

THE LAST APOSTLE

by Michael Cassutt

Just in time to celebrate the fortieth anniversary of the first Moon landing, Michael Cassutt brings us a nostalgic look at the space program that could have been. The author's most recent projects include work on the upcoming Activision video game *Singularity*, and developing a novel/film project with David S. Goyer (co-screenwriter of *Batman Begins*). In the last few months, Michael has had two articles on the space program in *Air & Space* magazine, and a third is on the way. In his spare time, he teaches television writing and production at the University of Southern California's School of Cinematic Arts.

Nothing is concealed that will not be revealed, nor secret that will not be known.
—Matthew 10:26

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"Heart attack?"

"No. Took a spill on his mountain bike. Hit a patch of sand barreling down some crappy road up near Flagstaff."

Spell-check smoothed the errors of the e-mail exchange while failing to add texture or emotion. Nevertheless, Joe Liquori could not help smiling at the inescapable perfection of the news. Chuck Berens' death had all the elements of his life: the outdoors, excess speed, and a total disregard for other people's rules and expectations.

For God's sake, Chuck had been eighty-nine last April thirteenth. (The birth date was easy to remember; he and Joe shared it, three years apart.) Joe could not possibly have gotten his ancient ass *onto* a mountain bike, much less ridden it up, around or down some twisty road.

"He was a good man," he typed, as tears came to his eyes and his breathing quickened. Thank God this was text, not voice. These sudden, uncontrollable swells of emotion had afflicted Joe for forty years. But they still annoyed him.

"It's okay, Dad." Jason, his son, was fifty-nine, with children and grandchildren of his own: did he find himself growing more teary?

"Is there going to be a service?" Not that there was any chance Joe would be able to attend.

"Family says only a private memorial. Possibly going to want his ashes on the Moon." Jason added an emoticon for irony.

"So I'm the last one."

"And the best." *Thank you for that, son.* Joe logged off with a goodbye for now, then sat back.

There had been twelve of them on the six lunar landing missions. Twelve who experienced the terrifying, exhilarating, barely controlled fall from sixty miles altitude to the gunpowder gray dust of the lunar surface. Twelve who opened a flimsy metal door to a harsh world of blinding sunlight. Twelve who had the explorer's privilege of uttering first words.

Twelve who left footprints where no one had gone before.

More accurately, twelve who, years later, would experience trouble with eyes, heart, hands, lungs, all traceable to time spent slogging across the lunar surface wearing a rigid metallic cloth balloon. Twelve who bathed in varying degrees of acclaim while suffering varying degrees of guilt over those who died along the way—and those who did the real work on the ground.

Twelve Apostles, according to that stupid book.

Joe knew them all, of course. There was the Aviator—the classic American kid from the heartland, standing outside a grass airfield watching planes take off ... the Preacher, the reformed drunkard and womanizer who found Jesus not on the Moon, not during the death march of booze and babes that followed, but years later after, a bumpy airplane ride as a passenger ... the Visionary, who used his lunar celebrity to give unjustified weight to everything from spoon-bending to geomancy...

There was the Businessman, and his shadier, less successful twin, the Shark. The Mystic. The Doctor. The Politician. The Good Old Boy. The Lifer.

Then, as always, there was the Alpha Male of Apollo—Chuck Behrens.

Joseph Liquori, ninety-four, lunar module pilot for Apollo 506 and known, by the same scheme, as Omega—the Last Apostle—sipped his carefully rationed vodka and let himself weep, for a fallen comrade and an old friend, and for himself.

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An hour later, Joe decided to take a walk.

This was not a casual decision. He had reached a stage in his life where exiting his living quarters required preparation. The facility he now called home provided him with a tiny bedroom and shared common area, roughly the same living space he had as a graduate student in Minneapolis' Dinky Town in the 1950s. He could afford better—a palace in northern California, with vistas, gardens, rows of books, servants, and possibly a big-breasted “nurse.”

In fact, Joe had once possessed a mansion as well as several attractive, attentive nurses. But the nurses were gone, and the palace in Marin County had already been torn down, another lesson in the ephemeral nature of earthly existence. Or so the Preacher had informed Joe, the last time they shared a meal.

In order to take a walk, Joe faced the usual agonizing hygienic and mechanical procedures typical of advanced age—the mechanisms to assure continence, the visual and aural aids, the medical monitoring hardware, all bringing to mind the phrase he had over-used since his arrival: “It’s easier to walk on the Moon than it is to walk down my driveway.”

He was not required to get permission, but it was always smart to have help. Kari Schiff, the fresh-faced pixie from Kansas who called herself Joe’s “co-pilot,” didn’t think he should be going outside at all.

Until he told her about the Alpha’s death. “Then let me come with you,” she said.

“I won’t be going far.” It wasn’t a big lie, by NASA astronaut standards.

