S03E10 - A Brief History of Humans Yelling Into Space: The Arecibo Message

The Multiverse Employee Handbook - Season 3

The Multiverse Employee Handbook has this to say about broadcasting to the universe:

“It is the considered policy that all communications directed toward the wider cosmos be undertaken with both humility and excessive confidence.

Any signal leaving the local quadrant shall be deemed an official company statement, and therefore must represent humanity in its most flattering light — preferably illuminated by coherent radio waves and optimistic mathematics.

Messages should be brief, comprehensible to carbon-based life, and unlikely to trigger an interstellar audit.

Employees are reminded that the vacuum of space constitutes a public forum. Anything said into it may be heard, misunderstood, or dramatically over-interpreted for the next twenty-five millennia.

In the event that a reply is received, the sender is advised to remain calm, draft an acknowledgment in binary, and forward it immediately to the Department of Cosmic Public Relations for appropriate spin.

The Handbook notes that future contact with extraterrestrial intelligence will fall under the jurisdiction of the Department of Galactic Sales Enablement, whose mission is to convert first contact into repeat business. Potential clients may be offered complimentary samples of culture, technology, and trade-show swag, followed by an optional subscription to the grocery store checkout magazine of their choice.

Remember: when speaking to the universe, one represents not merely oneself, but the entire species — and possibly Accounting.”

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You’re tuned into The Multiverse Employee Handbook.

Today, we’re revisiting one of humanity’s more ambitious marketing campaigns — the day we introduced ourselves to the universe.

It was November 16th, 1974. From a jungle valley in Puerto Rico, the newly upgraded Arecibo radio telescope pointed its colossal dish toward the globular star cluster M13 and said, in binary essence, “Hello. We exist. We do math.”

It was less a conversation and more a cosmic voicemail: 1,679 carefully arranged bits of information — part chemistry lesson, part self-portrait, part nervous oversharing — fired off at the speed of light. By the time it gets there, M13 will have drifted somewhere else entirely, which is a remarkably human way to start a relationship.

The Arecibo Message wasn’t meant to reach anyone in particular. It was a demonstration — a proof of concept, a gesture of cosmic optimism, and, let’s be honest, a slightly desperate need to be noticed by something other than ourselves.

But beneath the mathematics and megawatts lies a deeper question: what were we really trying to say? Were we reaching out to another intelligence — or simply testing the limits of our own?

When you strip it down, the message is simple: “we’re here.” The complexity begins when you realize we might have no idea what “here” means.

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But first, gather ’round the quantum communications hub, my isotropically curious colleagues, for a tale that would make even Frank Drake question the wisdom of Reply All.

In the fluorescent-lit realm of Quantum Improbability Solutions, specifically within the Department of Cosmic Correspondence — which existed in a superposition of “Fully Funded Initiative” and “Permanently Paused Pilot Project” — Clara from Communications was having what could charitably be called a first-contact crisis.

It had started, as these things often do, with a misunderstanding of scope. Clara had been instructed to “draft a message that would position QIS as a thought leader in the universe.” She took that literally.

Three espressos and one existential spiral later, she’d uploaded the company’s entire digital brochure into the main transmission array. Before anyone could stop her, 1,000 kilowatts of enthusiasm were already en route to the globular cluster M13 — accompanied by a free trial offer for “quantum synergy solutions across multiple realities.”

The Square-Haired Boss was, naturally, thrilled. “Finally,” he declared, “we’re expanding into new markets!”

Legal disagreed, pointing out that “the known universe” did not technically fall within the approved sales territory. HR immediately scheduled an Interspecies Sensitivity Workshop, while IT insisted that the entire thing could be undone if someone just found the “Recall Message” button on the radar console.

Meanwhile, Clara sat quietly at her desk, watching the status bar crawl toward Transmission Complete. For three brief minutes, humanity’s voice filled the cosmos — equal parts mathematics, chemical structure, and corporate optimism.

The beam left Earth and threaded its way through interstellar dust, past indifferent stars and faint nebulae, carrying with it the universal tone of a message that no one asked for but everyone, somehow, needed to send.

When it was over, there was silence. The system confirmed delivery, but not receipt. The Square-Haired Boss clapped his hands together.

“Well done, team,” he said. “Let’s circle back in twenty-five thousand years to check for engagement metrics.”

Clara stared at the console’s blinking cursor — the only reply from the universe. It pulsed slowly, rhythmically, as though typing something back.

Then it stopped.

And in that silence — the long, cosmic kind that never needs to end a meeting — she realized the message had already done its job. It had proven that somewhere, deep in the cold geometry of space, a small, noisy, mostly harmless species had finally figured out how to introduce itself.

And, true to form, had accidentally made it sound like a sales pitch.

