

# Skeptical Inquirer

FOR SCIENCE AND REASON

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## Remembering Ken Frazier Longtime Editor of SKEPTICAL INQUIRER

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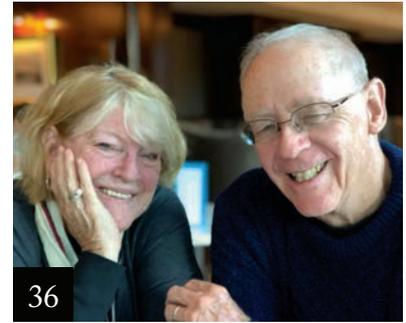
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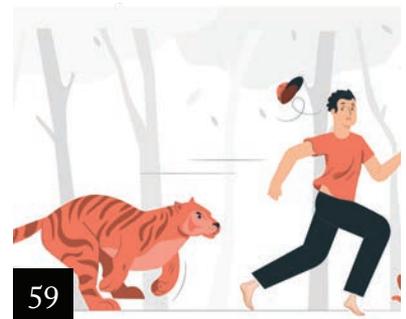
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## [ FROM THE INTERIM EDITOR

### Moving Forward, Looking Back

This is the first issue of *SKEPTICAL INQUIRER* since August 1977 not to have been edited by Kendrick Frazier. It is difficult to write those words. Ken was so essential to this magazine that it has been hard to imagine it without him. A project as big as the world's premiere magazine for science and reason is, by necessity, a collaborative enterprise. *SKEPTICAL INQUIRER* has been made possible by a remarkably diverse and intelligent collection of writers and a dedicated and brilliant editorial staff. But the steady guiding force for over four decades has been Kendrick Frazier, one of the greatest science writers and magazine editors in the business—but, of course, it isn't a business. The Center for Inquiry, the Committee for Skeptical Inquiry, and *SKEPTICAL INQUIRER* magazine are all nonprofit entities made possible by people who care about secular humanism, science, reason, and critical thinking. Ken was one of those people—one of the most important of those people—doing what he did because he loved it.

It is perhaps a measure of the maturity of this movement that we have suffered so many losses of late. In just the past four years, we've lost magician, consummate skeptic, and a founder of the Committee for Skeptical Inquiry James “The Amazing” Randi; biologist E.O. Wilson; psychologist and CSI executive board member Scott O. Lilienfeld; and now our editor Kendrick Frazier. Here at CFI, we've also lost Tom Flynn, longtime editor of our sister publication *Free Inquiry*, and Art Director Christopher Fix. But Ken's unexpected death after a short illness this past November hit hard and left a big hole to be filled.

I am glad to report that, in addition to receiving a flood of messages in appreciation of Ken, we've heard from editors and writers from all corners of the international community offering help in this moment of need. Such is the esteem with which this publication and its beloved editor are held. Deputy Editor Benjamin Radford, who was traveling in Africa at the time of Ken's death, cut short his trip and came home to help out. CSI Executive Director Barry Karr, *SKEPTICAL INQUIRER* Managing Editor Julia Lavarneway, Assistant Editor Nicole Scott, and Art Director Alexander Nicaise have all stepped up, going far beyond their normal duties to assist me in my transition and make sure everything gets done. I have agreed to stay on as long as I am needed, and many others are helping in a variety of ways.

*SKEPTICAL INQUIRER* magazine will be just fine. We are going to take some time to honor and reflect on the life of our friend and colleague—starting with a special section in the following pages and continuing in the May/June issue—but Ken built a strong magazine that will continue to thrive.

To everyone who knew him, it was obvious that Ken was very proud of this publication and equally proud to be its editor. Ken's influence will always be felt in these pages, and as we face a future without him, our first goal will be to keep *SKEPTICAL INQUIRER* a magazine that would make him proud. That is the most important way we can honor his legacy and all that he has done for us.

—STUART VYSE

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## Investigating Witchcraft Accusations in Malawi

BENJAMIN RADFORD

In mid-October 2022, I was traveling in Mozambique when I saw a social media post by my colleague Leo Igwe, head of the Nigeria-based group Advocacy for Alleged Witches. One of the most active and influential Africans fighting witchcraft beliefs and superstitions, Igwe posted a short piece based on reporting in Malawi by Adams Wundaninge for the news outlet *Zodiak*: “Kaporo Police Unit Officer In-charge Assistant Superintendent Arnold Mwalwimba is battling for his life at the district hospital after being stoned by irate villagers who were paying for the blood of a witchcraft suspect in Kasantha.” Mwalwimba was one of three officers who tried to stop a mob from attacking a suspected witch.

Though Malawi hadn’t been on my itinerary, I was going to be in neighboring Zimbabwe soon and could, with a bit of logistical shuffling, visit the site of the incident. I have written extensively about witchcraft accusations around the world, including in Brazil, India, and sub-Saharan Africa. But I’ve had little firsthand experience with such incidents and wanted to help if I could.

I reached out to Igwe, who put me in touch with a Malawian humanist activist and writer colleague Wonderful Mkhutche. Soon we met in the capital of Lilongwe, along with a driver I hired. The incident happened in the far north part of the country near the Tanzanian border. It would be a full day’s drive, all of it on the M1 main highway and much of it parallel to Lake Malawi, which runs most of the length of the small, thin country. The long drive gave me a chance to not only see the country (from a private car instead of the grindingly slow and uncomfortable buses I’d become used to) but also meet Mkhutche and gain a deeper understanding of the country and its sociocultural dynamics—including witchcraft.



The author presenting a Certificate of Recognition to police officer Emmanuel Magwira, who was injured while defending accused witches from a mob in Karonga, Malawi.

The next morning, we met with the reporter who covered the story, Adams Wundaninge. He gave us updates on the situation; by that point the incident had happened about two weeks earlier. Mkhutche and I didn’t know what had become of the individuals in the three groups involved: those accused of witchcraft, those accusing them, and the police officers protecting the accused.

The accusations surfaced, as is often the case, after a person in the village became sick. (It’s not clear what the malady was, but the person later recovered.) A couple, a man and a woman, were accused of having caused the illness through witchcraft, and villagers soon decided to call in a witchfinder. (Despite the title, the witchfinder invariably already knows upon arrival who the suspected witch or witches are; their presence only serves to confirm and legitimize the proceedings.) The village

chief refused his villagers’ request to call in a witchfinder, noting that Malawian law does not recognize witchcraft. Villagers, however, called for one anyway, but the police arrived first.

To get more details, we then visited the Karonga police station, where we were greeted by Public Relations Officer Sergeant George Mulewa. He led us down a short hallway to a sparsely equipped room, where we were introduced to one of the injured police officers, Emmanuel Magwira. He filled in and corrected some details. “As we were looking through the village for [the accused witches], they started throwing stones at us. We were all injured, but Arnold [Mwalwimba] was attacked with a panga [machete].” He had been hospitalized, near death, for weeks but was recently released. “Here in Karonga witchcraft accusation cases are rampant,” Magwira told me. “Maybe



A banner advertising a cultural festival in Chipata and Karonga, Malawi, highlighting the problem of mob justice.



[L to R]: The author, Wonderful Mkutche, and Sergeant George Mulewa at the police station in Karonga, Malawi, where three officers were injured—one badly—while fighting witchcraft accusations in October 2022.

every day we see these conflicts, where someone is accused of witchcraft.” He said it is “very common,” especially in the Karonga and Chitipa districts in Malawi’s Northern Region.

Though outright violence against police officers is thankfully much rarer than the daily accusations of witchcraft in the region, there is both latent and explicit hostility toward police. Many accused witch cases remain unreported, and when police are summoned, often the villagers don’t understand why; they see it as an internal dispute that should be handled within the village. At times police officers are themselves accused of “siding” with the alleged witches; fear of such contagious accusations often thwarts community cooperation. “Some of the villagers were not in support of [what happened] but feared being accused or associated themselves if they defended us [police officers] or the accused witches,” Magwira told me.

As our meeting ended, we presented a certificate for each of the officers on behalf of the Center for Inquiry and Advocacy for Alleged Witches, and I added a small cash gift. The second injured officer, John Mbewe, was out on patrol at the time, so we left the certificate with the officer in charge. After leaving the police station, we met with the third and most seriously injured officer, Arnold Mwalwimba, in a nearby town. He had been attacked with a machete-like panga and sustained a serious brain injury. Led out to meet us in his driveway by his wife and other family, he required help walking and spoke slowly and haltingly. Mwalwimba showed us a long scar on his scalp and described both the attack and the difficulty he now had doing daily tasks. Our meeting was very brief, so as not to exhaust him, and he tearfully thanked us for calling attention to his plight and for the donation.

After some discussion, we decided it was best not to visit the village where this happened. The situation remained volatile, and though the accused couple was out of any immediate danger,

a stranger (especially a white one from America) showing up with police and/or a reporter to interview people was more likely to exacerbate the problem.

The social dynamics of witchcraft accusations are complex, and much more so in the context of rural Malawian society and tribal alliances. The situation was both recent and raw at the time, and many aspects remain unresolved today. There are no tidy endings or satisfactory solutions. At last report, the accused couple was still being protected under the authority of the village chief, and presumably is out of imminent danger but remain tainted by suspicion, if not ostracized. The men who attacked the police officers remain charged, though it may be months before the case is brought to trial (if it ever is). Some of the dozens who were involved and fear arrest may have already slipped out of the country through the nearby—and notoriously porous—border with Tanzania. Arnold Mwalwimba, in his sixties, remains badly injured and is unlikely to fully recover.

Several days later, on Halloween, Leo Igwe published an opinion piece in the Malawi newspaper *The Nation* drawing

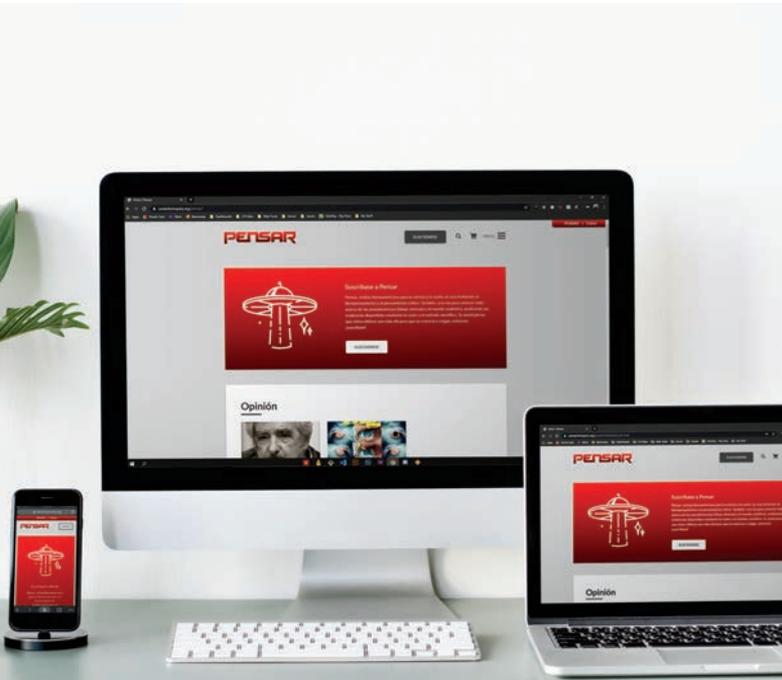


Opinion piece by Advocacy for Alleged Witches Director Leo Igwe published in *The Nation* on October 31, 2022, discussing the recent witchcraft attacks.

attention to the case and formally recognizing the bravery of the officers. Wonderful Mkhutche continues his effort to educate the public and pressure local politicians to take the problem seriously. I did see one hopeful sign: A banner on the main road in Karonga advertising an upcoming cultural festival had as its theme “Promoting Unity, Love, Respect

for the Elderly, Ending Mob Justice and Gender Based Violence.” Clearly some small efforts are being made to raise awareness. Without more resources and the will to address the problem, it will continue unabated. ■

Benjamin Radford is the deputy editor of the SKEPTICAL INQUIRER.



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## Natalia Pasternak, Superspreader of Science, Honored with Critical Thinking Award

PAUL FIDALGO



Natalia Pasternak (right) receiving the Balles Prize in Critical Thinking for 2021 from CSI Executive Director Barry Karr.

Imagine how it must feel to be a science denier. Fueled by misbegotten validation from your reality-distorting echo chamber, you grow ever more confident that all those pointy-headed experts have been lying to us. It is in fact your increasingly belligerent cohort of conspiracy theorists and “truthers” that knows What’s Really Going On, What They Won’t Tell You, and What They Don’t Want You to Know.

And then, just as your anti-science faction seems to be at the threshold of cultural and political dominance, a fiery and eloquent Brazilian shows up and spoils your snake oil party.

At CSICon 2022 in Las Vegas, Natalia Pasternak was honored with the Balles Prize in Critical Thinking for 2021, bestowed by the Committee for Skeptical Inquiry to the creator of works that best exemplify healthy skepticism, logical analysis, or empirical sci-

ence. Pasternak is a microbiologist with a PhD and post-doctorate work in the field of bacterial genetics at the University of São Paulo. She’s been a columnist for the Brazilian health magazine *Veja Saúde*, the national newspaper *O Globo*, *The Skeptic* magazine in the United Kingdom, and more recently the website Medscape. She also hosts *The Hour of Science* radio show twice a week on Brazil’s national radio station.

In 2018, Pasternak founded the Instituto Questao de Ciencia, which publishes the magazine *Questao de Ciencia*. She’s the coauthor of award-winning books with her husband, Carlos Orsi. In 2020, she was honored with *The Skeptic’s* Ockham Award, and in 2021, she was the only Brazilian to be profiled for BBC’s “100 Women” list. She teaches evidence-based policy making at the University of São Paulo and now also at the Columbia University School of

International and Public Affairs. And, of course, she’s also a frequent contributor to *SKEPTICAL INQUIRER* and a CSI fellow.

That’s an impressive (and non-exhaustive) resume, and what it doesn’t convey is how Pasternak has emerged as a powerful force in the media—in Brazil and around the world—on behalf of reason and science. Her passionate advocacy on behalf of evidence-based public health measures over bogus miracle cures have been instrumental in educating the public and bolstering support for vaccines and the central importance of science in public policy. She is a beacon of science and reason for millions of people in Brazil and around the world.

Pasternak has made an incredible impact on the discourse around COVID-19 and vaccines in Brazil, earning the ire of recently defeated pandemic-denying President Jair Bolsonaro and his followers when she testified before the Brazilian senate to shine a disinfecting spotlight (which is not intended for injection, despite what another former president might say) on the government’s mishandling of COVID-19 and, in particular, its official promotion of miracle cures such as hydroxychloroquine and the livestock dewormer ivermectin.

Again, imagine you’re a science-denying conspiracy theorist, thinking you’re about to win the day for horse paste and hucksterism, and then Natalia Pasternak shows up. Considering her record of kicking anti-science butts and taking names (metaphorically of course), I wouldn’t feel too confident about my chances for long-term success in the bullshit market. I might just give up the whole enterprise and go find something else to be wrong about. ■

Paul Fidalgo is editor of *Free Inquiry*.

## Professors Launch Teaching Critical Thinking Group at CSICon

NATALIA PASTERNAK



Professors' critical thinking working group at CSICon 2022. Credit: Massimo Polidoro

While no scientific background is required to be a skeptic or to promote critical thinking, one would expect that having a science major and being exposed to the scientific method in academic life would lead to scientific thinking and make people less vulnerable to pseudoscience and unwarranted claims. Unfortunately, my experience as a college professor—and that of many of my colleagues—tells a different story.

I've had graduate students in biomedical school who believe in homeopathy and think that acupuncture and astrology are science-based. These were master's degree and PhD candidates in health and biotechnology who were perfectly capable of designing the best experimental models for their research but somehow

failed to bring the same scientific thinking into the everyday decisions of their personal lives. Professors in many different fields struggle with similar challenges, and we are forced to ask "Are we failing as teachers? Are we teaching college and university students to become great technicians in their fields but failing to teach them how to think rationally?"