“You’re sure?” Kari looked at her two colleagues, Jeffords and Bock. Bock had medical training, but he was also a passionate Libertarian. Any doubts about Joe’s ability to take a walk in these circumstances were subordinate to his conviction that each man had the inalienable right to chose the time and place of his death.

Not that a walk would *necessarily* be fatal. “Okay,” Kari said, “let’s put on your armor.”

The “armor” was an EVA suit, a rigid exo-skeleton that split in two at the waist, and in the best of circumstances could never be donned by a single person working alone. Especially not a man in his nineties, even if said senior was working in lunar gravity. Checking the life-support fittings and operation took more time.

Finally Joe was buttoned up, much as he had been that day in April 1973, when he had emerged from the front hatch of the lunar module Pathfinder on the Apollo 506 mission.

Five hours after receiving the instant message from his son about the Alpha’s death, Joe Liquori emerged from the thirty-foot tall habitat (nicknamed the Comfort Inn) that he shared with three other astronauts at Aitken Base, on the far side of the Moon, to complete the last mission of Apollo.

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The Preacher died of age-related illnesses at a facility in Colorado Springs in 2011.

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The names had been bestowed on them by Maxine Felice, a famously confrontational Swiss journalist who tracked them relentlessly for a decade, ultimately publishing a controversial bestseller called *The Apostles*. (Chuck hated the title, as he made clear to Joe the next time they met. “Apostles? Remember what happened to those guys? Crucified upside down? Boiled in oil? No, thanks!”)

Felice had persisted: it was no coincidence, she said, that their number was twelve. “Our mission is slightly different,” the Aviator had said. “And so is the God we serve.”

The woman dismissed that. “What is Apollo if not a god?”

Joe’s agreement with Aitken Enterprises entitled him to a ninety-day stay with “possible” extensions. In truth, the company’s laughable inability to maintain a regular launch schedule ensured at least one automatic “extension” to 180. And when an earlier Aitken Station crewmember required return to earth soonest, Joe offered to buy his seat; his hand-picked crew ops panel magically agreed; and Aitken’s cash flow problems eased for a month.

On the day the Alpha Apostle ran off that road in Arizona, Joe Liquori was in his 196th day at Aitken Base, where his time was largely spent blogging to the public—and telling sea stories. (The station trio especially loved the “true” story behind the Mystic’s death.)

Kari Schiff, the real space cadet of the three, even played the Maxine Felice game, asking Joe, “If you guys were the Apostles, what are we?”

“The three who can’t find ice?” Bock said, sneering. “Weren’t they in the Letter to the Corinthians?” Jeffords howled with laughter as Kari punched him in the arm. It was true that the Aitken team had yet to find significant water ice, the primary goal of the whole enterprise. But they had found traces, and they continued to search, spending most of their time preparing for each EVA, then actually performing the ten-hour job in armor, then recovering. They were lucky to accomplish two cycles every eight days.

In between, they managed the Virtual Moonwalks, driving mini-rovers across the surface to give paying customers back on Earth their own Aitken Experience. Now and then they made test runs of the processing gear from the Ops Shack, a second habitat connected to the Comfort Inn by an inflatable tunnel.

Emerging from the habitat, Joe ran through the perfunctory communications checks, which ended with a question from Kari: “So, just in case anyone asks ... where are you headed?”

“Where else?” he said. “Where Pathfinder landed.”

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Robert Temple, the Lifer, died of a heart attack in Orlando, Florida, in 2008. He had stayed with NASA after Apollo and commanded three Shuttle missions.

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Joe had come back to the Moon in order to revisit a key moment in his own life that, based on other accounts, he either misremembered or missed altogether. He likened himself to a paratrooper from the 101st Airborne returning to Normandy fifty years after D-Day.

It was possible, of course, that the discovery he and the Alpha made on their second EVA had distorted the experience for him.

Whatever the reason, his only firm memories of those three days on the Moon were constant nervousness about the timeline, dull fear, total exhaustion. The fear started with the hiccup of the lunar module’s descent engine during pitchover—so anomalous that it caused cool, calm Chuck Berens, the Alpha Apostle, to turn his head inside his fishbowl helmet, eyes wide with alarm, mouthing a simple, expressive, “Wow.”

But, in classic Alpha fashion, doing nothing. The engine resumed full thrust and the landing proceeded and, powered by adrenaline and relief, the two astronauts zoomed through their checklist to their first EVA. (Chuck’s first words were, “Hey, Mom and Dad, look at me.” Then Joe’s more mundane, “A lovely day for a walk.”)

Even though there were three relay satellites in orbit around the Moon the day Alpha and Omega landed, comm from the far side was still intermittent. Nevertheless, the first seven-hour jaunt went by the numbers. Flag erected. Rover deployed. Scientific instruments sited.

