

Exactitude

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Going on fifteen years Jerry Caminowski was, in a minor capacity, helping find the Higgs boson. And ever since the big religious announcement—the near-certainty they'd found the theorized God particle—he'd been seeing the place more as conCERN. Cutbacks was the word and Jerry was punning, uselessly, to cover the stress.

$$\text{Pressure} \\ P = F / A$$

Upstairs, a quarter of a mile above, in fifteen minutes, a press conference. He was down in The Hole—the tunnel housing The Beast. In the small, cluttered, trash-piled workroom, watching the monitors for The Ambiguous Anything. Jerry looked around, knew the end was near because the custodians hadn't been paid in weeks.

Plus: the media was involved. Juicy brawls between science and religion; pressure for drama and intrigue and behind-the-scene exclusives. The higher-ups, desperate for funding, were dying for some jacked-up MTV spin. But there was no way. Particle physics isn't dramatic. Particle physics is cold, complicated, twisted around itself; doing what it knew it shouldn't and lying to its loved ones.

$$\text{Velocity} \\ \mathbf{v} = \Delta \mathbf{s} / \Delta t$$

$$\text{Acceleration} \\ \mathbf{a} = \Delta \mathbf{v} / \Delta t$$

Jerry saw it clearly. But it wasn't his job to crumble the fortress.

When the world-renowned physicists went glib about product placement on *The Beast*, Jerry wanted to cry. When the media speculated on the implications for morality and meaning, Jerry searched for consolation. But he was only on the secondary team—as he was often reminded—and his shortcomings were questioned before his concerns addressed.

The press conference, now ten minutes out, was going to be the unveiling of just how certain CERN was about the Higgs boson. 99.999% was how certain.

Jerry's team was responsible for following up on that last 0.001%. The number was a metaphor, convenient bait to throw at the media for mass consumption. Jørgenson and his primary team came up with that, had some good laughs, too. Jerry's job was to know that the number made no sense, but not to remind them. If he expressed doubt, Jørgenson told him to think about his wife and kid.

$$\begin{array}{c} \text{Power} \\ P = \Delta W / \Delta t \end{array}$$

$$\begin{array}{c} \text{Work} \\ W = F \Delta s \cos \theta \end{array}$$

$$\begin{array}{c} \text{Rotational Power} \\ P = \tau \omega \cos \theta \end{array}$$

If he forced himself to look through their eyes, to accept the metaphor, Jerry saw that the last 0.001% was where the theory actually meant something—completion and finality. But through his own eyes he was tired.

As the press conference geared up, Jerry turned the hadron hadroff—a joke. Jerry wanted to laugh.

It wasn't that simple. The Beast never slept. Jerry shouldn't be leaving The Beast alone, but what choice did he have? Someone would replace him soon enough.

$$\text{Weight} \\ \mathbf{W} = m\mathbf{g}$$

Out from underground and out of the elevator, a barrage of text messages sang in his pocket. From his wife, his kid, and Harriet. Texts like Ill be out for dinner, drinks and Dad whats a doosh bag? and In norway 2night sorry and so forth. He sat on the nearest bench, read them over, thinking.

Harriet, who would have to be called Jerry's mistress, was monstrous and brilliant.

$$\text{Impulse} \\ \mathbf{J} = \mathbf{F} \Delta t$$

$$\text{Kinetic energy} \\ \mathbf{K} = \frac{1}{2}mv^2$$

Her hands like a matador and legs like steeples. Her surgery, decades ago, didn't get all of the facial hair, so coarse stubs of it protruded from her philtrum. And Jerry loved that. She gave speeches on the socio-economic advantages of gender reassignment. Their romance, burdened by a recent loss of secrecy, had become stagnant. The motions they went through.

$$\text{Time dilation} \\ t' = t / \sqrt{1-v^2/c^2}$$

$$\text{Momentum} \\ \mathbf{p} = m\mathbf{v}$$

$$\text{Periodic waves} \\ v = f\lambda$$

Jerry's wife was lecherous and horrible. She had an insatiable right-hand-of-God complex and her dependence lay in the laps of other men and the world of pharmaceuticals, but it wasn't his job to dissuade her. She was likely in the shadows of Jørgenson's bedroom, waiting for him to show her his large accelerating collider, yet again. And there was Jerry, in the too-bright hallway that lead to the conference room, making jokes, trying to hold on, trying to laugh.

$$\text{Escape speed} \\ v = \sqrt{2Gm / r}$$

To his son he wrote: A douche bag is a sanitary device. You're clean. Take it as a compliment.

Jerry stood and clocked out. Eight minutes. Only the primary guys—the "God finders"—were on salary.

$$\text{Uncertainty principle} \\ \Delta p_x \Delta x \geq \hbar / 2$$

The media would wear out the Higgs discovery. There'd be T-shirts that read Higgs boson: Bigger than Jesus. Jerry's job wasn't to argue with this. Jerry's job was to stare deep into the data to find that last meaningful percentage, the uncertainty and the finality. And what if he could disprove Jørgenson and his primary team of douche bags, what then? With a 0.001 margin of error, in this business, it could be possible.

Jerry's job wasn't founded on this, though. Somehow, his was to make the uncertainty and completion cohesive.

