off a roof, explains it in terms of 'a trick of the memory writing a *story* of a reality'. Our neural mechanisms are constantly attempting to calibrate the world around us into an accessible narrative in as little time as possible. Authors attempt to do the same, for what is fiction if not time repositioned, and what is history if not time in retrospect, events re-evaluated in our own time?

Not that I could have explained this in the ambulance on the way to the hospital; the ambulance had its own routines and schedules. As did A & E, where I sat for what seemed like an eternity waiting to be seen. With my amygdalae returned to equilibrium, there was now a different sort of elongated time – the elongation of boredom, two hours or so looking at other patients and wondering how I would cancel most of my packed week ahead. Jake had planned to take the last train that evening to St Ives, but the train would leave without him. After a while my wife Justine arrived, and I took her through what happened, still with bloody paper stuck above my eye, and after a further while the process began properly, and I was on a gurney in a screened cubicle, a nurse seeing whether I could make a fist. It was almost midnight when they started putting my elbow in plaster to keep it from moving before they could operate on it, and past one by the time a kind doctor at the end of his shift said he had to get back to his wife and their three-week-old baby, but he would sew me up rather than let a junior do it because it was such a deep wound.

And then at around 3 a.m. I was alone in the bowels of the Chelsea and Westminster. My wife and son had driven home with the bikes in the back of the car, and I didn't yet have a bed in a ward so I lay in a darkened room in a speckled gown tied at the back, with my arm in plaster on my chest and nine stitches just above my eyebrow, and painkillers inside me. I wondered how long I would be there, and how long until they operated, and I could hear dripping somewhere and a person calling outside my room, and I began to feel cold.

I thought I could feel every granule of time. It was August 2014, but the date seemed irrelevant and arbitrary. My over-wound mind had been prised open by a fall, and everything had been upended. In a dead space in a clinical setting I felt

myself drifting towards a consciousness where time took on not only a new urgency, but also a new laxity. I was back in a cradle where time was no longer my own, and it made me question to what extent it ever had been. Was everything chance or was everything fixed? Had we lost control of something we had created? If we'd left the ground just a half-minute earlier, or pedalled just that bit harder, one wheel rotation more, or if the traffic lights by the Royal Albert Hall had slowed us down, and if the woman from Portugal had lingered over her cake that afternoon, or, even better, hadn't come to London at all, then this would have never happened, and Jake would have caught his train, and I would have watched the highlights on *Match of the Day*, and the doctor would have arrived home earlier to help his wife. Everything that passed for time in this setting had been self-imposed and self-ordained, a modern arrangement calibrated gradually over generations. It made me wonder how such an alliance had come about. Time regulated transport, entertainment, sport, medical diagnostics, everything – and the people and processes that set these connections in motion are the subject of this book.

ii) The Shortness of Life and How to Live It

Someone feeling sorry for themselves in a hospital ward today would do well to think of Seneca 2,000 years ago. *On the Shortness of Life* advised his readers to live life wisely, which is to say not frivolously. He looked around and didn't like the way people were spending their time, the way 'one man is possessed by an avarice that is insatiable, another by a toilsome devotion to tasks that are useless; one man is besotted with wine, another is paralyzed by sloth.' Most existence, he reasoned, was not life, not living, 'but merely time'. In his

mid-60s, Seneca took his own life by slitting his wrists in the bath.

The most famous line in Seneca's essay comes right at the start, a reminder of a famous saying by the Greek physician Hippocrates: 'Life is short, art is long.' The exact meaning of this is still open to interpretation (he was probably not referring to the queues at the hot Richter show, but the length of time it takes to become an expert at something), and Seneca's employment of the phrase confirms that the nature of time was a topic that thinkers in Ancient Greece and Rome found highly engaging. Around 350 BC, Aristotle saw time as a form of order rather than measure, an arrangement in which all things are related to each other. He saw the present not as fixed, but as a moving entity, a component of continuous change, ever dependent on the past and the future (and, idiosyncratically, the soul). Around AD 160 Marcus Aurelius believed in fluidity: 'Time is a river of passing events and as strong as its current' he found. 'No sooner is a thing brought to sight than it is swept aside and another takes its place. This too will be swept away.' Saint Augustine of Hippo, who lived a long life between 354 and 430, caught the fleeting essence of time that has confounded quantum physicists ever since: 'What then is time? If no one asks me, I know what it is. If I wish to explain it to him who asks, I do not know.'