After what turned out to be twenty hours of wakefulness and extreme stress, neither astronaut needed a sleeping pill to sack out in the cramped, uncomfortable Pathfinder.

The next day—the public relations ceremonies and contingency sampling behind them—they were able to board the rover quickly and be on the road, just the way the Alpha loved to fire up a T-38 aircraft and bolt into the Texas sky. This was to be their long traverse, if circumstances and terrain permitted, reaching a straight-line distance from Pathfinder of six kilometers. (“Close enough so we can walk back if the rover conks on us.”)

The target location was known as Great Salt Lake, named by a geologist from Utah. GSL was a kidney-shaped mini-mare a kilometer wide and three high, marked by a rich variety of clustered craters and crevasses.

By the three-hour point of the EVA, the astronauts were deploying instruments at the first of their two planned stops when they faced a forty-minute gap in the link to Houston. The Alpha said, “Hey, Joe, let’s hike over there.”

There was a shadowed cleft in a rock face a dozen meters high, about fifty meters to the south. It appeared to be the mouth of a cave in the low hills inside GSL. Joe knew it, of course. His memory for the Aitken Basin Site was photographic. The passage was narrow, jagged, but did not lead to a cave, just an open area the geologists called the Atrium.

Had the Alpha asked, “What do you think?” Joe would have said, *Every minute of this EVA has been planned. This site is one the geologists have been aching to visit for a decade. And we’re supposed to take a spelunkingdetour?* But the question was never offered.

The Alpha entered first, stopped (a bit of a trick, given his high center of gravity and forward momentum) and said, “See anything?”

“What am I looking for?”

“Color. Anything but black or gray.”

“What, some kind of oxidized soil? Shit.” Here Joe slipped and fell to his hands. Even with the suit and life-support pack, which together weighed more than he did, he was easily able to push himself back to standing without help.

“This guy I know at JPL saw a flash of color in a single frame of film that he was processing.” Chuck stopped and turned left, then right, sweeping with his hand, each motion severely constrained by the suit. “Here.”

Joe blinked. Then raised his mylarized visor to give himself an unfiltered look. “You mean *there*.”

Joe wasn’t sure what he’d seen—a flash of pink, just as likely the result of some fast-moving solar particle ripping through his optic nerve—but he felt compelled to check it out. Hell, this was the one un-programmed moment in all of the Apollo EVAs. Enjoy it!

They hopped and shuffled toward the shadowed face of a boulder the size of a bus. “Maybe it’s ice,” Chuck said.

In the shadows, protected by a shelf of granite for God knew how many thousands,

millions, possibly billions of years, was what looked to Joe to be a jumbled collection of pink pillars and related rubble—like the ruins of a Roman villa seen on a college trip to Herculaneum.

The substance had flat surfaces ... not just crystalline facets, though even in the first adrenalized flush of discovery he was ready to consider that it might be natural. But each time he blinked, breathed, and counted, the material looked ... artificial. Certainly it was like nothing they expected to find on the lunar surface. (Years later, seeing the destruction of the planet Krypton in the first *Superman* movie, Joe would literally stand up in the theater, thinking he was looking at the Aitken Coral.)

The Alpha broke the silence. “How much longer to AOS?” Acquisition of signal, the return of contact with mission control.

“Seven minutes.”

“Let’s get a sample. And mum’s the word.”

Joe wanted to scream in protest. Yes, they were already off the reservation as far as NASA knew. Why jeopardize the rest of their timeline by lobbing this particular grenade into the flight plan? *When in doubt, do nothing*. There would be time to look at this stuff when they returned to Pathfinder. Then, if it warranted, they could tell mission control—and return here on their third EVA.

But this could be the discovery of the ages! Something that justified the entire Apollo program!

Nevertheless, three years of training—twenty-five years of following orders—overcame all other impulses. Joe simply swallowed and reached for his tools.

They quickly hammered off several faceted pieces and scooped up the rubble. “Interesting,” Joe said, knowing he might be overheard, “the hard stuff flakes like mica, but the rubble is like coral.”

“Houston, 506, comm check.” Chuck made the call in the clear, and also as a warning. *Don’t say anything. You work for me.*

The Businessman disappeared off the coast of Florida in 1999.

All twelve Apostles met in the same room for the first time—post-Apollo—during interviews for the follow-up documentary to Felice’s book. Nine years had smoothed out the old rivalries. They had dinner together, played golf in a trio of foursomes, stayed up late drinking and telling what the Alpha always called sea stories.

Thanks to his newfound prominence as chairman of the board of X Systems, Joe noticed that the others—especially the Good Old Boy and the Shark, who in Houston never seemed to know Joe’s name—actually gave him leave to speak.

And so, with the Alpha’s encouragement, the last night in that hotel room in Glendale, California, Joe shared the secret of the Aitken Coral.