Professors Ray Hall and Kathleen Dyer reported on the unwarranted beliefs of college students at State California University in a 2018 article published in *Research in Higher Education*. The piece makes it clear that teaching *critical thinking* is not the same as teaching *scientific methods*. The authors compared their own course, titled Science and Nonsense, with two control courses

on just the scientific method. Using a pre- and post-course questionnaire, Hall and Dyer found that students who took the Science and Nonsense course—in which they addressed a set of unwarranted beliefs in UFOs, Bigfoot, astrology, ghosts, and alternative medicine—showed a substantial drop in nonsensical beliefs, but the students who took only a standard methods course showed no change.

There have been many attempts to build curricula to teach critical thinking, primarily in philosophy and psychology programs in the United States and Europe. After the pandemic, we became painfully aware that teaching critical thinking is not just for science majors. It is essential to provide the next generation

of citizens throughout the world with tools to spot misinformation and disinformation and keep them from being harmed by anti-science movements.

This is the reason that during CSICon 2022, Ray Hall, Kathleen Dyer, and I called for a meeting with all the professors in house to start a study group for teaching critical thinking. Many of us have been teaching about pseudoscience, policy, and critical thinking at our own institutions but often without the usual support and opportunities for collaboration that we see in our “formal” specialties. We are used to attending conferences in our fields of microbiology, physics, psychology, etc., where we usually don’t have the opportunity to interact and develop collaborations for something as specific as teaching critical thinking. Few people are aware that this too is a scientific field with a wealth of academic literature.

Our goal is to come up with a tentative core curriculum for a basic college course by searching through the existing courses and identifying common features. We have already started working on this and plan to publish next year. We also want to convene a meeting, possibly at a future CSICon, to present our results and exchange ideas. And finally, we hope to write a textbook together to give a starting point for any science professor who wishes to start a critical thinking course.

We hope that by starting this group we can help each other build more engaging and effective courses and really make a difference in higher education. Perhaps, if we succeed, we will have more allies and more people disseminating science-based information and fewer people dying from belief in magic. If you are a teacher of critical thinking in any discipline and are interested in joining our group, please let us know. ■

Natalia Pasternak is a Brazilian microbiologist, author, and science communicator. She is the president of Instituto Questão de Ciência and a CSI fellow.

## Hall and Dyer Win 2022 James Randi Educational Foundation Award

STUART VYSE



CSI Fellow Raymond Hall and Kathleen Dyer

The James Randi Educational Foundation (JREF) has named Kathleen Dyer and CSI Fellow Raymond Hall as their most recent award recipients. Dyer and Hall are both professors at California State University, Fresno, and according to the JREF announcement, the pair were given this honor because they “have a record of encouraging scientific curiosity and critical thought about the natural world, and conducting research into educational strategies for effectively addressing pseudoscientific beliefs.” Hall has organized the “Sunday Papers” session at the annual CSICon conferences and also runs the popular

Physicsfun Instagram account that currently has two million followers.

The JREF award is given each year “to persons or organizations that best represent the spirit of the foundation and the legacy of James ‘The Amazing’ Randi.” Past recipients include Dr. Jen Gunter, Susan Gerbic and the Guerilla Skeptics, and Sarah McAnulty, founder of “Skype a Scientist.” The JREF announcement said it was given in the “hope that this award helps Dyer and Hall to continue their essential work.” ■

Stuart Vyse is interim editor of the SKEPTICAL INQUIRER.



## Got Psychic Powers? Win Half a Million!

JAMES UNDERDOWN

There is good news for the millions of people out there who believe in paranormal powers, supernatural ability, or miracles: Those who actually possess such a facility have half a million reasons to show the world their stuff. The Paranormal Challenge from the Center for Inquiry Investigations Group (CFIIG) has just been doubled to \$500,000. And there is a \$5,000 finders fee for the person who brings us a winner.

Modeled on James Randi's Million Dollar Challenge, the CFIIG's cash prize has been around almost since the group's inception in 2000. Back then, the group called itself the Independent Investigations Group, and members put up their own money for the then-\$5,000 prize. As the years passed, outside sponsors helped underwrite \$10,000, then \$50,000 prizes. When the group came under the aegis of the Center for Inquiry and changed its name to the Center for Inquiry Investigations Group, the money was doubled to \$100,000, then raised

again to \$250,000.

This prize is by far the largest of its kind in the world, as the James Randi Educational Foundation has not accepted applications for the Million Dollar Challenge prize since 2015. It takes ten volunteers to field the many hundreds of applications that have come through the website (<https://cfiig.org/>) over the years. Steering applicants toward testable claims requires a lot of time and great patience.

Lest anyone think all they have to do is tell a story to win the money, here are some of the rules that applicants must follow:

- All tests must be performed under controlled test conditions.
- The tests are two-part, and both parts must be passed to win the money.
- Applicants must come to the CFIIG and pay all costs surrounding their application and test. This includes travel, food, housing, and any costs associated with the test itself.
- Test protocols must not risk

harm to any member of the CFIIG or to the test subjects themselves.

- Proof of ability must be presented in-person during a designated time period.

- Eyewitness testimony, video, photos, or other recordings do not constitute proof of ability.

- The CFIIG does not participate in taking the test itself. Do not ask us to receive your thoughts or aid in your telekinetic powers; we observe and monitor.

So, there it is: If you are the one to bring us someone with real supernatural ability, you'll win \$5,000 if—and only if—your talented friend wins the \$500,000.

If such extraordinary gifts exist in this world, you'd think one of the world's eight billion people would step forward and take our money. ■

James Underdown is the chair and founder of the Center for Inquiry Investigations Group.

## Latin American Meeting of Freethought Held in Colombia

ALEJANDRO BORG



Valle de Cócora, Cócora Valley, where conferencegoers toured the coffee plantations on the last day of their stay.



Alejandro Borgo with Lizeth Conde, who was in charge of the logistics and organization of the meeting

After being suspended due to the COVID-19 pandemic in 2020, the Second Latin American Meeting of Freethought took place from September 22–24, 2022, in the city of Pereira, Colombia. In an auditorium filled with students, the topics addressed by speakers from Colombia, Peru, Argentina, Costa Rica, Guatemala, Puerto Rico, Mexico, and the United States varied widely: secularism, atheism, critical thinking, pseudoscience, artificial intelligence, biology, and the history of secularism, among others.

The event was very important for freethinkers, humanists, scientists, and philosophers who, over the course of three intense days, enjoyed top-level presentations and shared lunches, dinners, and walks. I had the honor of representing the Center for Inquiry, whose branch I lead in my country of

Argentina. At the conclusion, diplomas (or certificates) were handed out, but beforehand we witnessed an amusing stand-up routine by “Yisus” (Jesus), starring Edwin Mejía Cuartas, which

**The event was very important for freethinkers, humanists, scientists, and philosophers who, over the course of three intense days, enjoyed top-level presentations and shared lunches, dinners, and walks.**

made us laugh out loud. We also enjoyed music by Bastian, Juan Andrés Alzate, and Dan Barker, an activist from the United States who performed jazz and rhythm and blues classics, plus some heretical compositions of his own!

Some of the conference presentations will be published in *Pensar* magazine ([pensar.org](http://pensar.org)) to spread our message. The next meeting will take place in 2024, although the country in which it will be held has yet to be decided. There is much to do, and we know that the only way to achieve it is by maintaining the unity and great atmosphere we experienced in this meeting. ■

Alejandro Borgo is a journalist; the director of *Pensar*, the magazine for Spanish-speaking readers published by the Center for Inquiry; and a fellow of the Committee for Skeptical Inquiry.

## Harriet ‘SkepDoc’ Hall (1945–2023)

STUART VYSE

On January 12, as this issue of the magazine was being finalized, we received word that Harriet Hall, MD—the “SkepDoc” and longtime author of the “Reality Is the Best Medicine” column for *SKEPTICAL INQUIRER*—had died. Hall was an astonishingly prolific writer, a sought-after speaker, and a revered member of the skeptic community. Her contribu-

tions to rational thinking about health and medicine have been recognized worldwide, and her loss has brought an outpouring of appreciation.

A full obituary, a remembrance by Susan Gerbic, and Hall’s final column for *SKEPTICAL INQUIRER* will appear in the May/June 2023 issue of the magazine.



**Harriet Hall**

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This is Kirk Hall, Harriet’s husband.

I know Harriet’s work was followed and admired by many of you. It is with great sadness that I must tell you my beloved wife passed away quietly and unexpectedly in her sleep last night. At this moment, she would probably simply ask you to have a kind thought for her, be kind to each other and continue to support her belief in the truth.

Please take care.

The January 12 Facebook message from Harriet Hall’s husband, Kirk.



Credits: Karl Withakay (Left), Susan Gerbic (Right).

# CSICon 2022: The Return to Vegas

It is not unusual to attend CSICon, the annual conference of the Committee for Skeptical Inquiry (CSI), and overhear people saying, “I think this is the best CSICon ever!” There is always an air of excitement and fun, as well as the joy of reunion with old friends and the discovery of new ones. But this year there were even more reasons for exuberance, making the claim of “best ever” even more credible.

The most obvious source of happiness was the mere fact that the conference was happening after a three-year hiatus. Some of the Las Vegas casinos reopened with COVID-19 restrictions in June 2020, quite early in the pandemic, but because CSI is by definition a rational, science-based organization, CSICon was not held in 2020 or 2021. CSI responded quickly to the lockdowns by developing a remarkable series of online programs called Skeptical Inquirer Presents, but after two years of pandemic restrictions, it was wonderful to spend time and break bread with fellow—fully vaccinated—skeptics from around the world.

Another big reason CSICon 2022 was so great: Neil deGrasse Tyson was there! And when I say he was there, I mean he didn’t just fly in, give a talk, and fly out. To open the conference on Thursday night, he gave a wonderful talk titled “Cosmic Perspectives on Civilization” based on his new book *Starry Messenger: Cosmic Perspectives on Civilization*. Employing his well-earned science-based big-picture view, he made many surprising observations about social and cultural issues, including conflict resolution, dietary choices (whether to eat meat or be a vegetarian), the social implications of skin color, and the law. (See our full review of *Starry Messenger* on page 63.)

Then, on Friday night, Tyson received the Richard Dawkins Award,



given to a “distinguished individual from the worlds of science, scholarship, education, or entertainment, who publicly proclaims the values of secularism and rationalism, upholding scientific truth wherever it may lead.” Past winners have included Tim Minchin, Ricky Gervais, Steven Pinker, Rebecca Goldstein, and Ann Druyan. As part of the ceremony, Tyson had a wide-ranging conversation with Richard Dawkins that featured, among other things, the by now somewhat famous video clip of Tyson—in a long and carefully worded comment—chastening Dawkins at a public event for using language that, in his view, was not as effective as it might have been because it was not sensitive to the circumstances of the audience. Dawkins’s immediate reply was, “I gratefully accept the rebuke.”

Going for the trifecta of evening appearances, on Saturday night, the CSICon audience was treated to a preview of *Shot in the Arm: Disinformation Is Its Own Disease*, a documentary about vaccines and pandemics for which Tyson was an executive producer. The film featured many of our now familiar health science heroes, including Anthony Fauci, Paul Offit, and Peter Hotez.

When he wasn’t dominating the main stage at CSICon, Tyson was just hanging out. He was around much of the weekend, gamely posing for countless selfies with fans. My social media feed exploded with images of gleeful

conferencegoers delighted to be grinning in the same frame as the rock star of astrophysics. The guy is as nice as they come.

Finally, if all this were not enough, every attendee was given an autographed copy of *Starry Messenger* to take home as a souvenir.

As amazing as it was to have multiple opportunities to brush up against Neil deGrasse Tyson, he was not the only celebrity on hand. On Saturday afternoon, former *Saturday Night Live* member Julia Sweeney sat down to interview Penn Jillette. This was originally scheduled as an interview with both Penn and Teller, but Teller was home recuperating from open-heart surgery. Sweeney and Jillette had a rather intimate discussion during which, among other things, Jillette touched on why he is no longer a Libertarian. In the past, he had believed that, given adequate information and freedom, people would make good decisions; recent events convinced him this was not always the case.

Other luminaries were on hand, including Richard Wiseman, Naomi Oreskes, Timothy Caulfield, and emcee George Hrab, to name just a few. In the following pages, your CSICon reporters will offer their observations about this year’s events, and, taking them as a whole, I detect an overarching theme of greater compassion and humanity. We have all been through a lot in these past few years, and the skeptic community appears to have emerged from the ordeal—not hardened and embittered but willing to meet our credulous fellow citizens where they are, embrace them, and do what we can to gently guide them toward the light of evidence and reason. A very welcome attitude that contributed to the general atmosphere of warmth and happiness at this long overdue reunion.

—Stuart Vyse

# Evidence-Based Optimism at CSICon 2022

CARLOS ORSI

Science is loved, respected, and doesn't need saving.

There don't seem to be any more crazy conspiracy theorists out there today than there were some fifty years ago.

Misinformation and disinformation can be—and have been—effectively beaten.

Sometimes, with the right mindset and the right knowledge and tools, the apparently impossible becomes achievable and even fun.

An evolving science of bullshit is helping us understand how and why people fall for it—and how to figure out what to do about that.

These were, at least to me, the main takeaways from CSICon 2022, a remarkably upbeat collection of messages. The objective observer might have reason to be skeptical about such happy talk. After all, we witnessed one of the greatest achievements in the history of science—the development of effective and safe vaccines less than a year after

the identification of the pathogen—only to have its potential benefits blunted by irrational fears. All this came at a time when populist leaders were vying for power in so many places around the globe and shamelessly pandering to conspiracy theorists, antivaxxers, and other purveyors of irrationalism. But the CSICon presenters valued evidence, and they brought plenty of evidence to back up their claims.

## The Impossible

British psychologist and magician Richard Wiseman kicked off the event with a presentation titled “Investigating the Impossible.” Wiseman, who holds Britain's only professorship in the Public Understanding of Psychology, at the University of Hertfordshire, is the author of several research papers and books on the paranormal, magic, and illusion. The first part of his talk dealt with the human susceptibility to illusion and faulty thinking.

In the second part, Wiseman presented the research and interviews he conducted for his most recent book, *Moonshot*, about the psychology of those involved in the Apollo Program that put men on the Moon in 1969 and how these very young people—the average age at the Mission Control Center was twenty-six—achieved what an

older generation of scientists considered “impossible.” In psychological terms, the main ingredient, Wiseman said, was passion complemented by a healthy dose of creativity.

## Implicatory Denial

In her talk “Can Science Be Saved?,” Naomi Oreskes, professor of the history of science and affiliated professor of earth and planetary sciences at Harvard University and coauthor of *Merchants of Doubt*, told us that science doesn't need saving—the general impression that there is a big crisis of trust in science and of appreciation for scientists and expert advice is an illusion fanned by the media. Orestes presented data from polls showing that trust in science and scientists remains high in the United States and other parts of the world. What's been declining, however, is *trust in science* among a specific slice of the population: right-wing conservatives.

And even then, Oreskes pointed out, the problem isn't with the science *per se*; it's with the perceived implications of the science for behavior and policy. Conservatives who act like science deniers are in fact “implication deniers.” They dispute the science because in their eyes, it leads to policies that conflict with the conservative identity, such as vaccine mandates or taxes and subsidies to curb greenhouse emissions. In her talk, Oreskes reminded us that science really doesn't tell people what to do; instead, it shows the likely consequences of their actions.

## Talking

Philosopher Lee McIntyre, research fellow at the Center for Philosophy and History of Science at Boston University, and paranormal investigator Kenny Biddle both gave talks about their experiences interacting with people who hold unwarranted beliefs—flat-earthers for McIntyre and ghost or Bigfoot hunters for Biddle.