My elbow was made in the summer of 1959, and it had been shattered on its 55th anniversary. The X-rays showed it now resembled a puzzle, with the bones of my joint chipped and scattered like fleeing prisoners. During my forthcoming operation, which I was assured would be fairly routine, the bits would have to be rounded up and held in place by pieces of wire.

The watch I was wearing at the time of the accident was also made in the 1950s, and lost between four and ten minutes

a day, depending on how often I wound it, and other things. I liked the fact that it was old (you can trust an old watch because it's been doing the same thing for years). To be punctual at appointments I had to calculate exactly how late my watch may be. I had been meaning to take it in for recalibration, but I never seemed to have the time. Most of all I enjoyed the analogue factor, the cogs and springs and flywheels that didn't need a battery. But what I really liked was the suggestion that time shouldn't control how I conducted my life. Time could be the most destructive force, and if one could protect oneself from its ravages, one could somehow attain a sense of control, and a sense of directing one's own destiny, at least on an hourly basis. The best thing of all, of course, the ultimate temporal freedom, would be to give my watch away, or to throw it from the window of a speeding train.

Four minutes of time, fast or slow – that was a useful thing to consider when lying supine and semi-conscious in a dark room, drifting in a boat along the reeds, searching for the place, in a phrase Clive James once employed in a song, where you trade your shells for feathers. I admired the optimism of Aristotle: 'We live in deeds, not years; in thoughts, not breaths; in feelings, not in figures on a dial. We should count time by heart throbs.' I wanted a time holiday; I approved of J.B. Priestley's dictum that a good holiday is one spent among people whose notions of time are vaguer than one's own.

They operated on me the next morning, and not long after lunchtime my mouth was dry and there was a surgeon standing over me and a nurse was measuring the throbs of my heart. The procedure had gone well, and I could expect

to get about 90 per cent of my flexibility and pronation back within eight weeks if I worked hard at the physiotherapy.

In between the physio I watched a lot more television than normal, and got far angrier than usual, and read a lot on my Kindle, normal books being unmanageable with just one good hand, as was watch-winding. I read *Zen and the Art of Motorcycle Maintenance*, that inflated spiritual road trip by Robert M. Pirsig that became a phenomenal bestseller by tapping into some sort of Western cultural zeitgeist, or what the Swedes call a *kulturbärer*, an ultra-timely book that challenged our assumptions about cultural values. In this case, *Zen* challenged our assumptions that what we wanted was more and faster – more materialism, a faster and more connected life, a greater reliance on things beyond our control or understanding.

Beneath the surface, *Zen and the Art of Motorcycle Maintenance* is all about time. It begins with the words 'I can see by my watch, without taking my hand from the left grip of the cycle, that it is eight-thirty in the morning', and for the next 400 pages the grip barely loosens – the exploration of what one values and treasures in life, and what one sees and feels at the core of the journey. The bike ride through a scorching landscape lends it an immediate consciousness. The riders – the writer, his son Chris and some friends – are heading through the Central Plains to Montana and beyond, and they are not dawdling. 'We want to make good time, but for us now this is measured with emphasis on "good" rather than "time" and when you make that shift in emphasis the whole approach changes.'

I thought about the man who had turned me on to books and words, a school English teacher named John Couper. Mr Couper let me bring the lyrics of Dylan's 'Desolation Row' into our A-level seminar and analyse it like it was a Shelley poem, even though it was obviously much better. One day,

Couper had stood up at the podium in our Great Hall during morning assembly and delivered a speech about time. I think he began with some famous time quotes: 'Time spent laughing is time spent with the Gods' (anonymous); 'Beware the barrenness of a busy life' (Socrates). He then read from a list, and I remember it like this: 'Time. You can spend it, make it, lose it, save it, squander it, slow it down, speed it up, beat it, keep it, master it, spare it, kill it.' There were other dainty uses too, but his big final message was that we were privileged to be young and have time on our side, for time waits for no man (it was an all-boys school then) and that whatever else we did with our time, we shouldn't waste it. That stuck with me, but it was a hard rule to live by.