“You bastards!” the Politician said, only half kidding. “You realize how hard it is to sell the manned space program these days? You could have saved me a lot of work!”

The Mystic was already chiming in, "You've got to get this out! My God, it would create a whole new paradigm!"

At this, the Shark and the Businessman both guffawed. Joe couldn't tell which was the more contemptuous. *What the hell was a "paradigm"?*

Before a vote-to-release by acclamation could be entered, the Preacher preached caution. "How do you know it's real?"

The Aviator chimed in, too. "Have you had it tested?"

The Visionary wanted to know where it was stashed. The Lifer, as usual, sat back in silence. There were other opinions—the Good Old Boy seemed to be on both sides of the matter.

A show of hands left it 5-5.

Joe turned to the Alpha, who said, "Guys, thank you. As Jeb Pruet used to say, whenever we bitched out our assignments, we'll 'take that under advisement.' We told you because we want your opinions. But the decision is ours. Joe?"

Joe was indecently pleased. For the first time in their working relationship, Chuck Behrens had offered him a voice in a decision! "I say, sit on it for a while yet. Do some definitive tests. If it's really real, a few years' delay won't matter. If it's not what we think, we'll save ourselves a world of shit."

The Alpha concurred. The vote of the Apostles was 7-5 against.

There never was another gathering of the twelve Apostles as a group. Somehow the Alpha always managed to cancel. And then death began to reduce their numbers.

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Herman Polski—the Politician—died much too young, felled by a heart attack in Texas three years later.

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Even at Aitken Base, Joe would still hear the question, "How did you find out you were going to the Moon?" They didn't realize it was a three-step answer. Number one, "The day I got the phone call from NASA telling me I'd been selected as an astronaut, and to get my ass to Houston by January fifteenth."

Step two took place six years later. It was ten minutes before a Monday morning pilots' meeting, two days after the Aviator and the Preacher splashed down from the first lunar landing on 501.

Chuck Behrens motioned Joe into his office. "Jeb's going to announce me as backup commander for the third landing."

"Congratulations." Joe could not help thinking that every time another astronaut succeeded, he died a little.

“Wanna go with me?”

“As lunar module pilot?”

“What else?”

“Okay.”

Chuck raised an eyebrow. “You’re a low-key son of a bitch, Joe. When I got my Gemini assignment I could have reached orbit without the rocket.”

“I’ve been waiting six years. My feeling is, ‘about fucking time.’”

Step three was the least surprising. Joe and Chuck had spent a year backing up the Shark and the Mystic. Joe and Chuck were watching their splashdown (a bit tricky, since one of three parachutes collapsed) in mission control when Jeb Pruettt turned to them and said, “You’ve got 506.”

That was when Joe could have reached orbit—or the Moon itself—without a rocket.

But the key decision had been made earlier, when the Alpha invited him onto his crew. “One thing before we lock this in, old buddy. From this day on, you take orders from me.”

“Why wouldn’t I take your orders?”

Chuck laughed so hard his face flushed. “Joe, Joe, Joe ... the whole reason you’re the right-fielder in this team is that you are too goddamn independent! And everybody knows it. Not insubordinate. You just obviously know more than the rest of us, and make sure whoever you’re working for gets the message, too.

“I can’t have that. I will acknowledge right here and now that, based on I.Q. and all that good stuff, you should be *my* commander. Hell, you know more about the lunar module than anyone, including me. You’ve got a sci-fi kind of mind, which doesn’t hurt, either. But from this point on, what I need from you is the certainty of blind obedience. If I tell you we’re going direct from AUTO, you do it. If I tell you to strip down and take a shit on the White House lawn, you do it. If I’m wrong, and it is likely I will be wrong in some matters, it’s my problem.

“And if I get us killed, then either I wasn’t the right guy to be commander, or the universe was against us. Either way, I want my last thought to be the knowledge that it was my doing.

“I need you to be a tool. And never give me the idea you’re thinking ahead of me, that you’re dying to give me a brilliant out-of-your-ass suggestion.”

It took Joe Liquori all of two seconds to make up his mind, to change his whole personality and his destiny. “Okay.”

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Jesse King, the Shark, commander of the troubled 503 mission where the lunar module ascent stage shut down early, forcing the command module to swoop down for an

emergency rescue, died of lung cancer in 1990. "Good career move," the Alpha said, perhaps unkindly. The Shark's financial career had caught up with him. Had he lived, he would have been prosecuted for fraud.

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In theory, the choice of landing site for the sixth mission had been made years back. From the relatively benign Sea of Tranquility and Ocean of Storms to more challenging highlands, like Fra Mauro and Hadley, the sites had been clicked off by the first missions. It looked as though Chuck and Joe were headed for Cayley Plains, until a program planning meeting attended by the center director, the program manager from HQ, science chief, twenty head sheds and horse-holders.