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And that brings us to the fascinating science behind this very real cosmic communiqué — the Arecibo Message.

Unlike Clara’s enthusiastic press release, the Arecibo transmission wasn’t an attempt to close a deal. It was, in essence, a proof of concept — a demonstration of what humanity could say if it ever needed to.

On November 16th, 1974, from the lush hills of Arecibo, Puerto Rico, scientists turned the world's most powerful radio telescope into a loudspeaker aimed at the stars.

Its target: the globular cluster M13, a swarm of several hundred thousand stars about 25,000 light-years away.

Its message: 1,679 binary digits — a curious number, chosen because it's the product of two primes, 23 and 73.

Arrange those bits into the correct grid, and a tiny pictogram appears:

numbers one through ten, the atomic numbers of life's key elements, a double helix of DNA, a human figure, a sketch of our Solar System, and a little diagram of the Arecibo dish itself — humanity's way of saying, "This is who we are. Also, nice to meet you."

The transmission lasted just three minutes — three minutes that represented thousands of years of science, collaboration, and the bold assumption that someone out there might have a compatible sense of curiosity.

The team behind it included Frank Drake, of Drake Equation fame, and Carl Sagan, who provided the optimism and possibly the flair for showmanship.

Their message wasn't intended to reach anyone in M13 — by the time it arrives, the cluster will have moved on.

It was a symbolic gesture: a postcard to the universe saying, "We're here. We're listening. And we finally figured out how to aim the transmitter."

When we return from this brief quantum intermission, we'll decode how powerful that message really was, why we no longer shout quite so loudly into the void, and what this all says about a civilization that still can't agree on who gets to send the next one.

Welcome back, my radiant frequency analysts.

While you were away, Legal updated our Intergalactic Communication Policy to include a new disclaimer:

"All messages to intelligent life must now begin with the phrase 'This transmission

may be recorded for quality assurance purposes.'"

When the Arecibo Message left Earth in 1974, it was — quite literally — the loudest thing humanity had ever said.

The telescope's one-megawatt transmitter focused its beam into a narrow whisper of radio energy, aimed squarely at M13. But thanks to the immense size and precision of its 305-metre dish, that whisper became an effective radiated power of roughly twenty trillion watts.
That's the kind of wattage that makes nearby electrons sit up straight and reconsider their life choices.

For comparison, if you gathered the output of every AM radio station on Earth and pointed it in the same direction, you'd still be quieter than Arecibo on a good day.

It was a moment of planetary hubris wrapped in exquisite mathematics.

The number of bits — 1,679 — was itself the first clue.

Only one way to arrange it into neat rows and columns makes sense: 23 by 73, both prime numbers.

That mathematical hint was humanity's first handshake — an elegant way of saying, "We think in patterns. We like symmetry. And we really hope you do too."

At its heart, the message is a blend of universal constants and cultural confessions.

We told the cosmos how to count, what we're made of, what our DNA looks like, what we look like, where we live, and what we built to say all this in the first place.

It's equal parts user manual and dating profile.

Corporate analogy?

It was the ultimate brand launch — except instead of product features, we led with carbon, hydrogen, and nitrogen. Instead of an ad campaign, we used binary code. And our target audience wouldn't receive it for 25,000 years, assuming they were still in the neighbourhood and still checking messages.

But scientifically, it was a triumph.

It proved that radio waves could carry structured, meaningful data across interstellar distances, and that mathematics — not language — could be the bridge

between minds.

The Arecibo transmission was our first deliberate experiment in interstellar semiotics — a discipline that's part physics, part linguistics, and part wishful thinking.

And while no one expects a reply, it remains one of the most extraordinary things humanity ever did: a moment of collective self-awareness, broadcast at the speed of light.

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But since the day we fired that binary postcard into the stars, we've become… quieter.

Not because we've lost interest in making contact — but because, after a few decades of reflection, we started to wonder what we'd actually do if someone replied.

The 1970s were a time of fearless optimism.

We'd just walked on the Moon, built space stations, and launched probes that carried plaques and golden records to the edge of the solar system.

If the Arecibo Message was our first interstellar handshake, Voyager's Golden Record was our business card — music, greetings, and a photo of a naked couple, which, in hindsight, may have been too much information for a first meeting.

But by the early twenty-first century, the tone had shifted.

Astrobiology became serious science, and the SETI community — the Search for Extraterrestrial Intelligence — began to split into two philosophical camps:

the listeners, who believe we should quietly monitor the universe for signals, and the speakers, who insist we should keep sending them.

This new branch of debate earned its own acronym: METI, or Messaging Extraterrestrial Intelligence.

And it quickly found itself mired in an argument that could only happen on Earth — whether saying hello to the cosmos might be a security risk.