Sometimes I think I can measure out my childhood with images of timekeeping. Perhaps we all can. One day when I was three or four my father brought home a gold carriage clock in a case lined with crimson crushed velvet, and when my tiny finger pressed the button at the top a bell chimed the hours. The school clock in the Great Hall, the kitchen clock, and in my bedroom I had an alarm clock called Big Ben made by Westclox.*

Then one day we turned on the television to watch the Irish comedian Dave Allen. This was as risky as it got in my house: Allen was a 'dangerous' comedian, often outraging religious groups, drinking and smoking on air, stretching out stories well beyond bedtime. He looked a little louche, and had lost the tip of his left forefinger in what he claimed was a spooky comic accident, but we found out later that it happened when a cog chewed it in a mill when he was six.

One night he got off his tall chair, put down his cut-glass tumbler, and started one of his stories about the peculiar way

*** Which reminded me of that joke where Big Ben talks to the Leaning Tower of Pisa and says, 'I've got the time if you've got the inclination.'**

we order our lives. 'I mean,' he said, 'how we *live* by time . . . how we live by the *watch*, the *clock*. We're brought *up* to the clock, we're brought up to *respect* the clock, *admire* the clock. Punctuality. We live our life to the clock.' Allen waved his right arm around in astonishment at the craziness of it all. 'You clock *in* to the clock. You clock *out* to the clock. You *come home* to the clock. You eat to the clock, you drink to the clock, you go to bed to the clock . . . You do that for forty years of your life, you retire, what do they fucking give you? A clock!'

His swearing triggered lots of phone calls from viewers (there were people who were just *poised* by their phones when Allen was on, like contestants on a quiz show). But no one quickly forgot the joke, nor the perfect comic timing, every pause like the air in a drum solo.

Recovering, I wasted a lot of time on my iPhone. One night as I lay in bed I had an urgent need to watch films starring Bill Nighy. I dimmed the screen on my phone and feasted on YouTube, and was watching addictive flows of Richard Curtis movies and David Hare's play *Skylight*, and when I was done I did something unforgivable: I paid to download *About Time*. It was a preposterous thing about how the men in the fictional Nighy family can travel back in time, correct the mistakes of the past – a wrong word here, a bungled meeting there – and end up happy in love. As the film critic Anthony Lane pointed out, the really smart thing to do would be to look at the day's papers and travel back to bet on winning horses, *Back to the Future*-style, but, as has been clear for over a century of such fictional wanderings, time travel is seldom practised by the most astute. Obviously I wished I could have travelled back and not clicked Purchase.

But it wasn't just his work that drew me to Nighy. I once had dinner with him and his then-wife Diana Quick, and found him to be exactly the same as he was in most of his

movies and plays: the immaculate suit and heavy glasses, of course, and the impeccable debonair English manners and chivalry that makes you believe everything he says is either knowing or hilarious. What I really liked about him was that he seemed to have his life mapped out perfectly. When asked how he spent his spare time he said he watched a lot of football on television, particularly Champions League games. He was just fascinated by the Champions League. In fact, he said, he measured out his remaining time on earth by how many Champions League seasons he had left. If FC Barcelona could entertain an elegant but exhausted soul for the next 25 years with their swift passing style and a strict dressing-room edict that they were to hold the ball for no longer than seven seconds, then that would amount to a fantastic mortal span for him.

As I recovered from my accident, and my elbow healed, and I was able to hold a book again, I discerned an exploration of time in almost everything I encountered: every story, every book. And every film too: every plot was time-sensitive or time-dependent, and everything that wasn't set in an imaginary time was history. In the newspapers and on television, little seemed to be worth covering unless it was linked to an anniversary.

And the word dominated. Every three months, the *Oxford English Dictionary* adds about 2,500 new and revised words and phrases to the online version of its third edition (in print, the second edition runs to 20 volumes, containing 615,000 entries). Many of the new words are slang, and many of the others derive from popular culture or digital tech. In contrast to the new words, the *OED* also maintains a list of the old words we use most often, and they are words we might expect: the, be, to, of and, of course, and. But what are the most commonly used nouns? Month is at number 40. Life is number 9. Day is 5, and Year is 3. Person is at number 2,

while the most commonly used noun in the English language is time.*

The *OED* observes that our lexicon relies on time not merely as a single word, but as a philosophy: more actions and phrases depend on time than any other. On time, last time, fine time, fast time, recovery time, reading time, all-time. The list goes on for ages. It leaves us in no doubt of time's unassailable presence in our lives. And reading just the beginning of that list might lead one to imagine we have come too far, and are travelling too fast, to reinvent time or stop it altogether. But as we shall see in the next chapter, we once had a notion that such things were both possible and desirable.