And, uninvited, Chuck and Joe. They had been up in T-38s that morning, and Chuck had insisted they stay in their sweaty flight suits. And arrive ten minutes late.

Dr. Rowe, the center director, noted their presence. "You guys take a wrong turn on the way to the simulator?"

"Depends on what we hear here," Chuck said, grabbing a pair of seats as close to the front as he could.

Rowe, whose fatherly demeanor hid a precise engineering mind, glanced at General Shields, the nothing-like-fatherly Apollo program manager. Who simply said, "Let's have it, Chuck."

Smiling, Chuck walked toward the map of the Moon and tapped his finger on Tranquility, Storms, Fra Mauro. "We've been *here, here, and here*. A year from now, we'll have been here, too."

Then he removed the map from its easel and turned it over. There was nothing on the back. "That's funny, I'd always been taught that even though we couldn't see it, the Moon really had a Far Side." Joe, the sci-fi reader, had told Chuck about an Asimov story that claimed precisely that.

The meeting room was silent, except for the thump of General Shields' pencil. "Your point, Colonel?"

"By the time Apollo is done, we'll have spent twenty billion dollars and visited a fraction of half a world. The front half. The easy half. Is that what the president said? 'We do these things because they are easy'?"

The room erupted with protests, some emotional, some technical—"How do we relay comm from the back side?"—and even answers to the objections—"The Air Force has a bunch of small comsats sitting on the shelf in LA. We could put them in the service module on the next three landing missions—"

Chuck knew he'd over-reached, but that was his style: ask for the Moon and take what you can get.

Nothing changed—that day.

Seven weeks later, NASA announced that the sixth and last lunar landing would

attempt to reach Aitken Basin on the far side.

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Len Caskey, the flight surgeon turned test pilot, always known as The Doctor, died in 2007, six years after a debilitating stroke.

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It was only in the sleepless second night that they found the privacy to speak about their discovery. “Funny, isn’t it?” Chuck said. “Three human beings within a quarter of a million miles—one of them in another spacecraft—and we’re worried about being overheard.”

“Yeah. Funny.”

Chuck tapped his bare foot on the sample case. “What do you think it is?”

“Pink coral.”

“Even something as basic as coral would be significant, wouldn’t it? It’s not, though. Not with those edges. Somebody *made* that.”

“Maybe it *was* somebody,” Joe said. “Maybe that was the body of a crystal alien.”

“You and that sci-fi mind of yours.” Chuck had closed his eyes. “All I know is, word gets out about this, lots of people are going to be pissing their pants.”

Joe didn’t bother to tell Chuck that on seeing the Aitken Coral he had, indeed, filled his diaper.

The third EVA was as routine as moon walks ever went. A few hours later, buttoned up in Pathfinder, they fired the ascent stage to begin the journey home.

Once they’d docked to Conestoga and moved their samples and gear aboard, Joe swam into the LM for a last look before jettison.

The entire weight of the mission, the secret, the training, his whole life landed on him. He started weeping.

“Joe, you all right down there?” Don Berringer, their command module pilot, had seen him through the tunnel ... fetal, floating, shuddering with sobs.

“Shut up, Don.” Chuck had seen it, too ... and gently pushed the hatch closed.

Five minutes later Joe had calmed himself. He completed the close-out checklist, stashed the fecal waste bags Berringer had accumulated during his three days of orbital privacy, allowed himself one last look out Pathfinder’s triangular window at the desperately desolate moonscape sliding past.

Chuck floated into the module, closing the hatch behind him. “Ready to rock and roll?”

“Yeah.” He noted a sample bag in Chuck’s hand. “What’s that?”

“What do you think?”

“What’s it doing here?”

“I’ve half a mind to leave it. Send it around the Sun for the next ten thousand years.” When separated from Conestoga, Pathfinder would be launched into a heliocentric orbit.

Joe was still in absolute-obedience mode. “Copy that.”

Chuck laughed again. “I can’t. But I don’t want to broadcast the news, either. Not yet. Like they taught us in all those sims, when in doubt, do nothing. And let me tell you, my friend, I’m in serious doubt about what to do.”

“Then you better move it to the PPK.” PPKs were the astronauts’ personal preference kits, bags of family memorabilia, postal covers, and commemorative coins.

Chuck winked and made a clicking sound, a sign of the highest approval.

That was the extent of the discussion.

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The Good Old Boy, Floyd Brashear, died of prostate cancer in 2019.

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The PPKs turned out to be a bit of a problem. The post-flight check out included a weigh-in, which showed what NASA would call a “significant discrepancy,” which Chuck managed to alleviate by convincing those doing the weighing that he had stuck his EVA gloves in there. “Rather than throw them overboard, you follow?”

