

The Sun's Exploding: A Christmas Story

Sir Edward Colin Harris OM GCMG CBE FRS FInstP, professor of physics, philosopher of science, Nobel Laureate in Physics, and secret alcoholic, left Royal Holloway, University of London Egham and arrived at BBC's Broadcasting House in Central London at the appointed time. He was arguing with the producer about his request to broadcast live but acquiesced when the elegant and captivating Lucy Valentine turned up, greeted him warmly, and invited him into the studio for his interview. With the camera rolling, Lucy outlined the professor's illustrious career, and turned to him to say: "Welcome, Professor Harris. We're always delighted to have you in the studio. I believe you have some groundbreaking news for us."

"Yes – groundbreaking would be the right phrase alright! I actually just finished checking my final calculations, so I'm not exactly sure where to start."

"Well, why don't you tell us what you've been working on" Lucy said invitingly.

"OK, well, it was actually a mischaracterisation of the factors contributing to the hydrostatic equilibrium of the Sun that first led me to revise the mathematics that predicts the behaviour of what we would have previously described as our G-type main sequence star. After months, frankly years, of painstaking analysis, I managed to create an improved simulation, which more accurately models the minute details of data coming from solar observatories around the world. This wouldn't have been possible, of course, without some of the recent advances in artificial general intelligence. I then initiated a search for analogous data in other star systems to corroborate my findings and help pin down some more long-term predictions. It turned out that in the run up to many newly classified

supernova events: SN 2023A, SN 2023ac, et cetera, when the tiny details are analysed, they contain exactly the same light curve aberrations that our own star is currently displaying. That, along with the broadening presence of a singly ionised silicon line at 615 nanometres which, among other data, perfectly correlates with data collected on our own star, has led me to the inevitable conclusion that our Sun will go supernova and the Earth will, indeed, meet it's untimely demise on Christmas Day 2024, which is, of course, tomorrow!"

"Fascinating, fascinating" the attractive news presenter interjected confusedly, still absorbing what he had said. "Professor Harris, may I ..."

"Please, call me Ed."

"Of course! Ed... may I clarify that you've just said that the Earth will meet it's demise tomorrow?"

Ed nodded emphatically for a moment as the abstract maths condensed to concrete reality for him.

"Yes. Yes, that's exactly what I'm saying. The people need to know. I'm not sure what to do."

Lucy turned to her producer and begged

"Is this real?"

Swiftly turning back, she apologised to Sir Edward while the producer shrugged his shoulders and rolled his hands around indicating that she should continue with the interview. She gently coughed and with her polished British accent, said the first thing she could think of:

"May I ask you how all this makes you feel and what, if any, preparations you have made?"

"Well, for starters, it makes me feel like opening that Hors D'âge Cognac I've been saving!"

A primal laughter erupted in the studio, followed by a long, contemplative silence, which filled the air with a profound sense of melancholy. The sincerity with which the statement was blurted and the fierce desperation in his eyes had resonated with everyone there and they all began to question if this really was their last day on Earth. Many of the technical staff, including the camerawoman,

simply walked out, shaking their heads in a sort of resigned disbelief; but consummate professional Lucy Valentine pulled herself together and continued:

“Tell me, Sir Edward, ...” She paused and wiped away the faintest of tears in her right eye.

“Tell *us*, in your own words, how it will all end.”

There was an eerie silence all around as a collective breath was taken and everyone listened reverently to what MI5 would later refer to as ‘The Sermon in the Studio’. Ed composed himself and spoke slowly, thoughtfully and passionately:

“In the ten seconds following the collapse of our Sun’s core, which I predict to happen at approximately 4 AM British Standard Time, a maelstrom of many trillions of neutrinos will be created. These neutrinos will actually carry 99% of the supernova’s potential energy, which measured in Joules is a number that would be pointless to even say, as it wouldn’t make any sense to us! It’s a hundred tredecillion Joules, by the way! All of these neutrinos will race across spacetime at almost the speed of light and will collide with the Earth within 8 minutes of the initial collapse event. This will represent a ten-quadrillion-fold increase in neutrino flux, with corresponding, catastrophic increases in the neutrino impact area and per-particle energy density. Fifty-thousand Watts! Fifty! Thousand! Watts! of power will vaporise everyone and everything on our planet; and, in fact, every planet in our solar system.”

Lucy said nothing. No one said anything as the seconds lumbered on like a great herd of elephants lost in a barren landscape. Lucy began to cry – a powerful cry with snorts and wails, flowing tears, and lamentful pleas of desperation and anguish. The news director, one of the few remaining staff members, handed the once eternally optimistic interviewer, who had not yet thought to contemplate death, a box of tissues, made his way to the camera rig and zoomed in dramatically until her sobbing face filled the whole screen. Even Sir Edward welled up. He had loved explaining the science of it all up to that point and had even found some of the crew’s emotional outbursts,

privately, quite funny; but that was probably because he had in fact opened that ‘beyond age’ bottle of Cognac as soon as he had woken up that morning. He had begun comparing Cognacs, working his way up from two-year-old, through Napoléon, and up to XXO, two-and-a-half years ago, and had today concluded that Hors D’âge really was in a league of it’s own. When the physicist, husband, and father of an eight-year-old son stood, gently bowed his head, and politely left, there were two people remaining – the only souls who had no one to go home to. British intelligence agencies would later decide that the interview was never to be shown.