***Oxford University Press conducted its research online, consulting books, newspapers, magazines, blogs and Hansard.**

Chapter Two

How the French Messed Up the Calendar

Puffball, walnut, trout, crayfish, safflower, otter, basket of gold, truffle, sugar maple, wine press, plough, orange, teasel, cornflower, tench. At the end of January 2015, Ruth Ewan positioned the last of her 360 objects in a large bright room overlooking London's Finchley Road and tried to turn back time. Ewan, who was born in Aberdeen in 1980, was an artist much interested in time and its radical ambitions, and this new project, entitled *Back to the Fields*, represented an act of historical reversal so audacious and unsettling that a casual visitor might have suspected both sorcery and lunacy.

It does look like witchcraft. The objects, placed primarily on the parquet floor, also included winter squash, skirret, marshmallow, black salsify, a bread basket and a watering can. Some of the fresh produce ruined easily in the indoor conditions, and so there were occasional gaps in the display. Grapes, for instance, rotted fast, and it was up to the artist, or one of the assistants at Camden Arts Centre, to visit a nearby supermarket to replace them. The objects resembled a giant church harvest festival, but had a distinctly non-religious intent. And they were not chosen or arranged at random. The winter barley, for example, was deliberately separated from the six-row barley by salmon and tuberose, and the button mushroom was 60 items away from the shallot.

The items were divided up into groups of 30, representing the days of the month. Each month was divided into 3 weeks of 10 days, while the number of days in a year remained the familiar 365 or 366. The 5- or 6-day shortfall in the new calculation was made up by festival days: Virtue, Talent, Labour, Conviction, Humour and, on leap years, Revolution. But the whole concept was a revolution, and certainly more than just elaborate and provocative art: it was a vivid representation of the idea that time could begin anew, modernity running wild in the fields of nature.

Ruth Ewan was recreating the French Republican calendar. This was both a political and academic rejection of the *ancien régime,* and the practical conclusion to the logical theory that the traditional Christian Gregorian calendar should be stormed alongside the Bastille and the Tuileries.

Astonishingly, this new calendar caught on for a while (or perhaps not so astonishingly: the guillotine still glistened in the autumn sun). It came into being officially on 24 October (*Poire* of *Brumaire*) 1793, although it was backdated to 22 September (*Raisin* of *Vendémiaire*) 1792, which became the start of the Republic Year 1. This radical notion lasted more than 12 years until 1 January 1806, when Napoleon Bonaparte presumably reasoned *ça suffit*.

Outside this agricultural and seasonal room in north-west London was a second Ruth Ewan re-creation, hung high on the wall: a clock with only 10 hours. This was based on another Revolutionary and doomed French experiment in the re-formatting of time – the decimalisation of the dial, a complete refiguring of the day.

Four years earlier, Ewan had tried to confound a whole

town with her wrong clocks. The Folkestone Triennial of 2011, a show utterly reliant on time passing regularly and predictably, featured 10 of her 10-hour clocks positioned strategically throughout the town, including one above Debenhams, one above the town hall, one in an antiquarian bookshop and one in a local taxi.

For a few minutes, the 10-hour clock seemed to make sense, or at least as much sense as the 12-hour one. The day was reduced to 10 hours, while each hour was divided into 100 minutes, and each minute split into 100 seconds. (One revolutionary hour was thus 2 regular hours and 24 standard minutes, while 1 revolutionary minute was 1 standard minute and 26.4 standard seconds.) The midnight hour 10 was at the top, the noon hour 5 at the bottom, and, if you were used to the regular 12-hour face, 8 minutes to 4 on the Revolutionary one was in fact anyone's guess. The French – or at least those French citizens to whom precise time was important in the 1790s and could afford a new timepiece – struggled to come to terms with the new state-imposed clock for 17 months and then shook it off like a bad dream. It remains an anachronism of history, although one to which obsessives will occasionally return, like those who want to put Australia at the top of the globe.*

