

Encounters

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1 THE SPACE PSYCHOLOGIST

Nothing distinguishes the ancient from the modern man so much as the former's absorption in a cosmic experience scarcely known to later periods.... Men as a species completed their development thousands of years ago; but mankind as a species is just beginning his.... In technology, a physis is being organized through which mankind's contact with the cosmos takes a new and different form from that which it had in nations and families.

—WALTER BENJAMIN, "TO THE PLANETARIUM"

LMP Boy, that sure is weird music.

CMP We're going to have to find out about that. Nobody will believe us.

LMP Yes. It's a whistling, you know, like an outer-space-type thing....

LMP I don't know. But I'll tell you, that eerie music is what's bothering me. You know that—

CMP God damn, I heard it, too.

LMP You know, that was funny. That's just like something from outer space, really. Who's going to believe it?

CMP Nobody. Shall we tell them about it?

LMP I don't know. We ought to think about it some.

—DECLASSIFIED TRANSCRIPT OF APOLLO 10 MISSION

"It's a one-way ticket," Tyler D. said. He was lounging in the morning sunshine. The bright light reflected off his aviator glasses.

I watched the sunbeams dance off his sunglasses while he told me about the imminent human exploration of Mars. We were in Palo Alto for a meeting with Drs. Garry Nolan and Jacques Vallée, two scientists with whom we worked on the topic of UFOs. SpaceX's rocket had just exploded. Tyler's phone was in a constant flurry of notifications as astronauts and aerospace engineers asked him for advice. He reached for the phone and turned it off.

"Make sure you tell your kids," he said, in reference to the Mars mission. "They're at the prime age for targeted recruitment."

My oldest child was in the third grade.

I considered his words. Tyler's affiliations with space industry heavyweights like NASA, the aerospace industry, SpaceX, the Department of Defense, and the US Air Force, among others, provided him with access to credible information about marketing space programs and jobs to youth. His job as a mission controller at Cape Canaveral was one of the longest held by one individual. He commanded respect both inside and outside the industry. *Eight-year-old children?* I thought. Whoever planned this campaign was on a long timeline.

I knew that Tyler told me certain information because he had great affection for my children. Throughout the several years we worked together, he often told me things that he thought would benefit me as a mother.

One of my favorite activities was to walk with my children at dusk. We would walk through our neighborhood and observe the wildlife in the American South—raccoons, possums, and sometimes a stray cat or coyote would dart by. We'd talk to neighbors as the darkness of night slowly replaced the yellow brightness of day.

When Tyler warned me about the recruitment plan to which he had been privy I didn't ask him to explain its details, because, as with all things he said to me, I had no way to verify the information. His job status prevented him from being completely transparent. I didn't want my kids to aspire to go to Mars, however. At this point in human history, it was obvious that it would be a one-way ticket, just as he said.

I returned home from Palo Alto. During the dusk walk, I took the opportunity to talk to my kids about what I had learned.

"So, you know that if you become an astronaut and sign on to go to Mars, you will not come back? Right?" It was early evening and about midway through our walk when I posited the question to my eldest daughter, the head of the pack. If she agreed, the younger ones would follow her lead.

"Okay!" she chirped.

My younger kids were probably confused, or they didn't care, but at the time they nodded in agreement. They enjoyed the walks as much as I did, and they liked Mr. Tyler and his stories. He used to tell them all about flying jet airplanes and launching rockets in Florida, and they especially laughed hysterically at his stories about the Vomit Comet.

The Vomit Comet is a special airplane that helps astronauts acclimate to zero-gravity environments. It climbs to a very high elevation and then drops into a free fall. During the period in which the plane drops, the astronauts-in-training float in the air, weightless, preparing their bodies and minds for what they will feel when they are in space. The Vomit Comet also makes people very sick. Human bodies, unsurprisingly, resist being plunged toward Earth at high speeds while they float around in a high-tech metal tube. Tyler holds a record for being one of the most ill of all the people who have flown on the Vomit Comet. My kids screamed with laughter when he described being carried off the plane, unable to walk from retching. He spent that day in the hospital. He offered, several times, to get me a spot on the Vomit Comet, but I declined. Currently, nonastronauts can purchase the pleasure of this experience through a company called Zero Gravity Corporation.