Physicist Stephen Hawking famously warned that announcing our presence might not be wise, suggesting that any civilization advanced enough to receive the

message would likely view us with the same curiosity we reserve for particularly gullible wildlife.

Others countered that the galaxy is already awash in signals: radio, television, radar, and Wi-Fi — a century's worth of electromagnetic leakage leaking out like gossip through the walls of a paper-thin apartment.

In other words, if anyone's listening, they already know we're here — and they've probably judged our programming choices.

Meanwhile, the mighty Arecibo telescope itself — the one that first shouted into the void — collapsed in 2020, its great dish torn apart, its signal silenced.

The universe, as it turns out, doesn't even need to reply. It just waits long enough, and entropy handles the rest.

Today, we build quieter instruments.
We listen more than we speak.

The new generation of telescopes — FAST in China, MeerKAT in South Africa, the Allen Array in California — are vast ears instead of mouths.

We've traded the confident shout of 1974 for the delicate art of eavesdropping on the stars.

At Quantum Improbability Solutions, this change of policy is known as the "Listen First Initiative."

All outgoing messages now require committee approval, two layers of encryption, and a posthumous review to ensure they were worth sending in the first place.

But maybe this silence isn't fear — maybe it's maturity.

Maybe it's what happens when a civilization learns that real communication begins not with speaking, but with listening.

Because somewhere out there, drifting among the radio haze, that little three-minute transmission is still travelling — our loudest hello — slowly becoming part of the background noise of the universe.

And that, perhaps, is the most honest message we could send:

that we tried to speak, once, and that the echo still hasn't come back.

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Before we wrap up, it’s worth touching on a lesser-known counterpart to SETI — a field that’s been gaining new attention lately: METI, or Messaging Extraterrestrial Intelligence.

Recent discussions in the scientific community have revisited what a modern “hello” should even look like.

Some researchers now propose using artificial intelligence to craft richer, more structured messages — entire curated libraries of human knowledge instead of simple pictograms.

Meanwhile, the International Academy of Astronautics has begun updating the long-standing post-detection protocols — the official playbook for what humanity should do if a reply ever arrives.

Which raises the delightful question: who exactly gets to answer the universe back, and does that person know they’ll be speaking for eight billion people?

METI itself is a surprisingly bold enterprise.

If SETI is the art of listening for a cosmic whisper, METI is the decision to stand on a mountaintop, cup your hands around your mouth, and yell, “Hi there! We might be interesting!”

Where SETI researchers use enormous dishes to scan for faint signals, METI advocates argue we should be sending our own — mathematical greetings, diagrams, context, even snippets of culture — in the hope that someone, somewhere, might understand enough to send something back.

It’s a field caught between aspiration and anxiety.

Supporters insist that communication is an essential part of discovery, and that any civilization advanced enough to hear us is unlikely to treat us like confused wildlife.

Critics warn that broadcasting our existence might be the cosmic equivalent of emailing your credit card number to an unknown address and hoping for the best.

And so METI lives in this strange, wonderful space between science and philosophy — an outreach program to an audience we’re not entirely sure exists.

But whether you see it as visionary or vaguely reckless, METI reveals something deeply human:

we don’t just want to know if we’re alone…

we want to talk about it.

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Well, my radiant signal processors, we’ve reached the end of another quantum communiqué.

Today, we’ve learned that humanity’s first message to the stars was less a conversation starter and more a cosmic performance review — a brief, confident announcement that we exist, we can count, and we’ve decided to start networking beyond our galaxy.

We’ve discovered that our greatest experiment in communication wasn’t really about aliens at all — it was about us.

About the deep, unspoken need to be heard, even when we suspect no one’s listening.

And somewhere, light-years from here, our message continues on — a flicker of binary optimism, crossing the void at the speed of light.

It doesn’t ask for anything. It just says, “We’re here.”

And really, that’s been the subtext of every email, radio broadcast, and late-night thought humanity has ever produced.

Of course, in the multiverse, there’s undoubtedly a version of reality where M13 received our signal instantly, replied within the hour, and was immediately added to the corporate mailing list.

That universe now has quarterly targets, a Department of Galactic Sales Enablement, and a podcast called The Human Resource Problem.

Want to explore more quantum corporate chaos? Visit us at multiverseemployeehandbook.com where you’ll find more cosmic absurdity, more improbable science, and our latest blog post:

“Prime Numbers and Public Relations: How to Market Your Species Responsibly.”

And if you've enjoyed today's interstellar outreach initiative, share it with a fellow traveler — perhaps someone who still believes the universe is just waiting for us to say the right thing.

This is your quantum-coherent correspondent, reminding you that in the multiverse of communication, every "hello" exists in a superposition of heard and ignored — until someone listens.

And Clara from Communications?
She's still checking her inbox.