They made it clear that it's possible to build trusting relationships even with (at least some) hardcore deniers, based on mutual respect and open dialogue,



building trust through face-to-face interactions, placing the available evidence in the proper context, and being patient and listening to them so they feel compelled to listen back.

The approach might not create “instant converts” to skepticism—what approach would?—but by keeping the communication channels open, it may be possible to plant the seeds of critical thinking and a skeptical outlook. Biddle talked about his experience as a participant in paranormal conventions and how some ghosthunters now call upon him for advice.

### Debunking

Quoting from work published in *Nature Human Behaviour* by Philipp Schmid and Cornelia Betsch (Schmid and Betsch 2019), McIntyre mentioned two strategies that may be effective in countering disinformation: “content rebuttal” and “technique rebuttal.” The first requires presenting the right facts and solid science, but it may be hard for non-specialists to deploy. Content rebuttal involves exposing the fallacies, logical errors, and dishonest maneuvers embedded in the denialist narrative and arguments, something that even non-scientists can do.

The work of Schmid and Betsch was also referenced by British doctor, journalist, and author Seema Yasmin in her talk “Viral BS: Medical Myths and Why We Fall for Them.” Yasmin also presented some work by John Cook, research fellow at the Climate Change Communication Research Hub at Monash University, Australia, who’s developing the 4D Project to synthesize four lines of research about fighting misinformation: detection, deconstruction (identifying the exact nature of the misinformation), debunking (implementing proven refutation approaches), and deployment (inoculating and debunking in a variety of social contexts).

In his talk, Canadian researcher, Netflix personality, and author Timothy Caulfield, professor in the Faculty of Law and the School of Public Health at the University of Alberta, brought to the forefront the need to debunk health misinformation and disinformation. He



reinforced a point previously made by Naomi Oreskes, that today ideology is playing a bigger role in the rejection of science and in the embrace of pseudoscience. Caulfield called attention to the fact that, at least in the domains of healthcare and wellness, the prevalence of misinformation has moved from left-liberal circles (in the 1960s and 1970s) to right-wing or conservative ones today. He called misinformation one of the “defining issues of our time.”

Caulfield stressed the role of identity politics and group solidarity in the reinforcement of unwarranted beliefs—“come for the ideology, stay despite the science-free belief,” as he summarized it—and the fact that debunking misinformation is possible and can work. He pointed out that, if possible, it’s better to act before the misinformation gets an ideological valence and that the target of the debunking is the general public, not the hardline denier.

### Bullshit and Conspiracies

Author and professor of psychology at Wake Forest University John Petrocelli presented his research showing that bullshitting can be more effective in spreading disinformation—more persuasive—than outright lying (Petrocelli

2021).

Defined as an act of communication that disregards truth and evidence—as opposed to lying, which involves a deliberately false narrative—bullshit seems, according to Petrocelli’s results, to enhance the persuasiveness of weak arguments but is deleterious to the acceptance of strong ones. This may occur, the author indicates, because, in the case of the weak argument bullshit, the absence of a clear appeal to truth or evidence may fail to trigger a stricter processing route in the brain, leaving a general impression of agreement that goes unchallenged.

Petrocelli argues that to prevent the damage caused by the use of persuasive bullshit it may be a good idea to start sanctioning bullshitters as severely as we do liars. In the present social mores, liars, once detected, suffer a loss of reputation and credibility and, in certain conditions, may even incur legal liability; bullshitters, on the other hand, usually get a free pass. According to Petrocelli, this lenience is unwarranted.

In a talk by political scientist and University of Miami professor Joseph Uscinski, “Getting Conspiracy Theories Right,” we learned that bullshit is one of the weapons of choice in the spread of

conspiracy theories. Also referring to a recently published research paper (Uscinski et al. 2022), he noted that, contrary to popular belief, polls show no big jump in the fraction of people who adhere to conspiracy theories over recent decades. As he put it, “The good news is that it isn’t getting worse. The bad news is that it has always been this bad.”

But if the polls are correct, then what explains the apparent prevalence of conspiracy thinking in the public square today? Uscinski suggested that, even though the proportion of conspiracists and conspiracy-prone people remains constant in the population, the use of these people—the weaponization of their beliefs and predispositions—by mainstream politicians and powerful figures (again, in the conservative right) is new and troubling.

This new ideological trend in the spread of misinformation notwithstanding, I came away from the talks at CSICon with a sense of renewed optimism and hope.

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Carlos Orsi is a Brazilian science journalist and writer, cofounder of Instituto Questão de Ciência, the foremost Brazilian organization dedicated to the promotion of skepticism and critical thinking, and chief editor of the Institute’s online magazine. He’s the author of skeptical books on subjects such as astrology, quantum mysticism, science denial, and miracles. His first book written in collaboration with CFI Fellow Natalia Pasternak, *Ciência no Cotidiano* (*Science in Our Daily Lives*) won the 2021 Brazilian Book Award (Jabuti Award) for Best Science Book of the Year.



## Skeptics’ Expanding Moral Circle

PAUL FIDALGO

*“Hello babies. Welcome to Earth. It’s hot in the summer and cold in the winter. It’s round and wet and crowded. On the outside, babies, you’ve got a hundred years here. There’s only one rule that I know of, babies—‘God damn it, you’ve got to be kind.’” —Kurt Vonnegut*

I didn’t want to go to CSICon. Whoa, hold on there! Let me explain.

A little over a week before CSICon 2022 kicked off, my dad died, almost exactly one year after being diagnosed with brain cancer and more than thirty years short of Kurt Vonnegut’s promised 100 years on Earth. Dad’s final months had been a kind of living nightmare for him and for those of us taking care of him. I was (and still am) grieving and still hadn’t quite processed the fact that my dad is really gone. I was also dealing with a multitude of other minor tragedies and self-inflicted crises. I’m already a severely introverted fellow, well into the autism spectrum’s deeper hues, and socializing with anyone—particularly acquaintances I never see in real life—is

an exhausting trial for me.

I was frayed, anxious, drained, and just very sad. So, as you might imagine, the last thing I wanted to do in this life was fly to Las Vegas of all places, spend several days in a crowded casino stuffed with noise, gaudiness, and gross overconsumption, and insert myself into a throng of people—however lovely they might be—making chit-chat. No thank you. Not this year.

I am so glad I went.

Nice turnaround, right? Did you see that coming?

Here’s the thing. I’ve been working remotely from home for more than a decade now, long before the pandemic made it cool. I’m already used to a situation in which my coworkers are all abstracted by pixels, represented as email addresses and chat avatars. These days, in the Zoom renaissance, I get to have a better idea of who my colleagues are as human beings, but it’s still all pretty removed. I simply don’t have many chances to get to know them very well, and for a couple of years, the pandemic erased even the one-off opportunities, such as conferences, to be in the same physical space.

So, the first thing that was immediately confirmed for me upon walking into the registration area was just how much I like my coworkers. Folks, I’m telling you, the people who work for and

associate with the Center for Inquiry are really great people: kind, generous, funny, smart people. And even more surprising to me was just how happy they were to see *me*.

For me and my coworkers, CSICon is a work event. As much as we enjoy it, it's part of our jobs, and some of us have to be there regardless of what we might rather be doing. Plus, it's a lot of work. But for most of the folks who attend, it's something else entirely. It's a celebration of a shared passion and an opportunity to learn, get inspired, and have a bunch of fun with friends old and new. It's like Skeptic Christmas!

More to the point, and the primary reason I found myself so glad to be there, is that CSICon was aglow with a collective sense of mission—a mission fueled not by a lust for profit or power but by kindness. Yes, there's a lot of necessary bullshit-debunking and legitimately dire warnings about the plagues of misinformation and pseudoscience. But it's all fueled by a sincere desire to help others. These folks aren't here to mock or sneer at the people who are fooled, cheated, and harmed by snake oil hucksters, false prophets, and mistaken beliefs. They're here to help them and keep anyone else from becoming

## **Biddle encourages skeptics to do more than investigate extraordinary claims, exhorting us to get to know the people who make those claims.**

victims. Hell, many of our folks have themselves been duped, conned, hustled, or held any number of false beliefs in their time. Now they're here to elevate reason and skepticism because that's how we make the world a better place for everybody.

The desire to do good—among attendees, staff, and speakers alike—was palpable. For me, the unofficial themes of CSICon 2022 were empathy and generosity of spirit.

Some examples of this were more obvious than others. Kenny Biddle was already pretty well known to this particular crowd (and I assume to readers of this magazine), but CSICon 2022 was his first time speaking to us as the Center for Inquiry's new chief investigator, following in the footsteps of Joe Nickell. And like Nickell, Biddle isn't interested in proving anyone wrong. "We [skeptics] have a reputation for busting beliefs for fun," he said. Biddle's goal is to listen to people's claims—about hauntings, UFO sightings, cryptid encounters, or what have you—and then find out what actually happened. Not to show how smart he is or how dumb people are but to find out the truth, to calm people's fears, to expose fraudsters, to keep people from being swindled, and to help everyone understand more about how things work.

Biddle encourages skeptics to do more than investigate extraordinary claims, exhorting us to get to know the people who make those claims. He talked about how he's made it his business to attend conferences and events put on by enthusiasts of the paranormal and how he's gotten to know and build real, trusting relationships with ghost

hunters, Bigfoot trackers, self-proclaimed psychics, flat-earthers, and the rest. After all, we're all ultimately aiming for the same goal: to find out what's out there. Maybe the folks at the paranormal conferences are coming at it with a preexisting belief in the outcome, but if someone like Biddle can improve the quality and accuracy of their investigations and help them rule out bad explanations and faulty data, well, why wouldn't they want to be his friend?

And, really, if you met him in person, you'd probably just wind up his friend no matter what. He's just that kind of guy.

Cultivating trusting relationships was also a theme of Neil deGrasse Tyson's (several!) appearances on the CSICon stage. While some atheists and skeptics wish that Tyson would use his massive platform to more forcefully attack claims of the supernatural, he sees his role as someone who can ease people into reason and science without shaming them. "Raw information is never received in its raw state," he told us, emphasizing that people have feelings about the things they are told as much as they intellectually process them, especially when the topic is something close to their hearts, aspirations, and beliefs.

So many other speakers were fueled by similar principles. Timothy Caulfield is the happy warrior for skepticism whose profile was deservedly raised during the infodemic of the COVID-19 era. While he was fired up with righteous anger over the rampant and cynical dissemination of misinformation, he was also nonetheless visibly jubilant over our movement's potential to make a positive difference. "I'm an optimist," he declared. "Research tells us we can—you guys—make a difference!" What a welcome message, delivered with such confidence, at a time when many of us within the reality-based community are feeling a lot of despair.

It was moving to see so many prominent skeptics, scientists, academics, and activists encourage our community to see things through other people's eyes. Susan Gerbic, buster of fake psychics and fixer of Wikipedia, reminded us that the point of our work is not to point



Dr. Odaelys Walwyn Pollard. Credit: Karl Withakay

and laugh at the psychics and their prey. “These people are victims, and they’re almost all women,” she told us. “There is no entertainment value in this.”

helped an overwhelmingly white audience understand the psychological barriers faced by people of color who feel marginalized in STEM fields, unable to be their whole selves, and soberingly asking us to imagine “being mistaken for a custodian instead of a scientist.”

Even belief in QAnon was put into sympathetic perspective by Penn Jillette, who speculated that glomming onto conspiracy theory belief systems such as QAnon are a desperate attempt to fill in the vacuum left by more traditional forms of organized religion and address a severe sense of “crushing loneliness” experienced by millions of Americans. “I really believe that what made me an atheist was kindness,” Jillette told Julia Sweeney. “I think the quickest way to make people atheist is to treat them really well.”

And that’s what it really comes down to, isn’t it? If more of our fellow humans felt a sense of belonging, security, and acceptance, they would be less inclined to take, say, a passing interest in unexplained phenomena and allow it to mutate into a conviction that reptilians are controlling a world government through vaccines. The universe is a vast, lonely, inherently meaningless place, and, as Neil deGrasse Tyson has pointed out before, it really is trying to kill us. Skeptics have the benefit of coming to grips with these realities, and we have the tools to understand them. What a wonderful advantage! CSICon 2022 helped me remember that our movement can do so much more than just “be right.” We can *do* right. We can offer the tools of reason and science, the example of curiosity and rigor, and for *everyone* baffled, confused, scared, or alienated by this crazy world, we can offer understanding and fellowship.

That’s what I found at CSICon 2022. I didn’t want to go. I’m so glad I did.

## My Experience at CSICon 2022

KENNY BIDDLE

CSICon 2022 marks my fifth consecutive conference attendance, beginning in 2016 (and subtracting the two-year COVID-19 hiatus). These events have always been a time for joining several hundred fellow skeptics to enjoy several days of learning, networking, and fun. I’ve come to treasure these events, not only for the amount of knowledge gained over the four days but for the opportunity to reconnect or connect for the first time—in person—with friends I’ve made through CSICon. Here are a few of my personal highlights from CSICon 2022.

Although the social aspect is high on my list of “Why CSICon Is Awesome,” I also attend to learn from the various speakers. This year, Neil deGrasse Tyson was the keynote speaker, and he provided a beautiful two-hour summary of his new book, *Starry Messenger: Cosmic Perspectives on Civilization*. I’ll be surprised if my fellow authors don’t comment on this, because it was an amazing talk that I would have happily listened to for an additional two hours. That man can capture an audience like he’s performing a Jedi mind trick.

### Engaging with Science Deniers

On Friday, there was one speaker I really wanted to see: Lee McIntyre, who has previously taught philosophy at Colgate University, Boston University, Simmons College, Tufts Experimental College, and Harvard Extension School. He’s also a bestselling author, writing both fiction and nonfiction, and recently published *How to Talk to a Science Denier* (2021), which was the basis of his talk.

I must admit that it wasn’t the title of his talk that necessarily caught my attention; it was due to the encouragement of our mutual friend Melanie Trecek-King (who has appeared in the pages of *SKEPTICAL INQUIRER*). She suggested the two of us meet because we share similar approaches when engaging with various believers in conspiracy theories and supernatural ideas. After meeting McIntyre in person, I must agree with Trecek-King. I also must admit that, due to a personal emergency, I missed his talk. Fear not, dear readers, for the amazing team at CFI was able to get me an early copy of the audio.

On any given day, I engage with people with various (often strong) beliefs, most of which go against our scientific understanding of the world. So, I was immediately interested in McIntyre’s talk when he began with the statement, “So I want to talk to you today about how to defend science against science



Kenny Biddle and Mark Edward at CSICon 2022. Credit: Karl Withakay

Paul Fidalgo is editor of *Free Inquiry*.



deniers by giving scientists and science communicators better tools to push back.” I can always use more (effective) tools for my daily activities.

About halfway through his talk, McIntyre stated:

If you’re dealing with hardcore [science] deniers, context matters—a lot. It’s not that evidence can’t be persuasive; it’s that you have to approach someone with evidence in the right way—*after* you’ve built trust with them. Don’t insult them or yell at them. Treat them with respect, stay calm. The overall point is to listen, make sure they feel heard, and be patient. Even if you can’t talk someone out of their belief, sometimes you can create a situation where they can talk themselves out of their belief. You can change minds if you take the other person seriously, engage with them, and begin to have a dialog.

I love this. Although it often takes a lot of patience to engage in such discussions, using this approach is not about trying to “prove them wrong,” which is an accusation I’ve often heard about me. Both sides (believers and skeptics) sometimes adopt a superior attitude, dismissing what we consider “silly” and labeling debate opponents as “crazy.” We’re not going to change minds by trading insults or treating others like crap. Instead, be civil, be open to discussion, listen to what they have to say—be nice (which is what my CSICon presentation was all about). You’ll build trust

and make more progress (no matter how little) by not being an A-hole.