Then he had turned around and thrown a regular fit in Jeb’s office. Somehow, Chuck and Joe managed to walk out of the center with both PPKs—unopened.

There was one question in the debrief. The Utah geologist edged up to the most recent moonwalkers at the coffee break to say, “Ah, say, did you guys ever get a look inside those hills in GSL?”

“God, Nick, I’m so sorry. During that first dead zone we got within maybe ten feet of the son of a bitch. We were looking through the opening, weren’t we, Joe?”

“Right through it, Chuck.”

“Right at the mouth. But the soil looked a little loose and the walls a little tight and jagged, if you catch my drift.” And here Chuck lowered his voice and leaned in to the geologist. “I was afraid of falling on my dang face and, you know, ripping my suit. I didn’t want to screw up like that with fifty million people watching.”

No ground-based science nerd was going to second-guess an astronaut in a situation like that—at least, not openly.

And that had been the end of the inquiries.

But not the end of the discussion.

Five years later, when Joe made his first trip back to Houston as a civilian, to take his annual physical, he heard at the clinic that Chuck had come through earlier in the day. Naturally Chuck would be in Houston around the same time ... the target date for physicals was that shared birthday. Strangely, Chuck had left a message for him: *meet me at ops at 0800 tomorrow.*

Ops was Ellington Air Force base five miles up the road, where NASA kept its fleet of aircraft. Somehow Chuck had convinced them to give him a T-38 for a hop ... with Joe.

It was only when they were in the air, bouncing their way through the clouds of an approaching Gulf storm, that Chuck broke his usual radio silence: "Five hundred million years old."

"What?"

"That pink coral we found at Aitken? The mysterious object we found on the Moon and kept secret all these years? It's five hundred million years old."

"That's really not old by lunar standards. Last I heard that thing was four billion years old. Or five."

"Joe, that coral is from *Earth.*"

Through God knows how many contacts and cut-outs, Chuck had arranged for samples to be tested at three different facilities. Age, composition, carbon dating, all tests had the same result: it was just like material found on Earth's sea floor five hundred million years in the past.

The knowledge changed nothing—Alpha and Omega kept their silence—but it did inform later discussions between the Apostles in various ways. Over the next thirty years, on his own and in conversation with like-minded souls such as the Visionary and, somewhat to Joe's surprise, the Shark and the Aviator, Joe developed a conceptual model of the entities who had left the pink coral at Aitken Basin.

They were amphibious at least, possibly even aquatic.

Earth in five hundred million BC—aside from being a blue-white sphere (as seen from the Moon)—would have been unrecognizable: the continents were still smushed together in some version of Gondwanaland. What would later be the Antarctic was ice-free—possibly even the home of the Beings.

(Although a civilization robust enough to launch at least one flight to the Moon would logically require more than a single landmass. "Why?" the Shark said. "What is the basis for that conclusion?")

The Visionary was more troubled by the lack of evidence of past civilizations. Here the Aviator showed an unexpected grasp of archaeology and geology. "How much of the land we see and excavate was above water that long ago?" Before the Visionary could suggest a ballpark figure, the Aviator had one: "Under 5 percent, maybe as little as 2 ...

maybe zero.

“And even if you had 5 percent of the Coral People’s land still dry, suppose it was in the Andes? Or the middle of the Takla Makan?”

“Or in Albania,” the Shark said, to general laughter.

“One of the reasons we find any evidence of past civilization is that we’re digging where we know they lived. Besides, these civilizations only existed during the past ten thousand years.

“We seem to find dinosaurs,” the Visionary said, stubborn as always. (And, Joe remembered, from a Fundamentalist family.)

“By accident,” Joe said. “And keep in mind ... the oldest dinosaur—Cambrian Era—is only half as far back as these Beings lived.”

“At a minimum,” the Shark added.

“But we do find fossils from that era, long before the dinosaurs. And they’re all small. Shouldn’t we find, hell, I don’t know ... pottery? A fork? The equivalent of an oil rig or even a temple?”

“I did a rough calculation on this,” Joe said. “You know how Heinlein said, ‘The surface of the Moon has an area equal to the continent of Africa. Our missions have explored a neighborhood in Cape Town’?”

“If you just assume that the surface area of our Coral People civilization was the continent of Antarctica, which is surely too small, we have turned soil in less area than Vostok, Byrd, and the other half dozen South Pole stations cover: about a hundred square miles.”

“Ultimately, though, it’s a matter of belief. Based on admittedly skimpy—”

“—One sample? Yeah, that’s taking the word skimpy and giving it a good squeeze—”

“—evidence, we believe the Moon was visited by terrestrials at least half a billion years before you two.”

“Or the rest of us.” Shark always liked to remind people that Apollo was a *program*, not a single event like Lindbergh’s flight.