Being weightless, I learned, was the least traumatic experience astronauts face while traveling in space. Approximately six hundred astronauts have left Earth's atmosphere and, from this new vantage point, have gazed back at their home planet. No other group of people in human history have had this view. This *literal shift in worldview* is often accompanied by shock, awe, dread, and sometimes trauma and personal transformation. To see Earth as a blue globe suspended in a black backdrop of what appears to be infinite space in every direction engenders a lot of different emotions. Two of the most common emotions appear to be entirely new to human consciousness, or so unfamiliar that astronauts have a hard time finding words to describe them. Physicist Rosalyn Yalow noted, "New truths become evident when new tools become available." Technological tools like rockets, space capsules, rovers, and technologies that extend human senses to the surface of Mars and to places that are far away from Earth bring about new experiences, new truths, and new mental states.

This novel consciousness, which astronauts find difficult to describe, requires a new vocabulary or requires *the remembrance* of a lost vocabulary. Some of the terms that have been used to describe these new mental states are found in the history of religions. When astronaut Edgar Mitchell saw Earth from his tiny capsule floating through space, his mental state altered so much it changed his life and its direction. He returned to Earth determined to find an explanation for his palpably electrifying experience. His search was not easy, but he finally found that the only thing that came close to a description was the ecstatic experience illustrated in Hindu and Buddhist sacred texts called "samadhi," which is the feeling in body and mind of being completely connected with all that is, that is, with all of reality.

Since the nineteenth century, scholars of religion have worked out vocabularies to describe rare and sublime states that people who experience them ironically describe as indescribable. The sacred text of Daoism famously begins with this paradox: "The Dao that can be told is not the eternal Dao." Early twentieth-century German scholar

of religion Rudolf Otto called these experiences "numinous." The numinous is the feeling of being in the presence of awesome power, which is simultaneously mysterious, dreadful, fascinating, and difficult to describe. A common assumption is that religious or spiritual experiences are uplifting and filled with joy. Data from the archives of religious studies reveal a more complicated story: most people are completely unhinged by their forays into spiritual experiences. As the stories of the prophets of the Hebrew Bible illustrate, if God knocks in the middle of the night, prophets jump ship. They run the other way, and sometimes, such as in the prophet Jonah's case, literally. However, the stories also reveal that one cannot escape a force like God.

The incongruity of what one *expects* from the experience of being in space compared to what *is experienced* was richly illustrated by none other than the most beloved starship captain—Captain Kirk of the famous television series *Star Trek*, otherwise known as actor William Shatner. Shatner, ninety years old at the time, had never been to space, so space entrepreneur Jeff Bezos, owner of Blue Origin, invited him to fly to space in the company's space capsule in October 2021. Shatner's experience was filled with wonder *and* trauma.

"I was crying," Shatner said. "I didn't know what I was crying about. I had to go off some place and sit down and think, what's the matter with me? And I realized I was in grief.... It was the death that I saw in space and the life force that I saw coming from the planet—the blue, the beige and the white. And I realized one was death and the other was life."¹

Shatner expected to be elated, but he was, instead, reduced to tears. His words illustrate feelings of dread, fear, and respect, as he describes space as a funeral and Earth as life. Shatner had a classic brush with the numinous. How are we, the recipients of a fellow nonastronaut's testimony about the new frontier, supposed to process this frightful information? As fate would have it, this question is answered by none other than a scientist whose job was forged within the rapid pace of the space and aeronautics industry. Iya Whiteley is a British space psychologist, born in Latvia and whose mission is to support pilots and astronauts as they enter these extreme environments. Her task is to design tools and training for happy and efficient living and working in Earth's orbit, on the Moon, and on a return mission to Mars. Working out what the crew may face on missions beyond our Earth's orbit, Iya developed the Psy-Matrix, where over thirty-six groups of challenges are systematically assessed, which include how to acclimate to new mental states and to the shock of a new consciousness.²