#### Challenging Their Reasoning

McIntyre related that in November 2018 he attended a flat-earth conference in Colorado. The first day he kept quiet and just tried to blend in, listening to what attendees had to say. On the second day, he told them he was a philosopher of science and didn’t believe in the “flat earth.” The flat-earthers thought this was great, and they were determined to convert McIntyre.

I found the next exchange interesting; the group McIntyre was speaking with stated their beliefs were not based on faith but on science. After describing a little more of the conversation, McIntyre stated:

They already knew all of the standard evidence for a round earth, but they didn’t trust the scientists who were sharing it. They thought all the evidence was flawed or corrupt. So, instead of talking about the evidence, I talked about their reasoning. As a philosopher, I wanted to challenge how they were thinking about the role of evidence. My key question here was one that I tagged from Karl Popper: “What evidence, if I had it in my back pocket, would convince you to change your mind?” And they couldn’t answer this, and that was key. It made them think for a moment, and I was happy to just shut my mouth again and let them sit with that discomfort. They

had said their beliefs were based on evidence, but were they really?

I find this approach appealing, and it is one I often use when engaging with various believers. Just telling someone their conclusion is wrong usually doesn’t work, especially if you are not well-versed in the specific topic. However, getting into the nitty-gritty of their reasoning (which led to their conclusions) can often make one pause and question whether they made the correct conclusion. The flat-earthers McIntyre was engaging with already subscribed to the belief, so there was no need for them to challenge each other concerning the reasoning behind the belief. I see similar behavior with ghost hunting groups, Bigfoot hunters, and so on.

The overall message I got from McIntyre’s talk was that having a respectful discussion about the *why* (reasoning) behind the *what* (evidence) tends to have longer-lasting impact. This is treating the cause of the belief rather than just the evidence for the belief. Why is this important? Because evaluating, finding, and understanding the flaws in our reasoning allows us to start to develop the skills needed to recognize misinformation and disinformation. Hopefully, this will lead to less acceptance of false evidence when people learn to filter out the bullshit themselves. This represents the kind of “prebunking,” that, according to Reboot Foundation founder Helen Lee Bouygués, “teaches people about various disinformation techniques so that they’ll know it when they see it in their social media feeds” (Lavarney 2022).

There were many good speakers at CSICon 2022, but I have to say that Lee McIntyre made the biggest impression on me. I strongly suggest catching his presentation if you have the chance.

Never stop learning.

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Kenny Biddle is the Committee for Skeptical Inquiry’s chief investigator.

# CSICon Report: The Highs and Lows of the Current Legal Environment

STUART VYSE

Conferencegoers at CSICon 2022 heard two assessments of the current legal environment, and the presentations gave the appearance of a good cop/bad cop routine. Thankfully, the good news came second, leaving the audience with a sense of optimism about several areas of important progress.

## The Legal Bad News

On Saturday, Edward Tabash, chair of the Board of Directors of the Center for Inquiry, assumed the difficult job of delivering the bad news about the state of affairs on the federal level. The replacement of Justice Anthony Kennedy with Brett Kavanaugh and Justice Ruth Bader Ginsburg with Amy Coney Barrett has created a new six-to-three supermajority of the religious right that has been quick to punch holes in the constitutional wall between church and state. Already, several decisions of the high court have privileged “religious freedom” over other competing considerations. For example, Tabash outlined the 2020 decision in *Roman Catholic Diocese of Brooklyn v. Cuomo*, which construed a science-based restriction on public gatherings during the coronavirus pandemic as an unconstitutional restriction of religious freedom—ignoring the fact that the rules did not single out places of worship. Public lectures, concerts, and theatrical performances—any environment where people were gathered together for extended periods of time—all were equally prohibited. Tabash cited Justice Stephen Breyer’s dissenting opinion, which pointed out that the emergency restrictions introduced by the State of New York were based in science and derived from recommendations by the World Health



Edward Tabash, chair of the Board of Directors of the Center for Inquiry. Credit: Karl Withakay

Organization and the American Medical Association. But for this court, religious interests trump science and public health.

In addition to favoring the exercise of religion over considerations of public health, the current court has stripped the power of the administrative state to implement science-based regulations aimed at, among other things, addressing climate change. Tabash summarized *West Virginia v. EPA*, a six-to-three decision that in June 2022 struck down the Environmental Protection Agency’s power to regulate greenhouse gasses in power plants. In an act of brazen hypocrisy, the majority decision employed a newly invented principle called the “major questions doctrine,” which cannot be found anywhere in the Constitution. As Tabash pointed out, this approach stood in direct contrast to the logic of *Dobbs v. Jackson Women’s Health Organization*, the dramatic decision that struck down *Roe v. Wade* and eliminated women’s fifty-year right to abortion. In *Dobbs*, a decision issued in the same month as *West Virginia v. EPA*, the court struck down *Roe* in part because the word *abortion* is not found in the Constitution. Yet the “major questions doctrine”—also not in the Constitution—forms the basis for throttling the

EPA. In her dissent to the *West Virginia* decision, Justice Elena Kagan wrote, “Today, the Court strips the Environmental Protection Agency (EPA) of the power Congress gave it to respond to ‘the most pressing environmental challenge of our time.’” She went on, “The Court appoints itself—instead of Congress or the expert agency—the decision-maker on climate policy. I cannot think of many things more frightening.”

Tabash’s summary was more than a little grim: “The religious right-wing takeover of the Supreme Court that I have been literally screaming about for forty-three years has finally happened.” He concluded with a plea to secularists and science-minded people: “Treat every presidential election and every election for the U.S. Senate as a referendum on the Court.” Elections have consequences, and only by electing presidents and senators who value science and reason can the religious and anti-science dominance of the Supreme Court be quelled. [For an adaptation of Tabash’s talk, see the February/March 2023 issue of *Free Inquiry*.—Editors]

## The Legal Good News

After Tabash’s talk, the crowd was horrified but also clear about the chal-



ucts in an aisle labeled “Cold, Cough & Flu Relief.” Given that homeopathic medicines have never been proven effective, this amounts to massively false advertising. As if one Goliath was not enough for this David, CFI later sued Walmart, Inc., using the same theory. As Little explained, consumer protection laws generally adopt an attitude of *caveat emptor*—buyer beware—but for consumer transactions to be free and fair, it is important to have adequate information. Little reminded the audience that in the past large corporations have deliberately hidden data from the public when doing so protected profits. As examples of this kind of deception, he pointed to tobacco manufacturers’ suppression of the health dangers of smoking and Volkswagen’s cheating on automobile emissions tests. CFI asserts that placing homeopathic products on a shelf next to FDA-approved remedies violates the CPPA by representing to the public something that is false—that the homeopathic products actually treat the suggested conditions and that they are equivalent alternatives to the science-based medicines.

Little went on to report that the first round of this battle was pretty brutal. CFI “lost badly.” Both cases were dismissed by the DC Superior Court, finding that CFI had no standing to sue in part because it was not a consumer protection organization and that CFI failed to demonstrate that a reasonable consumer would be misled by the way CVS and Walmart display these sham products. Bummer. But CFI appealed—the cases were merged for the appeal—and Little gleefully reported that on September 29, 2022, CFI won! A three-judge panel for the DC Court of Appeals found that CFI *was* in fact a consumer protection organization and that the question of misleading consumers should be determined by a jury. So, in the second round of a multi-round battle, David slew the Goliaths. Furthermore, Little boldly claimed, “We are going to win this case!” provoking the audience to cheer wildly.

This would have been enough to raise the spirits at CSICon, but Little had more good news. First, he an-

nounced that, just to make its consumer mission clearer, CFI recently established an Office of Consumer Protection from Pseudoscience. (Cue more cheers.) In addition, because they were not satisfied with merely taking on two huge corporations that are selling modern-day snake oil, the legal eagles at CFI have recently gone directly to the source to sue Boiron, Inc., one of the largest manufacturers of homeopathic products. In the Boiron case, CFI is making a similar argument of deceptive marketing under the District of Columbia’s Consumer Protection Procedures Act.

Finally, Little announced that CFI has made an initial salvo to protect the world’s cats and dogs from pseudoscience. In a September 21, 2022, letter to Chewy, Inc., the mail-order pet supply giant, CFI pointed out that Chewy is peddling unproven homeopathic pet products—yes, this is a thing—to unsuspecting consumers. The sale of unproven animal drugs is prohibited by the Food, Drug, and Cosmetic Act, yet Chewy sells a variety of homeopathic “medicines”—that are, of course, not really medicines—falsely claiming that they treat joint pain, urinary tract infections, incontinence, and seizures, among other pet ailments. The CFI legal team is taking aim at another corporate giant, and it will be interesting to watch as this new effort unfolds.

In summary, as Edward Tabash made clear, the federal picture looks rather grim for the foreseeable future, and advocates for science, reason, and secularism have a long—primarily political—battle to wage. But we still have some valuable consumer protection laws on the books, and CFI is making good use of them in an effort to combat the pseudoscience being peddled by craven corporate overlords. This was such welcome news on the second day of CSICon that, in recognition of his much-needed “good-cop” message, Nicholas Little was rewarded with an enthusiastic standing ovation.

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lenges ahead, and if the legal story had ended there, the audience might have been more than a little deflated. But the next day, CFI Legal Director Nicholas Little brought the sugar to complement Tabash’s medicine in a talk titled “Pseudoscience and the Law: Why Doesn’t the Government Stop the Charlatans?” Little gave a status update on CFI’s multi-pronged effort to combat the use of dangerous and thoroughly discredited homeopathic “medicines,” and the update for each prong offered considerable reason for optimism.

In 2018, CFI took the rather bold act of suing CVS Pharmacy, Inc., in the District of Columbia. CFI asserted that CVS had violated the District’s Consumer Protection Procedures Act (CPPA) by offering homeopathic prod-



## [ POSTCARDS FROM REALITY ROBYN E. BLUMNER

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# The Skeptic's Dilemma: To Speak or Not to Speak?



I was in an Uber this past November with Richard Dawkins and Jana Lenzova, Richard's book illustrator. We were heading to the airport in Phoenix, chatting easily about the rank silliness of Scientology when the Uber driver weighed in.

He claimed that Scientology was a tool of Satan. Without additional encouragement, the driver then held court for the rest of the ride about how any belief system that took people away from the truth of Christianity is also a tool of Satan. He thought Satan was poisoning people's minds and clouding their judgment to keep them from knowing the right divine path.

We kept quiet.

Richard, Jana, and I were together again in early December in Hawaii. The week-long excursion toured the Hawaiian Islands. (It was a fundraiser for the

Center for Inquiry and the Richard Dawkins Foundation for Reason & Science.) Our fellow travelers were from all over the world, but the one thing they had in common was an intense interest in science and the natural world.

Richard gave fascinating lectures on the evolution of life. One was on how a replication explosion is at the heart of biodiversity, and another was on the long running debate within science on the sexual selection mechanism that explains expensive male ornamentation such as, famously, the peacock's tail. Is it an indicator of good genes or just an arbitrary feature that females started preferring and, through a selection feedback loop, started to dominate the gene pool?

Part of the experience was also learning about the native Hawaiian history and culture, which includes traditional

religious beliefs. The polytheism of native Hawaiians includes a pantheon of gods and goddesses. With the volcano Mauna Loa erupting for the first time in nearly forty years, we heard a lot about Pele, the volcano goddess, and how she was angered and how she was appeased.

We were all interested in the beliefs of people who lived hundreds of years ago and who were largely cut off from outside communications.

What was surprising was the currency of those beliefs to this day. Another Uber driver, again unbidden, explained how the Mauna Loa eruption is Pele's payback for the way resort owners and the U.S. military are despoiling the Big Island, a place, he said, of special sacred importance. He expects Pele to direct the lava flow to destroy the resorts on the island and possibly the military

base as well, while sparing the property of the locals.

Our driver told of a friend who years ago had peed on the hardened lava, insulting Pele, which caused his friend's entire family to fall desperately ill with a life-threatening disease (that he could not name). He said that taking any lava off the Big Island also results in a curse from Pele, and he swore that all this is fact, not myth. (And it is true that lava rocks are regularly mailed back to Hawaii from visitors who have connected a spate of bad luck to Pele's curse.)

We said nothing to challenge his claims.

During a hike on the island of Molo-kai, a guide described the flora that surrounded us. In addition to identifying the trees and plants, he made credulous health claims about them—not in the context of ancient medicine that was the best on offer at the time, but to describe how remarkably effective and therapeutic these medicines are to this day. The ti leaf alleviates fever. The kukui nut cures sores. The noni tree produces a bad-smelling fruit that apparently tastes like blue cheese. We smelled it and, well, yuck! Yet the guide claimed the fruit

can cure a range of ailments, including high blood pressure, heart disease, and diabetes. It allegedly also alleviates arthritis pain, prevents cancer, and boosts immunity.

The litany harkened me back to Tim Minchin's brilliant beat poem *Storm*, in which he says to the woo follower named Storm: "You know what they call alternative medicine that works? Medicine!"

Nonetheless, our group meekly absorbed the Hawaiian guide's information and kept quiet.

How many times have I stayed silent when someone was spouting nonsense? Dozens if not hundreds of times. Yes, I am being polite. I don't want to create hostility, and so I just argue with them in my head and, frankly, feel a bit sorry for them. No doubt everyone reading this has done the same.

But I'm beginning to wonder if this isn't also a form of cowardice. I know I won't change the adherent's mind, so why provoke a discussion that could become heated?

Perhaps that is not the right approach. Perhaps, as people such as Anthony Magnabosco and Lee McIntyre

urge, it's time I started calmly raising questions about the nonsense-spouter's epistemology. It just might get some people to reflect on their views.

Asking them how they know what they claim to know requires them to formulate arguments, which might not be so easy to do. McIntyre teaches that the best question to ask is "What evidence would make you change your mind about this?" If they say nothing would make them change their mind, their view is dogma, not fact.

I might start giving it a try—but only after the Uber driver has gotten me to where I need to go.

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As a final thought for this column, I would like to remember the great Kendrick Frazier. Ken was a remarkable science communicator and an expert editor who was generous in every sense of the word. I looked up to him, trusted his judgment, and was regularly inspired to think better of humanity by Ken's example and innate goodness. It is heart-breaking to lose Ken so suddenly. His distinctive voice is still in my ear. He is saying something both kind and smart. It was what he did. ■

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## [ INVESTIGATIVE FILES ] JOE NICKELL

Joe Nickell, PhD, has been a magician, Pinkerton detective, and historical document consultant, among other personae. He is author of nearly fifty books, including *Pen, Ink & Evidence*.

# Identifying the ‘Spanish’ (French) Forger



Illustration of printing process by Johannes Stradanus (1523–1605)

From the end of the nineteenth century until about 1930, a masterful forger flourished, producing numerous “medieval” wood panels as well as illustrated manuscript pages and smaller leaves. Many of the latter were on genuine vellum (fine parchment) culled from dismembered choir books. The works were presented in a romantic style for the less sophisticated collector who would be attracted to the scenes featuring castles, jousts, betrothals, unicorns, and the like (Jones 1990, 189; Pyne 2019, 28–29). No purchase record for the forger’s works predates 1900 (Voelkle 2007, 223).

The forger is still commonly (if incorrectly) called the “Spanish Forger.”

Because the master ranged over the lucrative Parisian market, however, we shall sensibly use the designation the “French Forger,” whose incomparable work is thus even more accurately acknowledged. But although the forger’s personal identity has been hidden, we shall here turn the tables somewhat, endeavoring to produce—aided by medieval experts and science—an imitative *portrait* of the forger, arms folded, standing in lamplight, and bearing an enigmatic smile.