He stared down the hallway, saw the last trails of media reps clamoring into the conference room, where they'd all hear about the infinitesimal particle that gave them enough mass to be the masses. And they'd report, with fascinating dramatic effect, to the people who, in a month, would go back to concerning themselves with soccer and boobs.

$$\text{Entropy} \\ \Delta S = \Delta Q / T$$

He looked away, down the hallway that lead to the parking garage, where he never could get a space, out to the pub where he'd met Harriet—The Higgs Bison, another pun surmising the Swiss attitudes. There was the city his son walked in, dismissive and misunderstanding basic hygiene. The world that as a grungy post-doctorate he wanted to realign from metaphysics to physics—bringing about understanding and continuity. And he couldn't. It wasn't his job.

$$\text{Simple pendulum} \\ T = 2\pi \sqrt{\ell/g}$$

$$\text{Moment of inertia} \\ I = \sum mr^2$$

He ran down the long hallway, toward the conference center.

$$\text{Impulse momentum} \\ \mathbf{F} \Delta t = m \Delta \mathbf{v}$$

$$\text{Relative velocity} \\ u' = u + v / (1 + uv/c^2)$$

$$\text{Internal energy} \\ \Delta U = \frac{3}{2} n R \Delta T$$

$$\text{Aerodynamic drag} \\ R = \frac{1}{2} \rho C A v^2$$

$$\text{Power level} \\ \beta = 10 \log (I/I_0) = 20 \log (P/P_0)$$

$$\text{Potential energy} \\ \Delta U = - \int \mathbf{F} \bullet d\mathbf{s}$$

He slammed into the door with a shoulder—lights strung up on wires, scrawny men with cameras, dress suits and blocky microphones. There was the entire primary team standing around in white lab coats that they never wore otherwise. Jerry's entrance went unnoticed. Five minutes left.

Up in the front was Jørgenson and a lead Director chatting, shaking hands, patting backs for the cameras.

Surrounding the room was an unbreakable line of camera crews and media relations, team members from other departments, HR reps, everyone that had always been in his way. He tried to skirt them, to break through the wall, dodging here and squeezing through there. No one recognized him.

$$\begin{array}{l} \text{Resistors in a series} \\ R_S = \sum R_i \end{array}$$

He didn't know what he was doing, but the drive was there—a similar drive that moved him when he started this job, back when it was a calling. Storm the stage? Tell the truth? God doesn't exist in equations and data because equations and data are infinite and God has been reduced to an excuse. Or something more elegant?

He'd punch Jørgenson in the face. Knock out three teeth. Dislocate his jaw.

$$\begin{array}{l} \text{Displacement law} \\ \lambda_{\max} = b / t \end{array}$$

He broke through the barrier between a bearded man from IT, who cursed, and a squat lady he'd seen at the coffee stand every day for years. Everyone was here. Members from the defunct tertiary and quaternary teams, the guys who used to run the little yellow carts all around The Hole. Parting the sea of bodies and finally reaching the last row, mostly media, he was six feet from Jørgenson, who smiled, smiled, and waved. Too much smiling.

"Before we do this," Jørgenson said. "Let me introduce my partner, without whom I would not be who I am. Violet, give them a wave?" The higher-ups smirked and pulled at their beards. Jørgenson gestured and the lights and cameras followed. There was Jerry's wife, Violet, standing in the spotlight to the left, waving timidly. "After the bureaucrats here at CERN leave me alone," Jørgenson said to laughs. He meant the lawyers and HR people who'd likely be handing Jerry his divorce papers that evening. "We'll be getting married," Jørgenson said. Jerry's wife blushed.

Latent heat
 $Q = mL$

Heat flow rate
 $\bar{\Phi} = \Delta Q / \Delta T$

Solid expansion
 $\Delta l = \alpha l_0 \Delta T$

Jerry yelled and didn't know why. He knew all about his wife and Jørgenson. It wasn't his job to interrupt that, to spoil her happiness. His was to let the universe spin and move and crash and give way to entropy. The crew and crowd and lights and cameras turned to him. Violet cringed. Jerry yelled more.

Jørgenson turned and smiled. The Directors in the back and the primary team all tensed. "Ah," Jørgenson said. "And here is my secondary team, the ever watchful eye over our prize downstairs. Come introduce yourself, Caminowski."

Jørgenson beckoned, confident, his smiling saying he knew Jerry wouldn't do a thing.

The crowd parted and Jerry walked to the front, let Jørgenson embrace his shoulders. His job, here, now, was to figure out the best way to scare off the media, to humiliate the drama-hungry masses, to remove the shiny teeth of Jørgenson. Uncertainty filled him. He smiled back at the man he'd always hated. He needed finality, completion, solidity, certainty. But the lights, the cameras, the pressure.

$$\text{Intensity} \\ I = \langle P \rangle / A$$

$$\text{Third law of motion} \\ F_{AB} = -F_{BA}$$

Jerry smiled, kept smiling, shook Jørgenson's hand, and nodded.

There was nothing in any of his equations and data that could stop the forces surrounding him. But in his equations he knew that all these forces would come to a halt, diminish, give in to the great will of a crumbling universe. He wanted to say something important, finalizing.

Instead he kept shaking with his right hand, balled his left into a fist.