Ewan told me that she wanted to make the clocks because she wanted to see how they would look; she knew of only one working example in a museum in Switzerland and a handful in France. But when she approached clockmakers with her idea 'I just got laughed at'. After phoning round six or seven clockmakers she found a keen firm called the Cumbria Clock Company (its website announced a specialism

*** The French had another shot at time transformation in 1897, albeit on a modified scale. The *Commission de décimalisation du temps* suggested maintaining the 24-hour day, but changing to 100-minute hours with 100-second minutes. The proposal lay on the table for three years but was brought into effect for nought minutes.**

in 'turret clock horology', and claimed the staff were as happy oiling cogs in the smallest church as they were fixing bigger problems, which recently included work at Salisbury Cathedral and Big Ben). The company also offered services such as 'night silencing'. The company had never made a 10-hour clock mechanism before, let alone 10 of them.

Ewan's disruptive show at Folkestone had a brilliant name: *We Could Have Been Anything That We Wanted To Be*. The title came from a song in the film *Bugsy Malone*, and Ewan particularly liked the second line: 'And it's not too late to change.' The clocks were 'an old item, but they also seemed to talk of a possible future,' Ewan says, putting her finger on the nature of time itself. 'I wanted to allude to the fact that we had rejected this clock once, but it may come up again.'

Once the clocks are mounted in a public space, they are ridiculously hard to read. 'A lot of people look at it and go, "all right, I get it", but they realize they haven't fully understood it: they read it as being a 20-hour clock and not a true 10-hour clock. In the course of a day, the hour hand rotates only once, not twice.'

When we spoke, Ruth Ewan's energetic obsession with time showed no sign of slacking. She had just started her stint as an artist in residence at Cambridge, where, alongside plant scientists, she was analysing Carl Linnaeus's great flower clock of 1751. Linnaeus, a Swedish botanist, had proposed an intricately arranged display of plants, designed as a circular dial, that would open and close at naturally appointed times of the day to enable accurate (or at least approximate) timekeeping. Influenced by light, temperature, rain and humidity, Linnaeus's list of responsive plants in Uppsala (60° north) did not, however, all flower in the same season, so the clock – as many attempts at practical demonstration in the nineteenth century showed – remained largely theoretical. But

it was time reborn and reimagined, and the names of its components struck a similarly mellifluous air as those seen in France 40 years later. Jack-Go-To-Bed-At-Noon (open at 3 a.m.); Rough Hawkbit (open by 4 a.m.); Wild Succory (4–5 a.m.); Spotted Cat's Ear (6 a.m.); Marsh Sow Thistle (by 7 a.m.) and Pot Marigold (3 p.m.).

An artist involved in reinventing time faces dilemmas that do not befall the modern printmaker or ceramicist. The trickiest thing about Ewan's *Back to the Fields* calendar show was obtaining the obscure plants and objects that had fallen out of favour in the last 200 years. 'I thought initially that you could get everything you want online,' Ewan acknowledges, 'but I know now that you can't.' The last object to join the show was a winnowing fan, a type of basket. 'Not that long ago they were probably everywhere, but the only place we could find one was in an Oxford professor of basketry's own collection. You'll see one in a painting by Millet. It was literally used to sort the wheat from the chaff.'

One visitor to Ewan's show at Camden Arts Centre knew more than most about the dislocations of time. Matthew Shaw, a curator at the British Library, had written his Ph.D. on post-revolutionary France and turned it into a book. He had also turned it into a 45-minute talk that began with that famous bit of optimism from Wordsworth: 'Bliss was it in that dawn to be alive / But to be young was very heaven!' Shaw explained that the calendar was an attempt to lift an entire nation out of the earth's existing timeline, to start history afresh and give each citizen a shared and finite collective memory; it was a good way to impose order on a disordered country.

Shaw examined the calendar's secular elements (it abolished religious festivals and the saints' days), and stressed its inbuilt work ethic – the way time was newly arranged to make pre-industrial France more productive in the field and

battlefield. The month was split into three 10-day *décades*, granting only one day off in ten rather than one in seven. With the Sabbath gone, the population found that the new day of rest carried many active obligations. 'The observant of you will notice there's a pattern here,' Shaw said as he guided his visitors round. 'Every fifth and tenth day there's something slightly out of sequence, either an animal or an implement. On the tenth day you're all supposed to gather in your village, sing patriotic songs, read out the laws, have a big meal together – and learn about the pickaxe.'

