Lottery

This coming Friday I'm going to win the lottery. The big one. The jackpot is estimated to be around £180m. This isn't wishful thinking; this is a stone-cold scientific certainty. I've always bought a ticket for the Friday EuroMillions draw. For years I've used random numbers, I don't believe in using the same 'lucky' numbers each week. As a scientist, I know luck is complete nonsense, plus what if the one week you forget to play your regular numbers, they are the winning ones? That would be disaster. The only way to stay sane and play the lottery is to keep the numbers random. I am also a good enough mathematician to understand just how microscopic my chances are, but someone wins most weeks and this coming week I am certain about my numbers and I am definitely going to win. Perhaps I should back up a bit and explain why I'm so absolutely sure of myself.

I work at a privately owned research laboratory. We do a lot of work for NASA, the European Space Agency and some bits and bobs for SpaceX. I've been there about three years and it's…dull. The work is okay but I never get to go anywhere, no rocket launches, no trips abroad, nothing. It's just day after day in the lab with the same dozen or so people. When I was an undergraduate, I thought working in the space industry would be the best. I suppose it's exciting if you're intimately involved in the launches or you get to go on the missions, but that's rather too dangerous for me. Plus, I'm not really astronaut material. I'm a bit short, a bit overweight, far too unfit, and worst of all I get sick if I even go on the tea-cup ride at Alton Towers.

One of the major problems with launching satellites and manned vehicles is that there's an awful lot of space-junk orbiting the earth now. Pretty much everything that's been sent into orbit since the fifties is still up there and only the most recent stuff is sending out a signal that navigation computers can use to avoid a collision. The largest of the older objects have predictable and well-known orbits, so we can avoid those, but the smaller pieces and the debris from the inevitable collisions between the objects? They're a serious hazard to navigation. If something, just the size of a snooker ball, hits your £300m satellite with a closing speed near to a thousand miles per hour then all you have left is dust and more snooker ball sized wreckage to contend with. Well, that and a lot of furious shareholders and investors.

My team is working on a fancy new imaging system that will made RADAR look like something from the stone age. Unless you have, like me, a PhD in Particle Physics you wouldn't understand how it works. In layman's terms we're exploiting the Heisenberg uncertainty principle when focusing the tightest beam of photons imaginable onto the nucleus of an atom of uranium and capturing reflected photons back from the same particles a small amount of time into the future. There's quantum entanglement involved and all sorts of buzzwordy things you've probably pretended to understand when listening to Professor Brian Cox talking about it on TV. It's extremely complex and so clever I'm not at all sure anyone really properly understands why it works. I'm part of the team putting the theory into practice.

What's crazy is that no-one seems excited that we have, sort of, invented time travel. We can see the future! The first successful test only managed a few microseconds into the future and it took two years of work to increase that to 2.167 seconds. Then we hit a brick wall. Nothing we did could get further than that. The scanner team were happy with that. That was far enough ahead for the guidance computers to spot the lethal snooker balls and tweak the system to avoid a collision. Space is, after all, mostly empty space. A tiny course correction 2.167 seconds before you otherwise knew about it was enough to avoid a collision.

About a year ago I was working alone late one Friday night. I wasn't happy with the 2.167 seconds. I had to find out why that extremely specific number, or find a way to push past it; either outcome would satisfy me. As I was alone, I'd smuggled my crappy old radio in with me and it was tuned to a local pop station, the only one it would reliably receive. There's no Wi-Fi in the lab due to the interference it causes and our internet access is heavily restricted and monitored. An old school radio was and is the only way to play music to help pass the time. It wasn't allowed but what's the harm? It's only a radio.

I'd been playing around with the parameters on the test apparatus a lot. I'd been changing the frequency of the beams, combining beams, changing the angle of the beams, anything to see if it altered the time shift from the maximum 2.167 seconds. Most of the changes resulted in nothing, no view into the future at all, not even the few microseconds we'd started out with. I had just reset everything back to normal in exasperation, and checked the time shift was as expected when I had a crazy idea. I put the system on standby, opened the cabinet the equipment was in and placed the radio right next to the beam emitter. I set the emitter to the same frequency as the radio station and cranked everything up to the maximum. I expected the radio to just play static, if anything, or at the worst it might catch fire. Some awful Coldplay track was about half way through when I flicked the switch from standby to active. There was a brief moment of angry sounding static and then a song I'd never heard before started playing, although it sounded like a familiar band. As it faded out the DJ announced it as Gorillaz most recent single. That confused me for a moment as I'd just heard their new single the previous day and it certainly wasn't that. Then the announcer said 'And now the headlines tonight, Friday…' and gave the date a YEAR into the future. I assumed it must be a mistake, a slip of the tongue or something. But then all the news headlines were about unfamiliar events and I realised, somehow, the machine had broken through the 2.167 second barrier and by a colossal margin. I was frantically trying to work out how and why so I stopped listening. I only tuned back in when I heard the word 'lottery'. I grabbed a pen and jotted down the numbers. The announcer was half way through repeating them when there was another angry burst of static and the same voice finished reading out a different set of numbers. Then the radio melted. And I mean literally melted. It drooped a little, then sagged in the middle, then just turned into a puddle of goo with a stunted metal antenna sticking out of it. I flicked the switch back to standby, opened the cover and stared at the mess. The smell of burning plastic was horrible. I had to wait an hour for it to cool down before I could scoop the mess out and bin it.