### Belle da Costa Greene

A central figure in the question of the French Forger’s identity and *oeuvre*

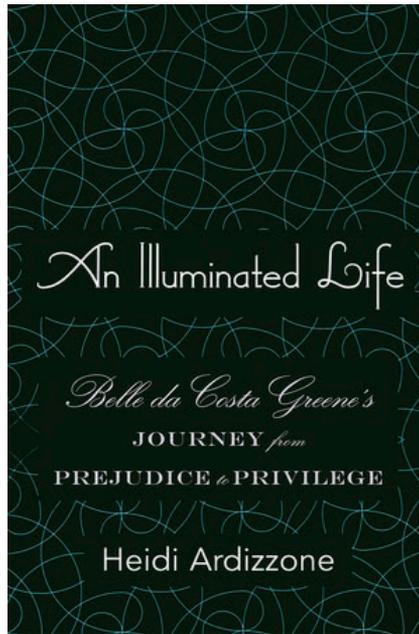
(body of work) is a woman named Belle de Costa Greene (1879–1950). Although I had long known of the Forger’s productions, it was only when I began to search in earnest for the perpetrator that I was intrigued by one writer’s comment: “We don’t know his nationality, his life story, or even if the artist was a man” (emphasis added; Pyne 2019, 27). Indeed, Greene’s own background story was itself tantamount to a forgery.

She had taken several years off her true age, changed her surname (as did her mother and siblings after her father left them) from Greener to Greene, and she further changed her own name: she dropped her middle name Marian

(which her biographer sometimes gives as “Marion”), substituting “da Costa,” which she alternately claimed was Portuguese (untrue) or Spanish (true, by way of Puerto Rico). The most important part of her masquerade was altering her race (given on her birth certificate as “Colored”) to “White” and so (as was said in that time) “passing as white.” She never obtained a college degree but took courses in library science and especially gained expertise in rare books and illuminated manuscripts at Princeton University’s library. There she impressed Assistant Librarian Junius Morgan, who introduced her to his famous uncle, J. Pierpont Morgan, in 1905 (Ardizzone 2007, 2, 14–16, 32, 57).

Greene met her soon-to-be boss at what she would call “Mr. Morgan’s Library,” J.P.’s almost-completed home for his burgeoning collection of rare treasures—just what she had seen as her life’s work. She never looked back. She left the library that day with a new job—what many would have seen as a man’s job in a man’s world. However, the men—the scholars, dealers, collectors, and others—quickly came to appreciate both her expertise and flair. She once reportedly said, “Just because I *am* a librarian ... doesn’t mean I have to *dress* like one.” She mostly got by with being a somewhat notorious flirt, but some felt sure that this was her greatest disguise, that she had “intimate affairs with women” (Ardizzone 2007, 1–11).

Be that as it may, Greene never married. She immersed herself in her work for Morgan, and on her frequent trips to Paris and elsewhere—Morgan trusting her judgment in acting on his behalf—she sometimes found small treasures that she concealed and smuggled back for him (Ardizzone 2007, 211–213). Among her odd behaviors, she once had her portrait painted wearing an antique Spanish shawl that Morgan himself had given to her. At his death in 1913, she received a sizable bequest of \$50,000 (today’s equivalent of \$800,000). For forty-three years, at almost every turn she continued to be secretive about her life, and not long before her own death in 1950, she suspiciously burned all her



personal correspondence (Ardizzone 2007, 9, 13, 170, 289; Pyne 2019, 23)!

#### Greene and the Forger

I toyed with the idea that Belle da Costa Green might have been the “Spanish” (French) Forger. It was she who was asked to authenticate a panel painting, *The Betrothal of Saint Ursula*, in 1930, intended for the Metropolitan Museum of Art. Instead, she spotted it as a forgery and became the first to christen the artist the “Spanish Forger” because it had been thought to be the work of a certain Spanish painter. It was not, but the misnomer stuck. Soon Greene had identified several more of “his” faux works, including one she herself had acquired for the Morgan Library in 1909!

Greene even began to call the forger “my artist friend” and “my dear old pal,” for which I thought what a delicious irony it would be if *she* were actually the forger! I considered the trips to Paris, her early acquisition, her newfound ability to identify works by the same individual, and more—even her own link with the word *Spanish* (Voelkle 1978, 9–10; Pyne 2019, 26–27).

However, I never could find the evidence that her considerable expertise—including her knowledge of Latin and palaeography (ancient writing)—actually extended to her ability to paint.

She reportedly had some tutoring in manuscript illuminations. She also did have a lady friend, Olive Francis Rhineland, who practiced the art; the Morgan library even owned some of Rhineland’s works (Ardizzone 2007, 478, 533). Eventually, however, I came to my senses and scratched Belle da Costa Greene from my suspects’ list—of one. I now turned to France where the forger would obviously be much more likely to be discovered. (Clearly, the volume of work involved would have been too much for Greene to have smuggled it into France!)

#### ‘Spanish’ Forger or French?

Then who was the Spanish Forger? Well, the only reason Belle da Costa Greene named him that was because (as briefly noted earlier) a rare panel, misidentified and detected as forged, was a supposed fifteenth century Spanish one (*The Betrothal of Saint Ursula*, wrongly attributed to Maestro Jorge Ingles). It did have a number of characteristic “tells” (or unintended signs) that experts began to use to identify works by the same forger: sugary faces, stock figures, theatrical postures and gestures, page costumes of the men and daring décolletage (low neckline) of the ladies, stage-set architecture, tapestry-looking foliage, and swirling waters—as well as a characteristic palette that included a preponderance of emerald green. Appropriately known as Paris Green, this was an arsenic-containing pigment discovered in manuscripts for the first time using neutron irradiation. It did not exist before ca. 1814, betraying forgery by its presence. There was also the forger’s skillful but fake *craquelure* (paint cracking) and much more (Voelkle 1978, 11–13; Backhouse 1968, 70).

As it happened, the skilled, prolific culprit was more likely to have been French than Spanish (or Belgian, Italian, etc.). Of over a hundred panel paintings identified, most were regarded as French—in the wake of a sensationally innovative exhibition of French primitives in Paris in 1904 and subsequent “old” (often forged) manuscripts that were currently flooding the

Parisian antiquities market. It could be argued that they were made elsewhere for that profitable French market, but there are other corroborating French clues, including the fact that the provenances (historical records) of many of these forger's pieces were later traced to Paris (Pyne 2019, 27).

In addition to Paris being the main distribution center for such artworks, the forger's subject matter also bore French appeal. Less easy to dismiss is the fact that the forger seemed familiar with many late medieval French legends. One panel involved Mary Magdalene's purported relics at a pilgrimage church in her name at Véze-lay. Many other French connections were discovered in the artist's *oeuvre*, including a panel depicting St. Nicholas. Another, from a group of ten, even bore the label of its Parisian picture framer; the owner insisted all ten were bought in Paris in the 1930s (Voelkle 2007, 224–225).

Especially telling is the fact that the forger has been shown to have relied on five volumes of medieval and Renaissance life and art, compiled by Paul Lacroix (1869; 1871; 1873; 1877; 1882) and profusely illustrated. Published by Firmin-Didot in Paris from 1869 to 1882, these had many editions and, states authority William M. Voelkle (2007, 210), “ironically, were to serve as the forger's primary source books at the very end of the century.” “Incredibly,” Voelkle states, “the forger relied on these for even the smallest details.” These essential volumes represent, I think, very powerful evidence for the forger to have been living and working in France.

#### Probable Background

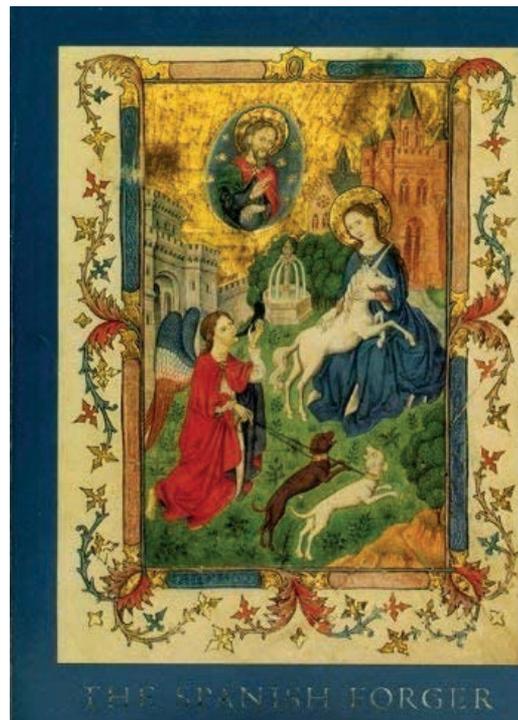
As to the forger's occupation, it seems certain he had no prior training or experience in the field of manuscript illumination. His lack of expertise is revealed in several ways. For one, he knew little about the correct relationships between illustration and text and showed a lack of concern for the matter. This created sequencing problems that, while they would be missed by casual observers, would be noted by

experts as glaring mistakes. Again, he made technical errors regarding the gilded areas. In genuine manuscripts, gold leaf is always applied before oil colors to avoid its being scratched in the burnishing process. In contrast, the forger mistakenly added the gold leaf last. (A quick look at the margins of the leaf and paint with a loupe will show by overlapping which came first.) The forger's practice with the gold causes it to rarely appear shiny (Voelkle 2007, 213, 216).

In contrast, it seems that this probably French forger was a commercial illustrator. Indeed, he was very likely a chromolithographer (a printmaker of color lithographs), definitely having had what Voelkle insists are the necessary skills. Add to that the fact that Voelkle concludes the forger was extremely familiar with the five volumes assembled by Paul Lacroix, and he could well have been connected in some way with the same publishing firm. Voelkle also theorizes (2007, 216): “And to an audience which knew medieval art through chromolithographs the forger's work must have appeared super real, for it exaggerated and thus confirmed the very same qualities conveyed by the chromolithographs. Because of our historical perspective we can more easily distinguish those nineteenth-century qualities from medieval ones.”

Having both written about chromolithography (Nickell 1990, 101, 105, 154, 155, 184; Nickell 1993, 3, 4) and collected many examples of that printing technique in my historical documents reference files, I agree with Voelkle. (I use these examples to provide specimens of ink, paper, handwriting, etc., in my authentication work [e.g., Nickell 2009, 70–71].)

When, at the end of the century, chromolithography was replaced by photographic halftone reproductions, this likely was a serious blow to our subject's employment. It could certainly have provided the impetus to have turned our chromolithographer into a forger, causing his transformation into a painter of faux medieval panels and manuscripts. Ironically, loss of one career may have simply offered him an-



Cover of *The Spanish Forger* by William M. Voelkle

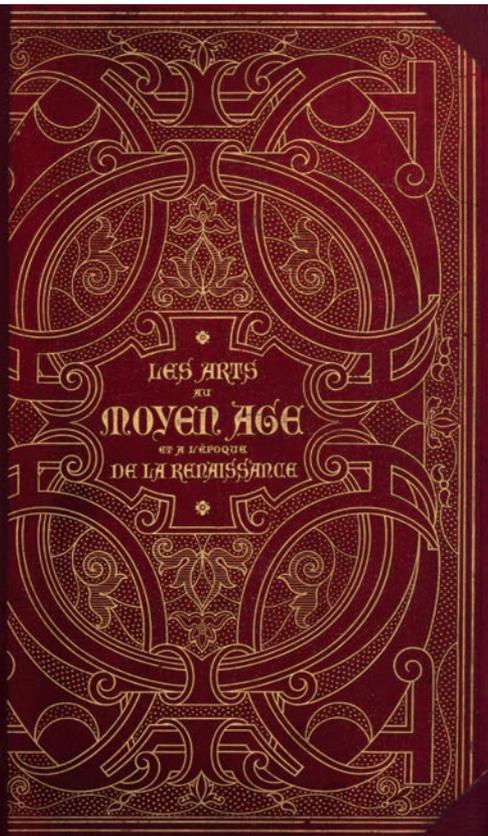
other (see Voelkle 2007, 216; Friedman 2001, 217–218).

#### One Last Clue

Clues may still turn up that could help identify the forger, as in the case of a painting brought to the Morgan Library in the wake of its ground-breaking Spanish Forger exhibition of 1978. It was brought by Norman Mailer's third wife, Lady Jean Campbell Cram. As she herself commendably recognized, it was in the forger's style, and she stated that her grandfather had purchased it in Paris in the 1920s. This information alone was quite interesting, but there was more.

On the frame was a French motto, *Montoya St. Denis*. (The elaborate frame was bone, thus connecting it—and possibly the forger—with workshops in Paris that were engaged in faking ivories.) The painting itself, *A Noblewoman Embarking a Ship*, was “also a typical Spanish Forger theme”: a lady with her retinue preparing to board a vessel. However, an “unexpected surprise” awaited (Voelkle 2007, 223).

The picture was actually *signed*! That was a strange occurrence since medie-



val painters only rarely signed their artworks. Furthermore, close inspection showed that the signature was apparently a later addition—likely by the dealer whose customer thought that it would create a more valuable commodity. The picture was not signed by the artist himself, since the signature read “P. Parres” while an antiquarian firm it seems to have been associated with, A. Semail-Pares, spelled its name slightly differently. Still, an art scholar named John Block Friedman (2001, 213–237) has suggested that that firm had a significant role in the selling of the forger’s works. Others of the *Pares* name were E. Pares, “*marchand*” (“merchant”) and “*antiquaire*” (“antiquary”), and a G. Pares who lived nearby (Friedman 2001, 221–225).

Friedman does not think the “signature” was the name of the artist but rather one of the A. Semail-Pares shop owners. However, what a missed clue! It is signed in the lower right corner *as if* it were the artist’s signature. (For a photo of the signature, see Friedman 2001, 237.) All things considered, it seems entirely credible that the mer-

chant actually knew, or knew of, the artist, although slightly misspelling his surname. That and the fact that P. Pares was apparently connected to an antiquarian business provides important support for that possibility (Friedman 2001, 222).

As Friedman notes, the Pares name suggests a Sephardic Jew, and A. Semail is a Turkish name, the two probably connected by marriage or friendship. If the family of P. Pares were second generation immigrants, he might have been well integrated into the French culture he grew up in, just as we believe the French Forger was.

There is some room for skepticism of course. Voelkle stubbornly observes that the A. Semail-Pares role in the matter is for just a single sale of 1928 and that that antiquary business itself goes back only to 1925 (Voelkle 2007, 223). I would counter that the remarkable clue of the “signed” picture should not be so cavalierly dismissed. The French Forger could easily have begun by working out of his own home or clandestine workshop or even his place of employment, and he did not leave clear records because of the fly-by-night nature of his illegal enterprise. He could have delivered many works to various antiquary shops. Indeed, this was “*just about the time when the majority of leaves with a French provenance were acquired by their owners*” (emphasis added; Friedman 2001, 222).

Voelkle (2007, 227), who brought together numerous examples of the forger’s work, hoped they would “provide new clues, so that we might yet learn the name and nationality of this most charming and elusive medievalist known as the Spanish Forger.” I believe the strategy seems to have worked after all!

To review briefly, it appears the forger was of Jewish extraction and of French, largely secular, culture. He knew little of manuscript illumination but made up for that by apparently being a commercial illustrator—specifically a producer of chromolithographs—who used a five-volume set of books on medieval and Renaissance life and art as sources. At the end of the nineteenth

century, chromolithography suffered replacement by photographic reproductions, delivering a serious blow to his employment that probably inspired him to adapt by transforming himself into a painter and forger. He continued perhaps until 1930 and faded from sight. One work of the 1920s has shown up with his “signature”—which a dealer apparently penned for him, thus linking him to relatives’ antiquary shop. *It seems to me to have proven a successful clue, that P. Pares was indeed likely the celebrated French Forger!* ■

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## [ THE PRACTICAL SKEPTIC MICK WEST

Mick West is a writer, investigator, and debunker who enjoys looking into the evidence behind conspiracy theories and strange phenomena and then explaining what is actually going on. He runs the Metabunk forum, tweets @mickwest, and is the author of the book *Escaping the Rabbit Hole*.