FIRST CONTACT WITH IYA

Dr. Iya Whiteley contacted me through a series of emails in 2020. The subject line of the emails caught my attention right away: "Space Psychologist—researcher at a

university in London. Developing communication means with unknown phenomena.” *What?! Who was this?!* I thought as I quickly searched her name on the internet. I read her university biography: Dr. Iya Whiteley, a space psychologist exploring the human mind to develop our abilities and to realize our potential while we explore outer space. I thought it was bold and even brave for an established space scientist and academic to reach out to me in her own name about a means of communication with unknown phenomena. The unknown phenomena I had been known to research were UFOs. *What’s the catch?* I thought. Perhaps there was none, but years of doing research into UFOs and the beliefs of scientists—most of who want to remain anonymous regarding the topic—had accustomed me to preserve, or at least expect, the anonymity of scientific UFO researchers. I responded enthusiastically to her first email, and then I didn’t hear from her for weeks. I thought she had reconsidered reaching out. Then one day I received another note. I opened it to find that she had been in South America in February and March of 2020. “I was there doing research into our common interest,” she later said.

The COVID-19 pandemic had caused the shutdown of the borders in the countries in which she was traveling, and she was trying to get back to England, where she lived and worked. Each subsequent email arrived from a different country. She was flying from country to country with borders closing behind her one by one with no knowledge of when or if the borders would open again. Her situation, which I observed with horror through my computer in the safe environment of my home, was extreme. She later explained that relative to many experiences from her life, hopping from country to country as the pandemic was spreading was not so difficult.

“I’m a pilot; I jump from flying airplanes (I am a champion skydiver); I scuba dive and research in extreme environments, so I can understand what goes through the minds of people working and making split-second decisions. I support the needs of people in these environments, and I need to have had these experiences myself so I can best help them,” she said.

Iya studied psychology and computer science, the novel field of study called cognitive engineering, putting together complex information onto electronic displays for modern aircrafts. Among her other tasks using voice-analysis technology that she coinvented is to provide early detection of fatigue and to monitor the well-being of astronauts in extreme environments.

She explained that as astronauts would get farther and farther from the Earth, they would form their own rules, beliefs, and behaviors and, at times without any discussion, would form an understanding of what is acceptable and what is not acceptable. These rules and behaviors could drastically differ from those of the society they left behind. Mission control and people on the ground might find these new rules and behaviors shocking and unacceptable, but given the surrounding circumstances, it would be natural to transition to these new rules.

It was through Iya that I learned about the psychology of space travel and new forms of consciousness that appear to develop within these new environments. Documented psychological states that are specific to space travel include the Overview Effect, which has received the most publicity, and the less glamorous state described by William Shatner, which appears to be an encounter with the numinous.

The Overview Effect was described by space theorist and author Frank White in the 1980s. At that time there were enough astronauts who reported similar feelings about being in space and seeing Earth from space to identify an initial pattern. White observed, “The Overview Effect is the experience of seeing the Earth from a distance, especially from orbit or the Moon, and realizing the inherent unity and oneness of everything on the planet. The Effect represents a shift in perception wherein the viewer moves from identification with parts of the Earth to identification with the whole system.”³ Astronaut Russell Schweickart described his experience as if he were part of Earth as a type of sensing instrument: “When you go around the Earth in an hour and a half, you begin to recognize that your identity is with that whole thing. And that makes a change... [I]t comes through to you so powerfully that you’re the sensing element for man.”⁴

After White described the effect, he and public intellectuals like Carl Sagan thought that the testimonies of astronauts about the effect, as well as the photographs taken from the Moon of the Earth, might replicate in a small way the same experience for people on Earth. White and others conjectured that if people felt this effect they might identify with their planet, like the astronauts did, and choose to take care of it and maybe even each other. This hopeful interpretation has continued to inspire contemporary movements and organizations, such as the Overview Institute, which funds educational programs about the positive effects of space travel as well as the creation of immersive virtual environments intended to replicate the effect. The institute hopes that it can bring this shift in consciousness, which so far has only been identified in some astronauts, to “Earth-bound millions.”⁵ Immersive environments have not been able to accurately replicate the effect, however. Many astronauts said that the feeling was visceral and that “photographs do not accurately convey the actual experience.”⁶

