

Fermi [or Paradox]

[Draft 1]

Los Alamos Scientific Laboratory  
Summer, 1950

1

Emil Konopinski felt happiest with the men who'd ripped open the gates of hell.

The minds capable of such a thing delighted in ideas from the profound to the ~~most~~ absurd—which were often hard to tell apart.

As they walked through the newly paved streets toward Fuller Lodge, Herbert York kept the conversation focused on what seemed to be the absurd. He spoke with enthusiasm that bordered on mania, ~~and~~ and his arms flailed in wide gyrations. ~~One~~ <sup>could</sup> mistake him for an Italian.

"Acceleration alone makes it impossible," York said. "Ignoring relativity, constant acceleration at 1G would require around a year just to reach light's speed. And then what of deceleration? Another year to make it physically bearable?"

Enrico Fermi walked beside York. Despite being an actual Italian, <sup>unlike York,</sup> he moved with a controlled gracefulness that he'd ~~never~~ possessed ever since Konopinski had met him ~~many~~ years before. ~~But this~~ And ~~he walked~~ He strolled with hands clasped behind his back, stooped forward at a slight angle.

Recent years hadn't been kind to Fermi. He'd always appeared ~~the~~ lithue yet strong and fit, but now seemed ~~slight~~ slight. His thick, black hair had thinned to <sup>a few</sup> salty wisps that fluttered in the gusts and seemed in danger of ripping out. Konopinski was shocked by how much he'd aged in the past two years and hoped that he wasn't hitting some ailment.

[Mention that York is only 29]

[Describe Teller's eyebrows here]

2

Fermi shrugged his thin shoulders. "Perhaps they evolved on a much larger planet and adapted to higher gravitation."

"Unlikely," Edward Teller said in his deep, averted and gloomy voice. "We have yet to set a satellite in orbit. Imagine the delta-v on a larger planet."

"If they can reach faster-than-light speeds," York said, "they'd have the power to get off the ground. Perhaps some kind of sustained fission or even a fusion reaction for propellant."

~~Probably fusion~~ "But why go through all that effort?" Teller said.

Konopinski remembered a New Yorker cartoon of aliens making off with the ~~the~~ city's rubbish bins. "They developed interstellar travel to steal New York's trash cans."

This got a laugh from everyone but York, who looked confused. "What are you talking about?"

Fermi patted York on the shoulder. "When you grow up and read the New Yorker, you'll get the ~~adult~~ adult jokes."

Even though Fermi had spoken with customary warmth, Konopinski felt for the young man. Konopinski knew how it felt to be the youngest man in the room.

Fermi looked over his shoulder at Teller. "Edward, what do you feel is the probability that we will discover faster-than-light objects in the next ten years?"

"Ten to the negative six," Teller said without hesitation.

"That is much too low," Fermi said. "The real number is closer to ten percent."

"That is a reasonable guess if one believes in minkakes," Teller said.

This led to a flurry of off-the-cuff calculations and variables being considered and thrown out.

Konopinski considered joining the argument, but he noticed Teller's absurdly large eyebrows fluttering in the dry wind and became engrossed in calculating their wind resistance compared to that of a normal human. He figured Teller's eyebrows were approximately [measurement]. Of course, one must consider the space between the hairs and the hundreds of turbulent micro-vortices they would create, but that was more math than he wanted to do in his head, ~~so~~ so he decided to approximate by making Teller's eyebrows solid, and arrived at the conclusion that his eyebrows had a drag coefficient of [number] in a 20 mile-per-hour gust.

Konopinski thought it would be funny to do the full calculations and submit them to a journal. But he dismissed the idea as a waste of everyone's time. But this thought triggered ~~a~~ a ~~disturbing~~ <sup>discomfort</sup> feeling. The guilty feeling for making fun of Teller, even in his head. Teller was many things, but he deserved better from his friends than casual mocking.

Such thoughts reminded Konopinski of a recent comment ~~he~~ at a conference. Isidor Rabi <sup>asked</sup> ~~told~~ him, in a rare moment of candor and condemnation, why he was helping Teller with the super-

"Do you not see that Teller is perhaps the most

dangerous man alive? An enemy of all that is good on this earth?"

Konopinski had defended Teller and his own work, but those words had haunted him for a month. Was Teller a danger to all that Did Teller's unrelenting obsession with the super make him a danger to all that is good? Or a realist who knew that hydrogen weapons would be developed no matter what, and that it was his duty to make them first to preserve America's lead?

It occurred to Konopinski that the human mind's capacity for ~~the~~ evil was only surpassed by its capacity for justification and <sup>self</sup>absolution.

Konopinski decided to think on other things before the darkness took hold. He looked out to the distant ~~mesas~~ mesas and the storm clouds piled up against ~~them~~ their red rock cliffs red and white rock cliffs. It was a beautiful day. Fermi was in town. He had much to be grateful for.

The group arrived at Fuller Lodge and found a table in its massive hall, constructed from the towering <sup>logs</sup> trunks of more than 700 Ponderosa Pines harvested nearby. Konopinski remembered joking about how it was probably the safest place to be during nuclear ~~tests~~ weapons tests.

The conversation ~~had~~ now revolved around whether ~~Einstein's~~ Einstein's field equations ~~had~~ allowed for others to employ warp bubbles or tubes between distant points to get around the light speed limit.

Small archipelago, Norway

"This is assuming they even exist," Teller said. "I think ~~#~~ ~~highly unlikely~~ that highly unlikely."

York ~~was uninvited~~ had worked himself <sup>back</sup> into an animated state. Konopinski was glad they didn't have their food yet, ~~as York least~~ York's gyrations <sup>led</sup> to an unscheduled rapid acceleration of a full plate.

"It's all probability," York said. "There are hundreds of billions of stars. Perhaps orders of magnitude more beyond our ability to see. Surely many more times that number of planets. Some must be in Goldilocks zones. There could be millions of advanced societies out there."

Konopinski felt compelled to join in. "Think of the progress we have made in the past one hundred years. What if they have been working on these problems for a thousand, or a million?"

The group sat in silence for a long moment, oblivious to the clink of plates and the din of a dozen conversations ~~at other tables~~ <sup>that also ran</sup> running the gamut from the absurd to the profound.

Perhaps influenced by York, Fermi raised his hands in a gesture of mock frustration. "Well, where is everybody?"

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