“I’m completely comfortable with that statement,” the Visionary said. “Which makes it the discovery of the Epoch! Like Noah’s Ark or a piece of the True Cross! Why not make it public?”

“Because Chuck and I are still concerned about what it would do to the program.” Here Joe extended his hand to the Shark. “Shuttle’s flying, space station program is in the works, lunar exploration’s on the drawing boards.

“Right now things are fine! It’s like being on flight status when you go to see the doctor—the only thing you can do is make it worse.”

Mention of flight surgeons, especially in the absence of the Doctor, won the day.

Joe almost believed it.

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The Aviator died of a brain tumor in Seattle, 1994.

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In April 1998, Joe arrived in Houston for another physical, checking into the Kings Inn right outside the Johnson Space Center gate. He found a blinking light on his room phone with a message from Chuck—good old Alpha—inviting Omega aka Joe to his house that evening.

In all their time together, Joe had never been in the Alpha's house. It wasn't an issue: Joe felt the two had seen enough of each other to last two lifetimes.

The Alpha and his third wife, Laurie, had a three-bedroom condo on an inlet of the misnamed Clear Lake ("neither clear nor a lake") in a gated community developed by the Shark himself.

In spite of his blue suit, flyboy background, the Alpha had taken up sailing, buying a forty-foot sloop which he named *506*. After a suitable number of drinks, a round of sea stories, they headed out.

The first thing to become clear was that for a natural aviator and astronaut—literally a sailor of the stars—the Alpha was a total landlubber. Joe, of course, was no better, preferring water in swimming pools or ice chests. His sole advantage was that he didn't pretend to be a sailor.

After numerous misadventures with the sails and riggings, the *506* headed down the ship channel toward the Gulf on engine power. Real sailors swept past, white sails flapping in the breeze, their captains offering half-hearted salutes—until recognizing the name on the boat and the identity of its "captain." Then beer bottles were raised and pretty women waved with enthusiasm. "Well," the Alpha said, "it's a good thing we didn't have to *sail* to Aitken Basin."

They reached the gulf, and Joe's stomach began to protest. "Let me get something." Leaving Joe at the wheel, the captain went below. When he emerged, however, it wasn't with a bottle of Dramamine.

It was with a suitcase. "Going on a trip?" Joe said, trying to joke through the nausea.

"There ain't no clothes in this case, old pal." The Alpha opened it: there was the pink Aitken Coral, what looked like the entire set of samples—including three chunks returned from the institutes that had done the analyses.

"Wow," was all Joe could say. He was trying not to heave.

"Well, good buddy ... it seems I've got a choice to make." Joe noted the Alpha's reference to himself, alone, not the team. "Turn this stuff over to the world and see what sort

of waves it makes..."

"It'll be a cultural tsunami!" Joe said, proud of the metaphor, especially under the circumstances.

Even the Alpha seemed impressed. "Yeah! A cultural tsunami! The world will never be the same, all that shit."

There was a long moment when neither moved, though the *506* rose on a swell. Then, with a casualness that Joe would always remember, the Alpha simply raised the suitcase and dumped its contents into the greenish-brown soup that was the Houston ship channel.

Joe pulled himself to his feet, managing to blurt, "What the hell are you doing?" before throwing up.

As the greenish spatter of partly digested chicken sandwich and beer floated away on the water, the Alpha said, "Is that an editorial comment? Or the seasickness talking?"

Joe wiped his mouth. "Dammit, Chuck!"

The Alpha smiled tightly, his eyes a mass of crow's feet caused by a life in pressurized cockpits. "Look at it this way," he finally said, unusually quietly. "It's just gone back where it came from."

* * * *

The Mystic was killed in a bizarre plane crash in Czechoslovakia in 2002.

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With a television network offering substantial money for the exclusive rights, Joe had made the obligatory visit to the Pathfinder landing site during his first week back on the Moon, driving in the enclosed rover with Kari, who served as camera operator.

It was strange how different it looked from the images seared into his fifty-year-old memory: of course, he and Chuck had landed when the Sun was lowest, throwing features into relief (the better to be avoided during landing). This second time, the Sun was as high as it ever got in the Moon's polar region. The flat top of Pathfinder's descent stage looked strange, scorched from the blast of the ascent motor.

The flag they had planted had been bleached white by the Sun, but still stood. Proudly waved, if you allowed for the wave to be frozen.

"Don't mess up your original footprints," Kari had warned.

On that first traverse down the lunar memory lane, Joe made sure to avoid the place where he and Chuck had found the Aitken Coral, not with a camera on him. And especially not after the Alpha himself was patched through, live, offering congratulations and asking a favor: "Could you look for my sunglasses? I think I dropped them."

Now, as Joe Liquori visited the landing site for the third time, it actually looked familiar. Thank God. At his age, in these circumstances, his memory needed all the help he could get.