This, perhaps, was one explanation for the calendar's eventual failure. But there were other, more astronomical, reasons, such as a misalignment of the equinox. It was also a calendar that was more than a calendar: it was political, radically agrarian, and imposed its own weighty sense of history. Besides, Shaw observes, 'it was quite hard to rule an empire with it.' To complicate matters further, the 12 months had new names too, each selected by the flamboyant poet and playwright Fabre d'Églantine (who was guillotined not long afterwards for financial misdemeanours and his associations with Robespierre; he died on the day of the lettuce). *Brumaire* (Fog) lasted from 22 October (the day of apple) to 20 November (the day of roller), while *Nivôse* (Snow) lasted from 21 December (the day of peat) to 19 January (the day of sieve). All very simple when you get the hang of it, which few French citizens did, or seemed to want to.

Shaw was reaching the end of his tour, and his audience was beginning to pull away, shaking heads. He paused at 15 February, represented by hazel. 'It's very appropriate, as today we've just heard the news that Michele Ferrero has passed away at the age of 89, who made his fortune from Nutella.' Shaw's penultimate stop in the room was at the 10th of *Thermidor*. This was Republican high summer, and the day (28 July 1794) when Robespierre was executed. The Terror

was eating its own. The day was represented by a watering can.*

Insane and wonderful as it was, the utopian French Republican calendar seems to have existed outside time. From today's perspective it appears as absurd as the prospect of a global commune or free money, but it is only routine and time itself that has brought us to this judgment. Earth has many calendars in which it has set its frame, and all blend logic, natural science and arbitrariness to their cause. The calendric system of time that apportions our lives into a semblance of progressive shape – and perhaps, we hope, consistent meaning – is not something that may be conclusively proven or even relied upon. One day we may wake up, as did the citizens of Auvergne and Aquitaine, and find that Tuesday is not where it used to be, and that October has gone completely.

The Republican calendar was also unusual in one other respect. It was history overnight, and unrecognisable from what had preceded it; it destroyed what calendrical historians like to call the 'deep fixity' of all earlier conceptions.** Previously, or so we would like to assume, calendars in Europe and the civilised ancient world had progressed gradually with emerging astral awareness and mathematical computation. Religious calendars also built upon each other, drawing on common baselines of solstice, equinox and eclipse.

But we'd be wrong to believe that the French Revolutionary calendar was the first to impose a political perspective upon

*** Rather than face the guillotine, the principal architect of the calendar, Gilbert Romme, fell on his own sword almost a year later on 17 June 1795 (or, as he would have preferred, 29 *Prairial*).**

**** See Sanja Perovic, 'The French Republican Calendar', *Journal for Eighteenth-Century Studies*, vol. 35, no. 1.**

the days. All calendars impose order and control to a greater or lesser degree, and all are political in their own way (particularly the religious ones). The ancient Mayan calendar, for example, was a beautiful and truly baffling thing, intricately maintaining two years in parallel, one of 365 days and one of 260. The 260-day system, or Sacred Round, contained 20 different names of days, including Manik, Ix, Ben and Eiznab, and these ran on the perimeter of an inner circle of 13 numbers, so that the year ended on 13 Ahau. The 365-day calendar contained 18 months of 20 days each, but as this made up only 360 and rendered it out of step with lunar and solar cycles, the remaining five days were judged fateful, with Mayans wont to stay indoors and pray to the Gods lest terrible things occur. These were terrible *religious* prophecies, an indication of the power of the priesthood. The Aztec calendar of the fifteenth and early sixteenth centuries ran on similar cycles, and institutional control: disparate provinces of a vast empire were purposely unified by religious festivals and other dates. (The Aztec calendar culminated in the New Fire ceremonies performed at the end of the full cycle every 52 years.)