It was a ten-minute walk to Oxford Circus, where Ed would catch the Tube to Vauxhall and switch to the South Western Railway headed for Richmond. He took twenty minutes, stopping regularly to admire the facades of carved grey stone, illuminated by electric angels, stars and smiling Santa’s. “How grand” he thought, “we really can put on quite a show when we put our minds to it!”. He loved London and had always stood in awe at the volume of people that seemed to permanently shuffle by, squawking and shouting, buying and selling, resolutely pursuing their tiny goals; but being slightly reclusive, it was Richmond that he loved the most, and he thought of his sunset family walks around Richmond Park on lazy Sunday afternoons, watching the wintery Sun descend over ancient oaks and feeling the delicate English breeze as it politely whooshed deer and robins to their warm beds. The streets buzzed with life as he breathed in the warm yellow atmosphere around Oxford Circus and descended the stairs to catch his train. Everything had run so smoothly since the artificial super intelligence revolution and Ed laughed at the thought that we weren’t going to live long enough for that to kill us all.

“The next station is Richmond”, the onboard announcement cheerfully declared before Ed alighted. It was a pleasant walk accompanied by a gentle rain, to his house where Jacqueline and their son, Richard, were merrily filling the air with Christmas spirit, eating sugary treats and eagerly wondering what joys Santa would leave under their tree. Ed swigged the last of his Cognac before opening the front door with it’s seasonal wreath, replete with holly and fat red berries, and was

overcome with delight when his joyous son ran to him and hugged him saying “Santa, Santa, Santa, Santa, Christmas, Christmas, Christmas, Christmas!” in a lilting voice, filled with innocence and boyish charm. They sang a wonderfully off-key Jingle Bells as the boy was swung around in his father’s arms and placed on the couch to watch cartoons while Ed spoke to his wife in the kitchen.

“Can you put on the BBC News, Jackie?”, he requested. They had a wonderful relationship, but Ed, having only confirmed his predictions that morning, had not yet told her about the awful calculations he had made.

“Yes, Ed. What’s wrong?” Jackie replied, keenly aware that her husband was drunk and a little agitated.

“Oh, I’m... well, just... well, can we quickly see the news and then I’ll tell you.”

Jackie found BBC’s 24-hour news channel and they watched for a minute as the presenters discussed fluffy Christmas stories.

“There isn’t even a scrolling banner. What? Nothing?” thought the burdened professor. At that moment, his phone rang with ‘Withheld’ displayed on the screen. He apologised to his wife and went to the garden to take the call. A calm, intelligent, quintessentially British voice spoke to him at length and informed him that they had retrieved the data on his computers and confirmed his calculations. After a cursory confirmation that there was no known method to prevent the impending disaster, Ed was told many insightful things to help him deal with the situation and advised to suppress his desire to reveal his findings to his family, or anyone else.

“Merry Christmas, old boy” said the mysterious caller, abruptly ending the call. Ed knew the man was right and felt grateful that he had been given permission to enjoy the last Christmas Eve he would ever spend with his family.

Professor Harris, TV personality, Knight of the Order of St Michael and St George, and passionate family man, closed his eyes, took several deep breaths of the crisp evening air and

listened to the muffled sounds of his neighbours legendary Christmas karaoke party. He returned to his wife unburdened and kissed her theatrically, almost sweeping her off her feet, prompting a playful

“Eww” from their 8-year-old boy.

Finally allowing the wonderful liquor to work it’s magic, Ed exuberantly proclaimed

“Wine and charades, I think! I’m going to light a fire!” He had fond memories of his own childhood when television was banned for Christmas and fireside party games were compulsory.

“Da-a-ad; Po-ke-mon”, Richard complained, gesturing to the television show he was enjoying.

“No-ooo. No television for Christmas. It is for-bid-den” Ed replied in a mocking, deep, godly voice.

Jackie gently chimed in: “Everything OK, Ed?”

“Yep! That was just my colleague confirming my calculations – and they’re all perfect! I’ll tell you about it tomorrow; but for now, i-i-i-it’s Christmas! Wine? I’m going to open that other Cognac!”

His wife rolled her eyes with great exaggeration and absorbed the pleasant family feelings that she lived for. Wine was poured, the fire was lit, Hors D’âge Cognac was carefully examined and savoured, and the family laughed at Ed’s drunken attempts to act out Forrest Gump, which Jackie refused to name in favour of his hilarious showboating, which so delighted little Richie. He resorted to performing every line he could remember:

“Jenny-yyyyy!”,

“Run Forrest, run!”, and finished with a bittersweet

“Mama says it’s just a little white lie so it wouldn’t hurt nobody.”

Ed took out the playing cards and they played Go Fish and other childhood games, remembered from a seemingly distant past. Richie even stole a gulp of Cognac, which, to their surprise, he

enjoyed quite a bit. Drunk and joyful, the family decided it was bedtime and Ed requested that they all sleep together in the one bed. They excitedly discussed Santa's visit, said their good-nights, huddled tightly, and peacefully fell asleep.