Obviously, I didn't tell anyone what I'd done. I didn't want to get fired. But when I brought in another radio and put it by the beam emitter nothing happened. Well, nothing other than the radio melted. I tried the same model of radio and several other types. They all melted. There must have been something different about my original radio something about how old one it was and the fact it was slightly faulty. I was both elated and infuriated. I'd heard the news from a year into the future but I was

completely unable to reproduce the experiment. I wasn't going to be getting a Nobel prize any time soon. Nor would anyone at the lab believe me without proof.

That's when I decided I was going to win the lottery. I was going to use those numbers. If necessary, I'd fund my own research to find out how the huge time shift worked using my winnings. Imagine the possibilities if you could know, for certain, what was going to happen in a year! The world would be my oyster. I could leverage a few hundred million into billions. I could rival Musk and Bezos. I could do *anything.*

But first I needed to ensure I won the whole pot, or at least most of it. I needed a carefully constructed narrative so that the lottery people and the authorities didn't get suspicious. I needed a way to neutralize the possibility that other people also picked the winning numbers on the night in question. That meant buying multiple identical tickets, to ensure I'd still get a large share of the jackpot. But how to do that without it looking like I'd cheated, which I suppose I had or would? (Time travel causes serious problems with tenses and grammar). Lucky numbers! That was the solution. As mad as it was, I now had lucky numbers to play. Every week from the night of the experiment for the next year I would play my winning numbers. Some weeks I'd only buy one ticket, from my usual shop. But other weeks I'd buy a second or third identical one from different shops in places I'd would plausibly be. That way it would look like I sometimes forgot I'd already bought a ticket and I accidentally bought additional ones.

The year plodded by. The research at the lab continued slowly, no-one else came near to re-discovering my breakthrough, thank goodness. But neither did I, despite trying everything I could think of. The team did make progress in fine tuning the scanners to get a sharper clearer image 2.167 seconds into the future. I made copious secret notes as those improvements would certainly help me when I eventually worked out how to see a year into the future once again. I fantasised about hob-knobbing with the rich and powerful at the Monaco Grand Prix, of travelling first class or by private jet, I browsed exclusive property websites and pondered which gorgeous countryside mansion I was going to buy. I also looked into eligible young ladies who might be interested in marrying a billionaire. There appeared to be no end to the pretty hangers-on at the society events I looked at online. Every week I stuck to my plan and bought one or more lucky tickets for the Friday draw. Six months in, Gorillaz released a new single, and I was delighted when I realized I'd already heard most of it before. It was working. The future I'd heard was happening.

So here we are it's the night of my winning lottery draw. I'm alone in the lab, again. Trying, once again, to recreate my accidental breakthrough. This will be my last attempt using the lab's equipment because I'll be resigning on Monday. Who wins the lion's share of £180m and doesn't quit their job? I've scoured eBay over the last year buying every single example of the old radio I used successfully. Every single one has done nothing but melt. Tonight though, I'm waiting until after the lottery results before I try again. I want to hear those magical lucky numbers live. It's as good as I imagined. The announcer reads them out, I don't need to check the ticket, those numbers are burned into my memory. I'm filthy, stinking rich. I can do whatever I want, forever. Then even better news he says that three winning tickets will share the prize. I bought three tickets this week. I've won the lot! I decide to wait until tomorrow to call them. I need to spend my last night trying to crack the time shift problem. I get the latest radio out of my backpack, but fumble it in my excitement and drop it. The case cracks. Damn. I turn it on and it still works. The sound is a bit tinny thanks to the crack but otherwise it's okay. I open the experiment's container and place the radio next to the emitter and turn it on. Taylor Swift starts playing. I can't remember if she's single or not at the moment. But even if I manage to turn my

£180m into billions she's probably still too rich to be interested in me. I flick the time shift to active. I'm delighted to hear a familiar burst of angry static and the song abruptly changes. It's Ed Sheeran now. God. I could possibly use some of my vast fortune to pay him to stop making music. It would be a charitable act that benefits the whole world. Although a hitman would be cheaper. I shrug these silly thoughts off. Time to get serious, get to work. I need to find some way to determine how far into the future I'm listening. There isn't a news bulletin for at least five minutes. The radio wouldn't normally last that long. I'm prepared for this though, I've had a year. I take a small remote control from my pocket and press the sole button. A cooling system inside the cabinet kicks in, directing freezing cold air directly onto the radio. With all the other test radios this bought me a maximum of another thirty minutes, but those radios were only playing the current live transmission. Was the heat build-up worse for a time shifted transmission? Who knew? Two songs later there's an advert break, and they're all familiar advertisements, so I've not shifted too far into the future. The ads finally end. The announcer introduces the news and gives the date. It's tomorrow. That's all. I'm just twenty-four hours into the future. Damn it. He starts reading the news. I'm not really listening. I'm confused why this radio is not working the same as my old one but even with a just a day's notice I could do something clever. I could buy and sell shares, hell I could win the lottery again, bet on football matches, all sorts. Plenty of time to work that out tomorrow, next week, or next year. It's not like I'll spend £180m overnight. I'm about to shut everything down before the radio melts when the announcer says something that catches my attention. It was the name of my laboratory, wasn't it? I pay attention. He's handed the story over to a roving reporter who is talking to someone. A fire officer. Perhaps I'm leaving at just the right time if the lab is about to burn down. The fire officer says they still have no clue what caused the explosion that killed one person, but that it was extremely fortunate that it happened late in the evening or the death toll could have been dozens, if not more. I frantically try to flick the switch to turn off the equipment, but I'm too late. There's an angry burst of static, the radio melts then there is just a colossal explosion. Damn.