We will be more familiar with the Julian calendars (effective from 45 BC, and consisting of 12 months and 365.25 days, based on a solar year), and the Gregorian reform of 1582, which retained the Julian months and lengths but slightly shortened the duration of the year (by 0.002 per cent) to accommodate more accurate astronomical rotations and reposition the date of Easter to the date it was first celebrated.* The Gregorian

*** We are vaguely familiar too with the Julian months: Januarius, Februarius, Martius, Aprilis, Maius, Iunius, Julius, Augustus, September, October, November, December. In the first centuries of the modern era, newly appointed Roman emperors made their own egotistical modifications. The most extreme was Commodus, who delighted in changing all the months to variations of his own adopted names: Amazonius, Invictus, Felix, Pius, Lucius, Aelius, Aurelius, Commodus, Augustus,**

calendar took a while to be widely accepted, with the grudging adoption by Catholic countries causing anomalies throughout Europe. When Edmond Halley observed a total solar eclipse in London on 22 April 1715, much of the rest of Europe saw it on 3 May. Great Britain and its American colonies finally switched over in 1752, but not without a bit of half-hearted rioting from people shouting 'Give us back our eleven days!' Japan only changed in 1872, Bolshevik Russia came in at the end of the First World War, and Greece in 1923. Turkey clung on to its Islamic calendar until 1926.

The apparent arbitrariness of how we have chosen to govern our lives was expertly parodied by B.J. Novak in the *New Yorker* in November 2013. 'The Man Who Invented the Calendar' wrote plainly of the great logic of his invention: 'A thousand days a year, divided into twenty-five months, forty days a month. Why didn't anyone think of this before?' Things go well for the calendar initially, but the first crisis hits after four weeks. 'People really hate January and want it to be over,' the inventor noted. 'I tried to explain that it's just a label, and that ending it wouldn't make any difference, but no one got it.' On 9 October, the inventor writes: 'Can't believe I haven't written in so long! Summer was amazing. Harvest was amazing . . . This year has been amazing and it's still only October. There's still November, December, Latrember, Faunus, Rogibus, Neptember, Stonk . . .' He soon decides to end the year earlier than planned, and he receives huge acclaim from friends. But there is disquiet around Christmas: 'December 25th – Why do I feel so lonely today?' and 'December 26th – Why am I so fat?'

Herculeus, Romanus and Exsuperatorius. And then he was assassinated, and subsequent emperors changed the months back.

By the time of the Second French Revolution in 1830, no one dared suggest new calendars or clock dials.* Instead, another obsession seemed to engulf early nineteenth-century France, or at least its psychoanalytical casebooks: the act of looking back became a certifiable disease. Medical studies of the 1820s and 1830s were fascinated with what appeared to be an outbreak of *nostalgia*.

One of the earliest cases concerned an elderly occupant of a lodging in rue de la Harpe, in the Latin Quarter. This man took great pride in his apartment and was devastated when he heard the news that it was to be demolished to make way for street improvements. So devastated that he took to his bed and, despite his landlord's assurances that his new home would be better and brighter, refused to budge. 'It will no longer be my lodging,' he complained, 'the one I loved so much, that I embellished with my own hands.'** He was found dead in his bed just before the demolition, having apparently 'suffocated of despair'.

Another example, also from Paris, featured a two-year-old boy named Eugéne who couldn't bear to be separated from his wet nurse. Returned to his parents, Eugéne became limp and pale, with eyes fixed on the door from where his nurse exited. When returned to his nurse, all joy broke loose. Such cases rendered French citizens useless to the state. The cultural historian Michael Roth has classified nostalgia as 'an affliction that doctors regarded as potentially fatal, contagious, and

*** Although, as with the revolution of 1789, time momentarily, and perhaps mythically, did stand still. The German philosopher Walter Benjamin claims (in *On the Concept of History*, 1940) that 'during the evening of the first skirmishes . . . it turned out that the clock-towers were shot at independently and simultaneously in several places in Paris'. Two plausible reasons: to show contempt for an old unconstitutional establishment, and to mark the exact time of its overthrow. Then again, bullets may just have been flying everywhere.**