A more complicated mental state that can afflict astronauts is the feeling Iya described as nonconforming and which increases the farther away they travel from Earth in their space capsules. Again, this may appear to us who remain on Earth as irrational, but Iya noted it was completely acceptable given the circumstances the crew might experience. The training astronauts undergo is famously rigorous and intense and ideally would include situations wherein crew may see their mates go through changes in their belief systems. Additionally, astronauts are chosen because they fit specific personality profiles. Along with stringent physical and mental training, they also take a barrage of personality tests. Scientist-psychologists like Iya are trained to identify

candidates who can flourish in extreme environments. Given these circumstances, it is not surprising that astronauts are impeccable at self-control, especially with respect to their emotions. Feelings like dread, fear, and panic would go undetected by their team, and even by themselves. Additionally, space equipment, including capsules and habitats, are worth billions of dollars, so a fatigued or irrational astronaut who might act unpredictably is a very real concern for space institutions. The consequences of this (so far) unnamed mental state are very real and potentially dangerous. In the United States Space Station, Skylab 4, the astronauts on board at one point just stopped working. They reported that they were unable to maintain their scheduled tests and duties as they were so confused by the new “baffling, fascinating, unprecedented experiences” of floating around in space.⁷

Iya led the European Space Agency study that systematically defined how best to prepare, monitor, and prevent psychological issues that arise during exploration missions to the Moon and Mars. She defined technologies and techniques to address the identified psychological needs of the astronauts in order to sustain their mental health and stamina. In extreme environments and exploration missions, prevention is key. With a colleague, she developed technology to detect what astronauts themselves and mission control are unable to detect, such as onset of fatigue and the effects of extended sleep deprivation that can play tricks on the mind and perception. These devices decipher hints of fatigue in the voices of astronauts. Safety is the priority, and identifying changes in the crew that may compromise safety and put a mission in jeopardy is vital. The aim is to prevent any situation that could cost crews’ lives and endanger very expensive equipment. Iya led projects to develop EPSILON (Embedded Psychological Support Integrated for LONG-duration missions), a tool set for exploration expeditions to the Moon and Mars, and she designed tools to help crews resolve challenges that emerge in new alien environments, particularly those where there is no live communication with Earth. Iya’s work contributed to a change in the culture of pilots reporting automation anomalies and is instrumental in identifying many forms of consciousness that are produced in space environments. She is our best interpreter of the global shift in perspective, which had been mere thoughts and speculations in the minds of philosophers and futurists who saw these developments years and years before she was born.

THE TWENTY-FIRST-CENTURY INTERFACE WITH HYPEROBJECTS: MIND SHIFT

In 1917, the German-Jewish intellectual Walter Benjamin wrote a short essay on the consequences for humanity of a *shift in perspective* toward celestial objects. He wrote that the sight of celestial objects, like the billions of stars in the Milky Way, had always occurred from the perspective of a community, like a tribe or a family. He wrote that now the sight of the “heavens” would become increasingly singular as human beings increase their abilities to see celestial objects through technologies like telescopes. In the brief two-page essay, “To the Planetarium,” Benjamin made several

predictions and observations. First, he mourned the loss of a communal experience of seeing the stars with family and friends. This, he said, had been a shared ecstatic experience. He predicted that technology would bring humanity a new view, one that never existed before. In that sense, he described technology as a *physis*, which is something organic, bound to happen, and in development. *Physis* describes an inevitable process, like the development of an apple seed into an apple. Benjamin identified this historic shift, but as all things that uncannily forecast a future reality, it wasn’t completely right. As astronauts leave Earth and view space, many do experience ecstasy, and people on Earth have a taste of it too. It is still a communal experience, but it is also something that Benjamin couldn’t have predicted. It is an interface with the truly alien.⁸

Astronauts who leave Earth often describe something like Otto’s idea of the numinous. These emotions include fear, trembling, and respect. The consciousness of space travel is so new that researchers have just begun to make headway into understanding what is happening to spacefarers and what it could possibly mean for billions of earthbound people. What does it mean that many astronauts describe experiences that resemble those described by mystics of past religious and spiritual traditions?

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