# The Great Starlink Racetrack UFO Flap of 2022

When something new appears in the sky, people will often misunderstand or misidentify it. Reports of interesting new phenomena will cause people to look up and either see the new things and be bemused or see other things unfamiliar to them and conflate them with the first. We refer to this as a “flap,” a temporary increase in interest in an often illusory phenomenon.

This is nothing new. Since antiquity, these flaps have occurred with astrological phenomena, such as comets and meteor showers, or with weather phenomena, including halos and sun-dogs. These impressive natural events were interpreted as divine portents—often of the end of the world. But, of course, when nothing happens, the event is forgotten and the cycle repeats.

A little more recently, technology has provided a new set of novel things in the sky. In the late 1800s, decades before Zeppelins such as the Hindenburg, airship technology was in its infancy. In my own town of Sacramento, California, airships were something you’d only read about (and see engravings of) in the newspapers. But the *Sacramento Bee* reported that on November 18, 1896, several witnesses claimed they saw an airship, possibly pedal-powered, making its way through the fog.

The very next day, reports intensified when a military man, Colonel H.G. Shaw, reported coming across a landed airship fifty miles south of Sacramento. He recounted meeting and then fighting off strange alien creatures covered with downy hair and emitting strange warbling noises.

These sightings and others led to numerous reports of lights in the sky

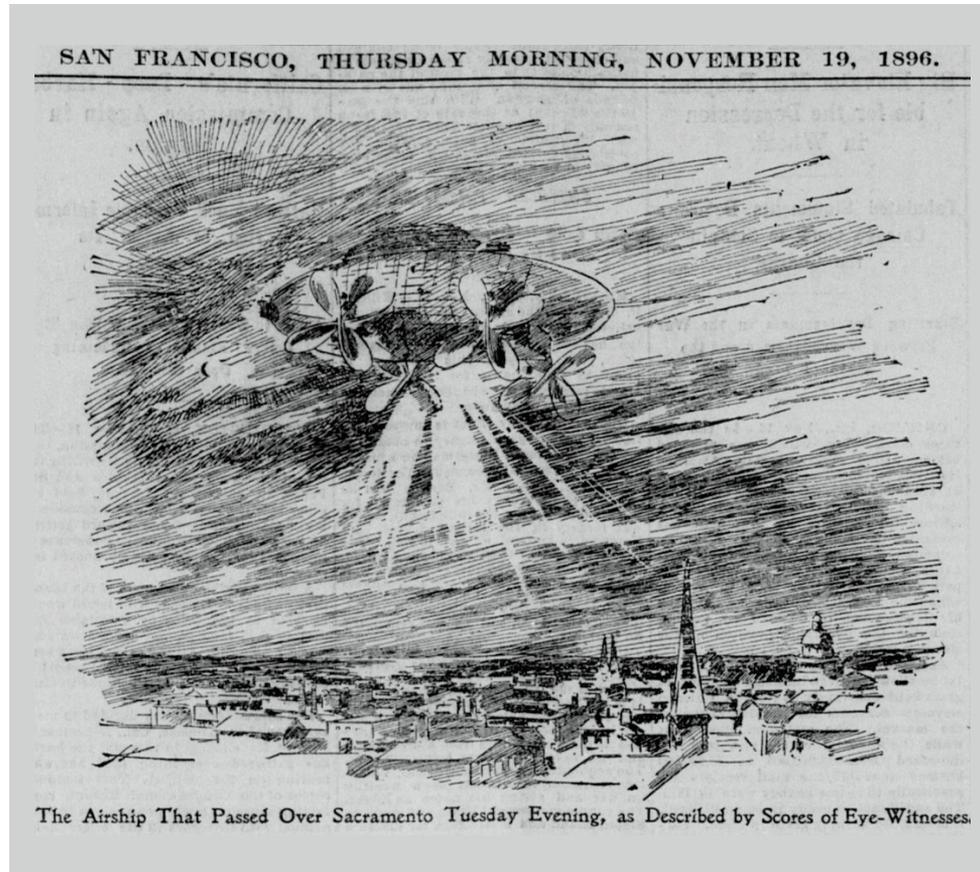


Figure 1. An imaginative yet physically unrealistic rendering of the 1896 airship UFO based on eyewitness accounts.

identified as airships, including what was reported as “thousands” of people looking up at Venus and Jupiter. Newspaper coverage was somewhat skeptical, yet curious, with the *San Francisco Call* describing it in terms that might sound oddly familiar to modern UFO aficionados:

[A newspaper editor said] that while he was incredulous of the airships, he did not like to disbelieve the many persons of known veracity claiming to have optical evidence of its existence. ... [The *San Francisco Call*] has given only the reports of those who claimed

to have seen it, and who being persons of reputation and good standing in the community are entitled to public confidence in what they say. ... It is evidence that so many men of good understanding cannot be wholly deceived in a matter of such a nature. There is certainly some cause for the strange lights which so many intelligent people have seen and described. (“The Airship” 1896)

For more on the airship flap, see “The Airship Hysteria of 1896–97,” Robert E. Bartholomew, *SKEPTICAL INQUIRER*, Winter 1990.



Figure 2. A typical “train” of Starlink satellites but *not* what the pilots saw.

### Modern Flaps

Fast-forward about 125 years. We are now familiar with the notion of a UFO flap. With hindsight, this episode is now known as the “Great Airship Flap of 1896.” Other flaps have occurred, such as the original “flying saucers” flap of 1947–48, the “Big Flap” of UFOs over Washington, D.C., in 1952, and the “Autumn of Aliens” flap of 1973.

In the late summer of 2022, a new flap began. Commercial airline pilots flying at night started seeing lights in the sky from inside their darkened cockpits. These were like nothing they had seen before. The lights seemed very far away, possibly in space, and the pilots described them as moving in “racetrack” patterns due to the way they brightened then dimmed like planes flying in a racetrack-shaped circuit with their landing lights on.

### It’s *Not* Starlink?

When investigating strange phenomena, a fatal mistake people make is to eliminate possibilities.

That might seem odd. After all, it would be great to narrow down the range of things that the mystery might be. Ideally, that’s true. But experience has shown that there’s a great risk in *pre-*

*maturely* eliminating a possibility. Once you accidentally discard something as a possibility, then you become trapped into only considering an increasingly narrow set of incorrect hypotheses.

The pilots were adamant that what they were looking at were not satellites and, more specifically, that they were not Starlink satellites. They *knew* this because they had seen Starlink satellites, and this looked nothing like what they had seen.

The pilots were not entirely wrong. Starlink is a constellation of thousands of low-orbit satellites that are designed to provide internet connections to remote areas. The satellites are launched in groups of fifty or more, and the groups are deployed all at the same time. For a time, before they reach their final orbits, the satellites circle Earth in a “train” that, from the ground and illuminated by the sun, looks like a long string (or train) of bright lights (see Figure 2).

When Starlink was first deployed in May 2019, these trains were an entirely new thing. So, of course, they were frequently reported as UFOs. Every time a batch of satellites was launched, someone unfamiliar with Starlink would see it, not know what it was, and get very excited that they had seen something

amazing.

Pilots were not immune to this, at least not initially. Their unique vantage point meant that they were some of the first to report these strings of light back in 2019. Over the next year or so the reports continued, and more and more people became familiar with them. Eventually, the Starlink trains became a rare but familiar sight for regular sky-watchers, and “UFO” reports involving long strings of lights were quickly explained.

So, in 2022, when pilots started to see these new “racetrack” lights, they quite correctly noted they were nothing like the Starlink trains and hence declared they were not Starlink. Here’s a typical pilot description:

They were slowly moving from left to right. The pulses would be gradual (start very dim and grow into a bright light about the brightness of Venus, and then fade away). ... The best way to describe what we saw is 2–3 aircraft circling in left-hand turns with their landing lights on, which means that they were only clearly visible when the lights were facing towards us. ... Starlink trains are typically 40–60 satellites. The sighting also lasted 35+ minutes, which is far longer than a satellite train. I believe it was the same 2–3 objects the entire time, and they were flying in circles. (MUFON 2022)

### But It *Is* Starlink!

Satellites are visible when illuminated by the sun. At night even when it’s dark on the ground, a satellite high overhead can still be in direct sunlight. That’s what we see when a Starlink train passes over. That’s also why you only see the trains (or other bright satellites such as the ISS) in a period just after sunset or just before sunrise. The racetrack lights were visible in the middle of the night, which was another reason people thought they were not Starlink.

But the lights were also not overhead. They appeared a few degrees above the horizon. A quick back-of-the-envelope calculation shows that the satellites, orbiting 530 km up, are visible from as far away as 2,500 km and can be in sunlight even when they are another 2,500 km away from sunlit ground. This

all means that sunlit satellites can be visible all night long at various points on the globe. But because they are so far away, they appear *much* dimmer than the “trains” that the pilots were familiar with.

On the Metabunk forum, a poster called “Flarkey” had realized this and began to correlate videos of the race-track lights with known Starlink trajectories using publicly available positions of the satellites and free software, such as in-the-sky.org and Stellarium. He found that for every video where the time and location could be determined, there were matching satellites (Flarkey et al. 2022).

The correlation was undeniable. I made some videos showing the satellites side-by-side with supposed “racetrack” videos. Not only was it a perfect match for position, direction, and speed, but it also consistently matched the position of the sun over the horizon at that time, showing that what we were seeing was a specular reflection off the bottom of the satellites—similar to the reflection of sunlight flashing from a passing car’s window.

### Problem Solved?

Like most resolutions of UFO cases, this explanation was met with some resistance. The original story had received considerable coverage, with one of the pilots even appearing on national TV to tell his story. He was quite adamant that what he saw was not Starlink. But the best video he had taken showed a single light that actually *was* Starlink, and again Flarkey was able to identify the precise satellite.

The main objection to the explanation is not that it is incorrect, because most people who object do not really look very closely at the compelling correlated videos. The main objection is an old one, dating back to the 1896 airship flap: simply that too many trustworthy people have seen something that they could not explain and that, if it were Starlink, they would have been able to explain it.

As one UFO enthusiast put it on Reddit: “30+ pilots and aircrew reported the racetrack ufos over 7 weeks. Those



Figure 3. The considerably less photogenic deployed Starlink flare, simulated long exposure. The sun is about 45 degrees directly below this point.

pilots have experience flying every type of aircraft available for years and years. To say they can’t distinguish between some satellites and something truly anomalous is silly.”

Compare this with 1896: “It is evidence that so many men of good understanding cannot be wholly deceived in a matter of such a nature. There is certainly some cause for the strange lights which so many intelligent people have seen and described.”

This is one of the arguments underpinning the entire UFO phenomenon that so many people “of good understanding” or “experienced, trained observers” cannot possibly all be mistaken, and so we should take their descriptions as literal truth.

But the racetrack case shows the flaw in this argument. Many of the eyewitness accounts were accompanied by videos. We can see from those videos that not only are the lights Starlink satellites—the very thing the pilots insists they were not—but even the pilots’ descriptions *of the videos* don’t match what is seen in those videos. They describe objects moving in circles or loops when all that is seen in the videos are lights that move in straight lines.

Notably, every single time one of the sightings included a video, it matched Starlink. Every time there was a description that did not match Starlink, there was no corresponding video. This strongly suggests that most, if not all, “racetrack” UFOs are Starlink satellites.

It’s 2023 now, but the flap is not over. Pilots (and people on the ground) are going to see these Starlink flares for years to come. The real explanation exists, but because it’s not well-known, tabloids will keep posting stories about pilots’ strange UFO sightings.

Finally, in the background of some videos we hear pilots acting excited and confused, radioing other pilots and air traffic controllers seeking explanations. I hope that the FAA—or the airlines themselves—will make an effort to inform pilots about these new lights to minimize the possibility of distractions on future flights. ■

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Benjamin Radford is a research fellow at the Committee for Skeptical Inquiry and author or coauthor of fourteen books, including *America the Fearful: Media and the Marketing of National Panics*.

## Examining Sciencey EVP Research

Q:

What do you think of the EVP research done by Anabela Cardoso? Do you think a true believer like her could publish a work without actually doing anything—fabricating the research out of whole cloth and submitting it for publication? There’s so much fakery in UFO, Bigfoot, and ghost research that I have to wonder.

—J. Carlson

A:

Electronic voice phenomena (EVP), the supposed attempts of the dead to contact the living through recorded audio media, has enjoyed a new burst of popularity over the past decade among ghost hunting groups.

The interpretation of specific noises, raps, and taps as communication by spirits is very old, but the notion of recording the voices of the disembodied dead is much more recent. In their simplest form, EVP are heard as voices and bits of speech hidden among the background noise and static from audio recordings, radios, televisions, and other devices. Ghost hunters claim that such interference is created (or modified) by spirits trying to speak to us from the afterlife. The fundamental problem is that those “anomalies” are often ordinary ambient sounds, errant radio signals, or even from the ghost investigators themselves (for more, see Radford 2017). Some, if not most or all, EVP are created by a well-understood psychological process called apophenia, which causes people to “hear” distinct sounds in random white noise patterns such as the background static in an audio recording. If a ghost hunter is expecting (or hoping) to hear words or phrases in faint sounds—especially in the context of a haunting—he or she just might.

Though ghost hunting is perpetually plagued by poor methodology (see my column “The Paranormal Wild West”

Article

### A Two-Year Investigation of the Allegedly Anomalous Electronic Voices or EVP

Anabela Cardoso

ABSTRACT

A relatively novel acoustic phenomenon has inundated the Internet and specialized literature. Several Associations, some of them with an important number of members, have formed around it in many countries. In the Anglo-Saxon world the phenomenon is called EVP (Electronic Voice Phenomenon) and is usually assumed as electronically mediated communication from or with the deceased. The first tests aimed at verifying the reality of these claims were carried out in Sweden and in Germany, in 1964 and 1970, under the direction of Professor Hans Bender from Freiburg University (Bender, 1970; 1972; 2011). The present report describes in detail the tests designed to record the allegedly anomalous electronic voices, or EVP, under controlled acoustic conditions. Series of experiments were carried out in Vigo, Spain throughout a period of two years under conditions controlled to the highest degree achievable. Several operators were involved in the many tests conducted in Acoustic Laboratories and professional recording studios equipped with very high levels of acoustic shielding. The protocols and procedures followed in the experiments, as well as the results obtained, are herewith described. Several extra voices were recorded during the many experiments performed for which no normal explanation was found.

Key Words: DRV, EVP, acoustic background support, anomalous electronic voices, carrier, frequency mixture, noise, phoneme mixture, transcommunication

NeuroQuantology 2012; 3: 492-514

Introduction

Controlled experiments aimed at the recording of the purportedly anomalous electronic voices (EVP) were carried out in Vigo, Spain, during the years 2008 and 2009. Dr. Anabela Cardoso (2010) was the research project director and also the main operator of the EVP tests.

The tests were inspired by Hans Bender’s work with the Swedish artist and film

director Friedrich Jürgenson (1964; 2004) and by Dr. Konstantin Raudive’s experiments in England, documented by Colin Smythe’s Associate Editor, Peter Bander (Bander, 1972). In 1968 Raudive published *Unhörbares Wird Hörbar – Auf den Spuren Einer Geisterwelt* and a few years later the English translation *Breakthrough: an Amazing Experiment in Electronic Communication with the Dead* (Raudive, 1971) followed.