**** Quoted in 'Dying of the Past' by Michael S. Roth, *History and Memory*, vol. 3, no. 1 (Indiana University Press).**

somehow deeply connected to French life in the middle of the nineteenth century.' The common cause was an over-fondness for one's earliest memories, and in a century of intended modernity, nostalgia cast the patient as an outcast, destined for the madhouse or the jail. The affliction was first classified in 1688 by the Swiss physician Johannes Hofer, who aligned the Greek words *nostos* (or homecoming) with *algos* (pain). Earlier in the century the affliction *mal de corazón* had seen a group of soldiers sent home during the Thirty Years War, and it did seem to be a disease that particularly afflicted the army. Swiss soldiers could apparently be left in puddles of tears if they heard cowbells, reminding them of their native pastures, not least the milking song 'Khue-Reyen'. This was such a weakener that anyone who played it – or consciously hummed it – was liable for the firing squad. Today we might just be homesick or *unhappy*. But nostalgia was the first disease associated with time, its victims longing for days gone by.*

But nostalgia is not a disease of the past. Nowadays we are nostalgic for all sorts of things, even if the analyst's couch has been vacated for more critical concerns. We like retro and vintage and distressed and heritage, and we adore history (history as a subject worthy of academia and literature barely existed before the French Revolution). The Internet thrives on the desire of the middle-aged (mostly men, it must be said) to buy back a lost youth, be it auctionable toys or salvageable cars (time has not withered these things, only increased their resale value). Nostalgia is increasingly viewed not as a punishable disease but as a consumerist one, and its connotations are no longer entirely negative. As we shall see in a later chapter, a desire to turn back the clock pervades an increasingly popular way of living: the slow life (incorporating

*** Today's diseases associated with time? There are many: ADHD, cancer, smartphone addiction.**

slow food, mindfulness, a back-to-the-lathe 'maker' mentality) has long since transformed itself from a dilettante's diversion into a monetisable movement.

The French tradition of redirecting the traditional flow of time continues today, with similarly ineffective results. But the objections are now more extreme, and more self-parodic, and are based not just upon reformatting the calendar but cancelling it altogether. On New Year's Eve 2005, a protest group calling itself Fonacon gathered in a small coastal town near Nantes to try to halt 2006. There were a few hundred people in all, and their reasoning was simple: 2005 had not been a great year, and 2006 had all the potential to be worse, and so they would symbolically try to stop time by singing some songs and smashing up a few grandfather clocks. Astonishingly, it didn't work. They tried again the year after, and a few more innocent clocks lost their lives, but globally things just kept ticking.

Next year they tried again, but still no joy. It was playful anarchy, and proof, if it was needed, that the French will protest about anything, but it brought to mind a more serious incident from more than a century before. On 15 February 1894, a French anarchist called Martial Bourdin met an unfortunate fate in the grounds of the Royal Observatory at Greenwich, the traditional home of empirical timekeeping. Bourdin was carrying a bomb, and when it exploded accidentally it blew off one of his hands and ripped a hole in his stomach.

When two Observatory staff ran from their office at the sound of the explosion, they found Bourdin still alive. But he survived only half an hour, and when his body was examined by the police they found he was carrying a large amount of cash; it was fleeing money, they suggested, quite enough to get him swiftly back to France once his mission had been accomplished. But what precisely was his mission? Speculation

gripped London for weeks, and a decade later it inspired Joseph Conrad's novel *The Secret Agent*. Bourdin's motive remains unclear. He may have been carrying a bomb for an accomplice. He may have simply been trying to cause panic and chaos, the way terrorists aim to do today. But the most romantic theory, and the most French, is that he may have been trying to stop time.

The people at Fonacon do not hold up Bourdin as a hero, not in these straitened times. But they do possibly share an ambition. On New Year's Eve 2008, Fonacon tried to stop time once more, and they had a new slogan: 'It was better right now!' As a man named Marie-Gabriel explained, 'We're saying no to the tyranny of time, no to the merciless onslaught of the calendar, and yes to staying put in 2008!' The protest in Paris saw the largest turnout yet, with about a thousand people gathering to boo the arrival of the new year on the Champs-Élyseés. The clocks struck midnight, and the protestors struck the clocks, and then, *merde*, it was 2009.

The idea that time may be stopped in its tracks we happily recognise as a fanciful one, or the stuff of movies. If, in revolutionary France, such a thing once seemed plausible, it is a desire we should credit to optimism and enthusiasm, and to the fact that another revolution, a revolution in travel, was yet to occur. A train was coming down the track, and it was a solid and earnest thing: in terms of time, the train would change everything.