Why had he kept the secret for so long? Because Chuck—the Alpha Apostle—wanted it that way. Because the man who had charged through life, playing the game at a higher level than anyone Joe knew, had said so. Period. Because men who possessed the skills to brave a lunar landing shared a unique ability to make the right decisions.

But now the Alpha was gone. The stone had rolled away. Death had released Joe.

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The Alpha, Chuck Behrens, died in a biking accident near Flagstaff, Arizona, in 2020.

* * * *

Joe stopped the rover briefly a hundred yards south of Pathfinder, and it all looked familiar now, like main street in your hometown. Looking at the tracks from his second visit, he gunned the rover again, turning left and steering a path parallel to that of his and Chuck's second EVA.

In 1973 it had taken the two of them the better part of two hours to reach Great Salt Lake, but today Joe covered the same ground in forty-five minutes. He had the advantage of aiming for a destination—and not stopping every kilometer to set up an instrument package or take pictures.

He slowed the rover near the cleft. With habits born of twenty-five years of operational flying and space training, Joe checked, double-checked, and triple-checked his suit and consumables, to Kari's approval (she followed via telemetry and video): "We don't want to lose you," she said.

"Me, neither. Besides, think what it would do to future tourist flights." This was a joke: space fatalities only raised public interest, like the deaths of climbers on Mt. Everest. The stranger and more poignant, the better!

Joe had no plans to feed that particular public appetite.

He exited, marveling again at the improvements in technology over the past fifty years. Not just the rover, which had the solid feel of a classic Mercedes automobile compared to the Pathfinder's flimsy golf cart, but the suit—slimmer, more rigid, it practically did the walking for you.

He took one of the standard sample cases—yes, the commercial Aitken Enterprises at least pretended to do some scientific sampling—and started out.

It was like walking on a beach in boots. But soon he breached the passage easily, to stand once again in the center of Great Salt Lake.

He wondered about that long, long, long ago visit from Earth—what kind of vehicle had they used? Hell, had they even used a vehicle? His sci-fi mind was filled with wild images ... maybe the Moon was closer to Earth. Maybe they'd climbed here on some kind of space elevator or tower.

Stupid. Let others worry about that.

He reached the cleft and looked into the shadows—

Nothing but bare gray black rock with shiny flecks. Where was the pink coral? It had lasted millions of years! Surely it hadn't faded away in fifty! Could the damage he and Chuck had inflicted—

No, no, no. Then Joe thought he saw other footprints. *Christ, Kari and the others had found it!*

Come on, Joe ... re-group! Once he allowed himself to catch his breath, to stand back, it was obvious he had gone to the wrong cleft! He'd gotten turned around!

Here it was! Here was a heap of that magical, historical material from Earth's ancient floor—

Joe got busy collecting.

It only took twenty minutes to fill the case, the time expanded to let him take images and add voice-over at every step. What he should have done during his first return.

Now, back to the rover—and to the new world he would create.

Step. Step.

He had to halt. He was feeling sick to his stomach, sick in his chest. His vision was blurring.

Keep going—

With a grunt, clutching the last sample from the very last Apollo, Joe Liquori fell down.

For uncounted minutes he lay in the lunar soil, hearing nothing but the steady hiss of the airflow, the gentle click of the pumps. How long would that last? Two more hours?

He could not move. He was going to die on the Moon!

Use the radio! He croaked a cry for help. Heard nothing but static. What did he expect? He was lying in a depression, his line of sight to Aitken Station blocked by the hills around Great Salt Lake.

* * * *

The Visionary died in his sleep at home in Colorado ... June 2011.

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In the last twenty years, as their numbers dwindled, interaction among the Apostles was via e-mail, forwarded jokes about old age. It was the Alpha, typically, who refused to participate, and when he did, referred to the jokes only by punch lines: "There's one less than he thought!" "I can't remember where I live!" "Hell, every other car's going the wrong way!"

Lying in the lunar afternoon, those were Joe Liquori's increasingly scattered thoughts ... of punchlines to bad jokes. That, and the realization that Chuck Behrens, the Alpha Apostle, might have been wrong...

A shadow fell across him. "Hey, Joe, what are you doing like that?"

It was Kari and Jeffords from Aitken Station. They had realized the Moon was no place for a man of ninety to be walking alone, even one who had pioneered the site.

Back in their rover, Joe showed them the samples, and tried to tell them the history, knowing he was doing it badly.

Kari stopped him. "We got it, Joe. We saw your pink stuff—and it led us right to what we've been looking for ... a hundred meters away, we found ice!"

* * * *

Joe Liquori, the Omega Apostle, died of a heart attack in Lancaster, California, two days after returning from his second flight to the Moon—the one that discovered water ice, making human colonization possible.