Before bringing out this translation, the English publisher, Colin Smythe, arranged for Raudive’s work to be put to the scientific test. With the technical assistance of electro-acoustic experts Ken Attwood and Ray Prickett and in the presence, among others, of Colin Smythe, Peter Bander, Sir Robert Mayer, David Stanley, Ronald Maxwell, Raudive himself, four tape recorders (the principal recorder being made by Nagra, a Swiss company, and said to be well shielded from

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Address and about the author(s): The author wishes to express grateful thanks to the operators who generously and enthusiastically participated in the present research project and, very particularly, to Professor Uwe Hartmann for his technical assistance. Also to Stanley Krippner, Ph.D., Alan Watts Professor of Psychology, Saybrook University, San Francisco, California, U.S.A. for his invaluable support. The research was made possible through the financial contribution of two international sponsors who wish to remain anonymous. Their generous support is gratefully acknowledged.

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www.neuroquantology.com

Figure 1. The first page of Anabel Cardoso’s EVP article in the journal *NeuroQuantology*.

in the July/August 2021 SKEPTICAL INQUIRER), there have been sporadic efforts to bring some scientific rigor to EVP research. One of the most recent was conducted by Anabela Cardoso, a Portuguese diplomat who often goes by “Dr. Cardoso” (but who does not in fact have an earned doctorate degree). In 2012, Cardoso published an article titled “A Two-Year Investigation of the Allegedly Anomalous Electronic Voices or EVP” in a scientific-sounding journal called *NeuroQuantology* (see Figure 1).

Cardoso is author of several books, including *Electronic Contact with the Dead: What Do the Voices Tell Us?* (2017). Cardoso’s *NeuroQuantology* article

describes in detail the tests designed to record the allegedly anomalous electronic voices, or EVP, under controlled acoustic conditions. Series of experiments were carried out in Vigo, Spain throughout a period of two years under conditions controlled to the highest degree achievable. Several operators were involved in the many tests conducted in Acoustic Laboratories and professional recording studios equipped with very high levels of acoustic shielding. . . . Several extra voices were recorded during the many experiments performed for which no normal explanation was found. (Cardoso 2012)

In reviewing Cardoso’s article, I found a litany of errors and methodological flaws. Space does not permit a full accounting, but they include potential bias in the investigators (all were “experienced EVP operators with positive results” instead of independent, objective researchers agnostic about the validity of EVP), the strong possibility that stray radio emissions accounted for at least some of the EVP, and clear overreaching in attempts to create linguistic meaning in ambiguous content.

To choose just one example, Cardoso gives an example of what she claims sounds like an EVP of a dog barking. She notes that “This is perhaps the most interesting acoustic occurrence of the afternoon because, six seconds later, the operator [researcher] addresses his deceased dog Golfa and begs her for a sign, a bark, some evidence that she is near.” Thus, Cardoso concludes, the canine ghost demonstrated psychic or

precognitive powers and “was able to read the operator’s thought” and bark in *anticipation* of an upcoming request. Of course, many sounds might resemble a dog bark, ranging from a cough to the word *are* in rapid speech, though Cardoso “verified” to her satisfaction that the sound really was a dog bark.<sup>1</sup>

**Polyglot Predilections**

Cardoso’s background as a career diplomat (and her consequent familiar-

ity with several languages, including Spanish, Portuguese, and English) exponentially increase the likelihood of her gathering (or “recognizing”) supposedly meaningful phonemes in otherwise random background noise or stray sounds. A brief string of sounds that may be meaningless in one language may be perfectly clear in another. For example, an English speaker who believes he or she hears the word “da” in an EVP might dismiss it as an irrele-

Date/Place	Execution	Additional	Voices	Rating		Semantic reference
Operators 06.08.2008 U. Vigo AC, Iñaki, PN	uncontrolled environment uncontrolled speech (informal experiment)	noise No; operators chatted casually and animatedly	(translation) "Ment[re]s paseo yo en Vigo!" ("In the meanwhile I'll wander through Vigo!")	Loudness very good	Intelligibility good	possible (it could be related to the context)
			"Há passagem" ("There is passage")	sufficient	sufficient	possible (it could be related to the context)
			"Per[o] huye" ("But [he] huns away") "No cree!" ("He does not believe!")	good	very good	possible (it could be related to the context)
	controlled environment controlled speech	no	"Era o contacto" ("It was the contact...")	very deficient	deficient	yes (reply to Iñaki's request to the communicators to testify that the contact is feasible)
07.08.2008 Metropolis AC, Inaki	controlled environment controlled speech	Audio file of music mixed with dolphin shrieks and water sounds	"Es distinto si" ("It is distinct, yes")	deficient	deficient	yes (reply to Iñaki's comment that the communicators' time is distinct from Earth time)
13.11.2008 Metropolis AC	controlled environment controlled speech	No: 3 micros; psychophone: 1micro	"Contacto pode fazer no rádio" ("Contact you can make in [through] the radio")	deficient	deficient	yes (reply to AC's question if the psycho-phone was a good method for EVP)
Operators 23.07.2009 U. Vigo	controlled environment uncontrolled speech	noise no	(translation) "Geisler"	Loudness good	Intelligibility good	remote
AC, IH, UH ML			"Uwe"	poor	excellent	yes (name of one operator present)
	controlled environment no speech	reversed EVP-maker output of a Portuguese poem	"Há record" ("There is record")	good	good	yes (the recording had just started)
	controlled environment uncontrolled speech	reversed EVP-maker output of a Portuguese poem	"Certamente assim" ("Certainly so")	good	very good	yes (reply to Anabela's comment about the inconveniences of the EVP-maker)
			"sprachen!" ("talked!" or "spoke!")	good	good	yes (possible comment about Anabela's question: "What do we do?")
			"they stop it"	sufficient	sufficient	yes (possible comment about Uwe's request: "Please stop it!")
26.07.2009 Metropolis AC, IH, UH, Iñaki, Esky	controlled environment uncontrolled speech	no	"altus"	sufficient	sufficient	no

Figure 2. Sample tables of EVP analysis published in Cardoso's article.

vant random sound (or, of course, might instead decide it's babytalk for "dad" or "father"); however, a person who speaks English and German would likely take the same "da" as a meaningful word (it means "there" in German and "yes" in Russian). An Italian or Spanish speaker might interpret it as "to give," while in Norwegian it means "then." And so on. The point is that what a sound or phoneme means depends entirely on the language of the speaker and the context. Because "da" (or any other phoneme) can have so many meanings, it is meaningless to ghost hunters and EVP researchers. This phenomenon is common in the psychology of the paranormal; I've seen this many times, for example in the context of psychic mediums relaying messages from the dead and having audience members make objectively tenuous—but seemingly personal and meaningful—connections to their lives.

### Phantasm, Fakery, or Neither?

With that lengthy (but necessary) preface, I'll answer the question: I have no reason to think that Anabel Cardoso faked her research or to doubt that her colleagues participated as described. Cardoso's *NeuroQuantology* article is twenty-two pages long with four tables of alleged EVP excerpts analyzed according to various criteria (see Figure 2).

I hold no particular faith in anything published in the journal, and the fact that the editors published a piece with so many *prima facie* methodological flaws doesn't speak well for its peer review. I'm sure there is approximately zero fact-checking in that publication, as is the case with many paranormal and New Age publications, but Cardoso has built a cottage industry of her EVP research. If faked wholesale, it would (might?) discredit her. Besides that, I'd think that the evidence would be significantly more robust and compelling—why bother to fake EVP results as ambiguous and mundane as those? It would hardly be less work to fake the results or make everything up wholesale than to just do it. But even then, you have to offer potentially verifiable names, dates, places, and so on.

This is one reason as an investigator I tend to give eyewitnesses the benefit of the doubt; it's quite easy to sincerely mistake some mundane object or event for something extraordinary. While fraud and outright hoaxes do occur—and investigators must be vigilant in detecting them—they are rare compared to misperceptions and mistakes.

I do not question Cardoso's sanity, sincerity, or conviction. She—like dozens of other EVP experiencers and ghost hunters I've met—clearly believes that she has been contacted by some unknown disembodied entity. Unfortunately, she, like many others, has assumed the mantle of martyr, claiming that skeptics and reporters blindly reject her findings out of fear of the unknown or acknowledging a new scientific paradigm, instead of objectively accepting that apophenia has an effect on her as well.

In the end, despite the obvious dedication and preparation that Cardoso and her colleagues put into the experiments described in the *NeuroQuantology* article, they have not convincingly ruled out the possibility of outside interference, nor have they demonstrated that the EVP are intelligent responses. While Cardoso readily admits that "a good number of [EVP] reports might be attributable to pareidolia [apophenia]" and clearly understands many of the fundamental pitfalls inherent in

EVP, she does not make a convincing case for what should distinguish a real EVP from apophenia. Her argument is basically that the "messages" she likes (or is impressed with or finds meaning in) are real and the others are not. Unlike many researchers, Cardoso has a good grasp of EVP recording and interpretation problems; she just doesn't seem to think they apply to her.

The problem with Cardoso's research is not that she's making it up. It's that she doesn't recognize how far it veers from good science, which is tragic given the amount of time and effort she has clearly devoted to it. As Richard Feynman sagely noted, "The first principle is that you must not fool yourself, and you are the easiest person to fool." ■

### Note

1. Cardoso's conclusions suggest, curiously, that the interdimensional dead she claims to contact are omniscient (or at the very least have precognitive powers, reading people's minds and knowing what they will later do or say) and yet apparently don't know what language the participants speak—replying to them on occasion in a language they don't understand. Cardoso glosses over this contradiction and makes no attempt to explain it.

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Illustration by Celestia Ward.

# a legacy that stands The Test of Time



Even though astronauts last took steps on the moon in 1972, the imprint from each of their steps remains today. What a tremendous legacy! Those footprints will stand as a reminder of an accomplishment for generations to come.

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# Remembering Kendrick Frazier



I am old enough to have encountered my share of memorial services, and I always make an effort to turn up. Wakes, funerals, memorial services, and celebrations of life are about the dead, but, of course, they are for the living. There is a natural motivation to hold on, to cling to the person we have lost. To come together one more time as family members and friends in a group defined by our shared connection to a person who is now gone. These tend to be lingering affairs. There is often a formal event followed by a general invitation to come back to the family home or the house of a friend for food, drink, and conversation. There is a reluctance to let go. We would all love to have had more time with the person we lost, and these events give us a bit more time.

When a life ends, so ends the creation of new memories of that person, and because we all have limited experiences with each other, the stories told at memorial services can be revelatory. Within the course of an hour, it is common to express the full range of emotions, from laughter to tears. There

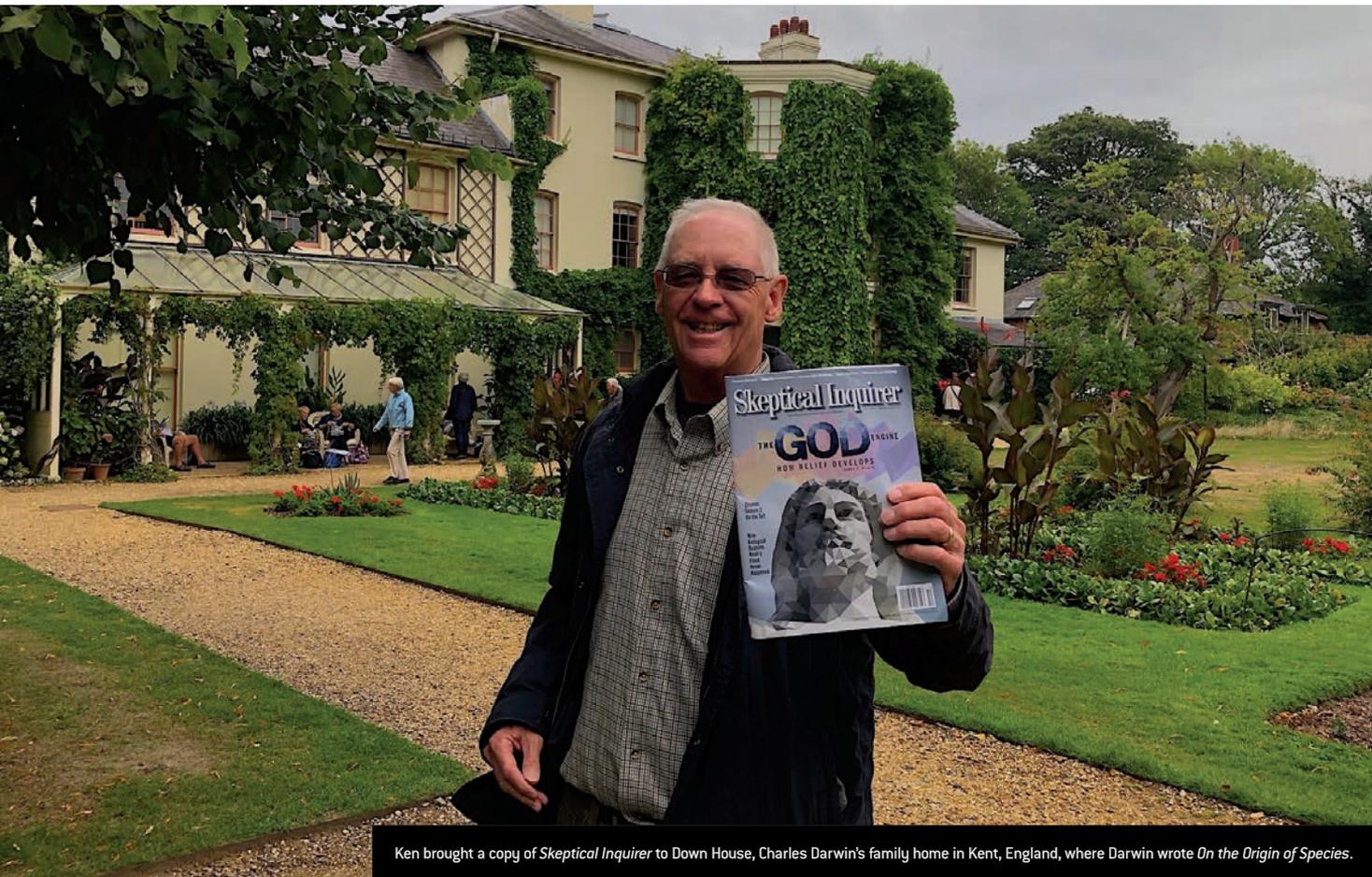
will be no new encounters with the deceased, but we leave the reception fortified by stories shared by others.

So, if, like so many of us, you would like to spend more time with Kendrick Frazier, the intrepid editor of this magazine for over four decades and a beloved and respected member of the skeptic community—or to learn about him for the first time—the contributions on the following pages will make that possible.

This, too, will be a lingering affair. There was such an outpouring of messages in honor of Ken that we will publish more remembrances and appreciations of him in the next issue of the magazine, accompanied by additional photos of and by Ken.

But for now, we give you our memories of Kendrick Frazier, beginning with a beautifully written essay by Daniel Loxton.

—Stuart Vyse



Ken brought a copy of *Skeptical Inquirer* to Down House, Charles Darwin's family home in Kent, England, where Darwin wrote *On the Origin of Species*.

# Kendrick Frazier's Magnificent Quest

DANIEL LOXTON

I feel great sadness for the recent loss of Kendrick Frazier, who served as SKEPTICAL INQUIRER's editor for over forty-five years. I corresponded with Ken at various times, usually regarding the history of skepticism, which was a particular interest for both of us. I had a few happy occasions to meet and talk with him in person, and I wish I'd had the chance to know him better. As it is, I must leave it to his loved ones and closest colleagues to give tribute to Ken as a person, noting only how rare it is for anyone in public life to leave behind such a reputation for warmth, kindness, and graciousness. (He practically radiated these qualities whenever we met.)

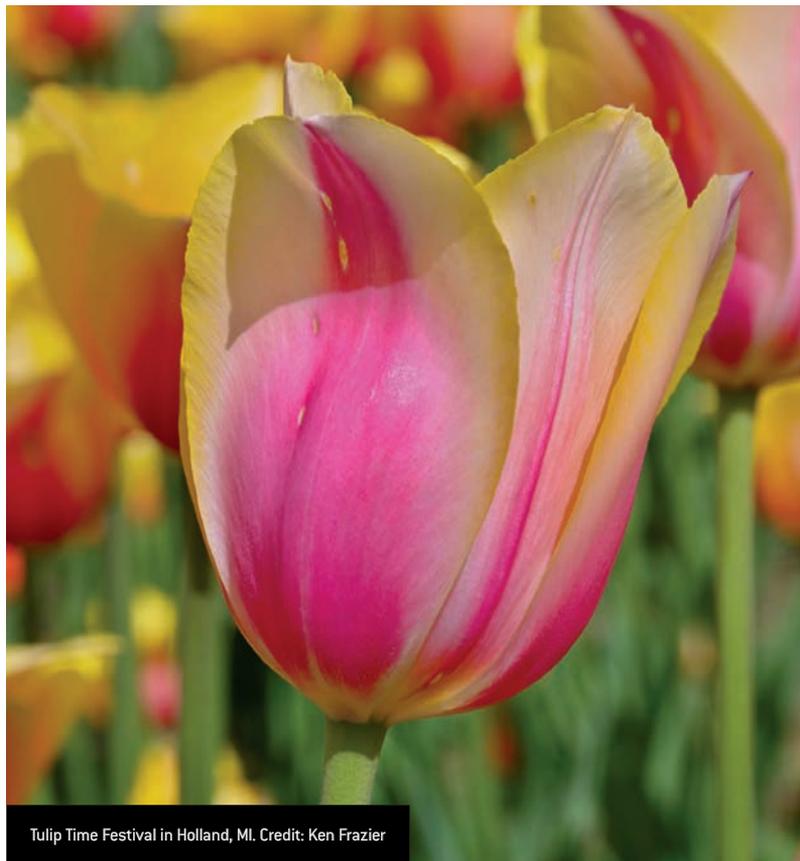
Instead, I would like to consider the impact and influence of his long skeptical career. To tell that story, we're going to have to go back to the beginning of modern scientific skepticism.

## Early Days

As I've written elsewhere, skepticism has a long, long history, stretching right back to antiquity. In fact, there's a debunking story in many editions of the Bible (Daniel, 14:1–22). From Roman satirist Lucian of Samosata's exposé of one false prophet's fake miracles, to Reginald Scot's skeptical Renaissance take down of the witch-hunting craze, to Harry Houdini's 1920s crusade against spirit mediums and fortunetellers, there have always been people who attempt to confront the impostures, myths, and humbugs of their day. Problem is these voices were always rare and far between. Taken together over history, the skeptical literature was extensive, but at any given time it was usually neglected and forgotten.

This was the situation in the mid-1970s when Ken was serving as the editor of *Science News*. He was aware of at least one older skeptical book, Martin Gardner's *Fads and Fallacies in the Name of Science* (1952), a rare gem of mid-century skepticism that Ken "had devoured ... fascinated with his keen and amusing insights into the underworld of pseudoscientists and crank scientists" (Frazier 2001a). As a popular science editor, Ken often heard from cranks promoting "new theories of the universe, ideas for new inventions that seem to contradict the laws of physics" and other pseudoscientific claims (Frazier 2001a). He struggled with how to respond to these, because the "time and effort required to systematically point out the errors in fact and logic in a complex pseudoscientific theory are not trivial" (Frazier 1976, 346).

As he later recalled, "The world back then was awash in unexamined paranormalism. Astrology was in high vogue, and 'What's your sign?' passed for a mainstream conversation starter. Psychics reigned everywhere" (Frazier 2015). At the



Tulip Time Festival in Holland, MI. Credit: Ken Frazier

same time, skeptical resources were vanishingly rare. I recall this myself, having grown up in the 1970s and 1980s. I was a voracious reader of paranormal books, tearing through everything my school and local libraries had on UFOs, psychics, Bigfoot, ghosts, and so on. Uniformly, they all had the same message: *all of this stuff is real, and there's plenty of evidence to prove it*. Television told the same spooky story. Even serious magazines and newspapers gave uncritical coverage to paranormal claims.

Today, critical sources on hundreds of paranormal topics are just a Google search away; in those days, skeptical analyses simply did not exist for most such topics—and good luck finding the few that did. "The true information rarely catches up with the misinformation: the facts rarely meet the myths," Ken wrote at the time, "And all the people who honestly would prefer to know whether widely publicized claims are true or not are deprived of any easy way of learning" (Frazier 1976, 348). This was a challenge even for science journalists. Some sort of "evaluative function" was needed. "Editors like me badly needed a central resource to go to—a group of scientists and other experts interested in these issues but who ... had a critical bent and could help us evaluate fringe claims" (Frazier 2001a).

That was a lot to wish for then, but something did seem to be shifting in the culture. A new crop of skeptical books was emerging, such as *UFOs Explained* by Philip J. Klass (1974), *Mediums, Mystics & the Occult* by Milbourne Christopher (1975), and *The Bermuda Triangle Mystery—Solved*, by Larry

Kusche (1975). But the true game changer, in Ken's view, was a 1974 symposium hosted by the American Association for the Advancement of Science to examine the pseudoscientific claims of Immanuel Velikovsky, whose wildly popular book *Worlds in Collision* had seized the public imagination (and irritated scientists) with its bonkers vision of rogue planets careening through our solar system and causing many of the miracles and catastrophes described in the Bible.

The meeting was organized by the "passionate young astronomer Carl Sagan, already famous at age thirty-nine," who had actually bothered to "read Velikovsky's books carefully and to write such an extended critique and present it in such a public forum. Until then few scientists were willing to do such things" (Frazier 2015). Ken sat right in the front row to watch the elderly Velikovsky, with his "silver hair" and "almost biblical air," square off against his critics led by Sagan. "Two amazingly charismatic figures in collision. It was electrifying."

Ken considered this historic meeting "one of the seminal moments in establishing a new tradition of scientists and scientific-minded scholars publicly committing time and effort to examining—not ignoring—extraordinary claims of a pseudoscientific, fringe-scientific, or paranormal nature" (Frazier 2015).

There was more to come. "My introduction to the modern skeptical movement came in a letter dated April 15, 1976," Ken recalled, adding, "I still have it" (Frazier 2001a). The letter said that an upcoming American Humanist Association conference would not only feature a full day of programming on "The New Irrationalisms: Antiscience and Pseudoscience" but also formally announce a new organization to critically study such matters. That sounded like the exact thing he had wished for!

He jumped on a plane to see for himself. "I could not have known ... how much my going there would change my professional life forever" (Frazier 2001a). He attended the sessions, met the high-profile speakers, and then wrote a *Science News* cover story about this "founding conference of what became the Committee for the Scientific Investigation of Claims of the Paranormal" (CSICOP, now called the Committee for Skeptical Inquiry [CSI]). It was like no other scientific meeting he'd ever attended, like nothing he'd ever seen. There had never been a conference to seriously discuss "people's deepest interests and emotional passions and intellectual misperceptions" on the full range of paranormal and pseudoscientific topics "these scholars and experts were examining." This was, for Ken, "one of the most exhilarating times of my life" (Frazier 2001a).

The meeting was covered by outlets from the Associated Press to the *New York Times*. It was extremely unusual for big name scientists and intellectuals to engage with the fringe. CSICOP's founding fellows included Carl Sagan, Isaac Asimov, L. Sprague De Camp, and B.F. Skinner, among dozens of other luminaries.

As I write this, I'm struck by the diverse and complementary talents of the founding members of CSICOP's Executive Council. Among them were Martin Gardner, a well-known

polymath and *Scientific American* columnist; the confrontational showman magician James Randi; psychologist Ray Hyman, bringing rigor and accountability; and, as chairman, philosopher Paul Kurtz, described by Ken as an "organizational genius" (Frazier 2015). I can't help fancifully imagining them as though they were putting together a crack team for a heist. Truth be told, they were attempting something almost as audacious.

Just as a heist gets nowhere without a driver, a new organization can get nowhere without doers and builders. Big ideas are great, but at the end of the day, someone has to do the work. As CSICOP's announced new journal *The Zetetic* was to be the heart of the organization, much of that work would fall on its editor—originally sociologist Marcello Truzzi. However, Truzzi left the role after only two issues. He wanted to create an academic journal, while the others wanted to speak directly to the public. Sociologists also don't like to take sides regarding their subjects of study, and the others had definitely picked a side. They resolved to be always fair and factual, but make no mistake: they were on Team Science, ready to take on Team Nonsense.

And not for no reason. These men (and they were almost all men) believed that widespread misinformation, lack of sci-



Ken Frazier with James "The Amazing" Randi.

entific literacy, and lack of critical thinking posed a threat to democracy and the world. After all, it had happened before. Paul Kurtz had been a young American soldier “at Dachau and Buchenwald days after the liberation of those concentration camps” (Kurtz 1988, 249).

## SKEPTICAL INQUIRER

Kendrick Frazier became a central character in the story of organized skepticism in August 1977, when he was asked to become editor of *The Zetetic*, renamed **SKEPTICAL INQUIRER** the following year. In this role, he would help to define the ethos of scientific skepticism, curate its scope and content, and communicate its values for almost five decades. His role wasn't flashy—indeed, he called himself a “toiler in the editorial fields” (Radford 2002, 15)—but his **SKEPTICAL INQUIRER** became the model and inspiration for all that came after. In doing his quiet, diligent work, year after year and decade after decade, Ken may have been the single person most responsible for shaping the global skeptical movement.

He was also modern skepticism's chief chronicler. He wrote several accounts of the early days of CSICOP, including “From the Editor's Seat: Thoughts on Science and Skepticism in the Twenty-First Century” (reprinted in *Skeptical Odysseys*, edited by Paul Kurtz [2001]) and an 8,000 word “Committee for the Scientific Investigation of Claims of the Paranormal” entry in the *Encyclopedia of the Paranormal*, edited by Gordon Stein (1996). I refer readers to those and other pieces for a more detailed history, but here I want to give Ken his proper, personal place inside those events. (His *Encyclopedia of the Paranormal* account is written in the third person.)

From the outset, CSICOP adopted ground rules that fit Ken's strengths and preferences like a glove. “The committee hopes to function like a consumer information group, serving the public and the news media by providing access to facts by which they can judge the validity of unusual claims,” he reported after that first meeting (Frazier 1976, 346). CSICOP was meant to be practical and useful—a public service. It would also stick close to the science. The **SKEPTICAL INQUIRER** was not meant to be a metaphysical fight club. “Our emphasis is on empirical, scientifically testable claims,” Ken emphasized in a 1978 editorial. “Mystical claims whose basis primarily is belief lie outside our province” (Frazier 1978). This was the same scope of practice spelled out by Truzzi in the very first issue:

Finally, a word might be said about our exclusive concern with scientific investigation and empirical claims. The Committee takes no position regarding nonempirical or mystical claims. We accept a scientific viewpoint and will not argue for it in these pages. Those concerned with metaphysics and supernatural claims are directed to those journals of philosophy and religion dedicated to such matters.

Well, Ken was a science journalist! This was his wheelhouse. Find out facts on scientific topics, then help the public understand what you have learned. To do this well would require a light and professional touch, he knew, emphasizing early on: “We need to bring compassion to our efforts, always understanding the human need for supportive beliefs and



realizing the tentative and uncertain nature of all scientific knowledge” (Frazier 1984, 103). Whether skeptics have ever realized this ideal is a matter of debate, but Ken held onto that aspiration throughout his career.

## Why We Do This

The early issues of the **SKEPTICAL INQUIRER** buzz with earnest (and perhaps naive) purpose and energy. Skeptics were attempting something that had never been done, and one gets the sense that they thought they could change the world in a fairly short time. If they just explained to the public clearly enough that paranormal claims were wrong and showed them the evidence, people would stop believing those claims. This energy was wildly infectious. Ken recalled the feeling: “Something big was happening. The scientific examination of widely accepted claims that to scientists were at best, misguided, and at worst, totally bogus, was now a major news story and a part of the new cultural debate” (Frazier 2015).

The dream of building a more rational world took off far beyond anyone's expectations. “Skepticism was in the air,” Ken felt. “CSICOP helped found or inspire local and regional

skeptics groups in the U.S. around the same ideas and principles. The Bay Area Skeptics were the first, but soon there were dozens of others” (Frazier 2015). Inspired by the SKEPTICAL INQUIRER, skeptical thinkers the world over rushed to start groups in their own countries.

But as years went by and milestones were celebrated—five years, ten years, twenty, thirty, forty—it became all too obvious that paranormal and pseudoscientific beliefs remained widespread and popular. Ken was one of the skeptics who saw most clearly why. He wrote on the occasion of the group’s tenth anniversary:

It is not enough to show, even carefully and persuasively, that a particular fringe idea is factually invalid (if it is). What is even more interesting is why such fads are believed so strongly despite that. This requires a willingness to see things from the point of view of those who hold the beliefs. Their appeal goes to the very heart of the human condition—our hopes and aspirations, our deepest fears and uncertainties. (Frazier 1986)

Yes, there were major victories against scammers and much useful outreach against misinformation, and individual fringe beliefs both rose and fell from fashion. And yet, twenty-five years into his tenure, Ken warned:

But while the specific topics come and go, the more general manifestations of fringe-science, pseudoscience, and the paranormal persevere. They arise, over and over again, in new guise, with new language, new clothing, and new proponents. And it is only rational for scientists and skeptics to realize that. Any hope scientists and skeptics may have to abolish from public consciousness nonsense and irrationalisms in the name of science is doomed to failure. (Frazier 2001a, 49)

As I’ve often argued, the paranormal is normal and virtually universal across human society. It’s built in. The same mechanisms that allow us to dream and imagine, to make meaning and value, and to protect our hearts from pain—these are also the engines of belief. We’re creatures of emotion as much as reason. As Ken put it, “The appeal of comforting belief makes it impossible ever to eliminate pseudoscience, fringe-science, and superstition” (Frazier 1981, 3).

Some early skeptics became discouraged by this reality or simply lost interest. “In his later years, Kurtz convinced himself—but few others—that interest in the paranormal had diminished,” Ken recalled. “No one is interested in the paranormal anymore,” he would proclaim. We would either demur or just smile” (Frazier 2013). Ken was a pragmatist and always a journalist. He knew there’s always more news. The job doesn’t end just because you reported on the events of yesterday. He had a journalist’s faith that finding out and making known has its own intrinsic value. Besides, he had already built what he originally set out to build: an accessible, growing central resource of useful information for those who wanted it.

This was Ken’s answer to one central challenge of fringe beliefs: they are chronically understudied by scholars and scientists. “This is where I think CSICOP, the *Skeptical Inquirer*, and the skeptical movement in general come in,” Ken argued. “We help fill that gap. We are in effect a surrogate in that area for institutional science” (Frazier 2001b, 50).

That need remains. Even today, a fringe movement as consequential as QAnon can reach critical mass before main-

stream researchers and news media even realize it’s happening. (Even skeptics were too slow on that one, leaving a new crop of misinformation journalists and online researchers to help close that gap.) Most developments in paranormal, pseudo-scientific, and conspiratorial beliefs will remain unknown and unexamined without the kind of critical scholarship pioneered by the SKEPTICAL INQUIRER under Ken’s steady leadership.

He was an optimist, writing, “If I didn’t think we were accomplishing something, I wouldn’t be doing this” (Frazier 2001b, 48). That optimism fueled his endurance, yet sometimes led him astray. Reeling from the tragedy of 9/11, Ken predicted “a new era of no-nonsense. People know they have no choice but to confront the real world directly, on its own terms. There is no escape into a trivial, pretend world of non-existent woo-woo” (Frazier 2002, 64). Instead, the United States was plunged into two decades of war and a roiling cauldron of conspiracy theories.

Nevertheless, his work is notable for a well-grounded sense of the achievable. His goal wasn’t to abolish paranormal belief but to limit its harms and make our world more livable and just:

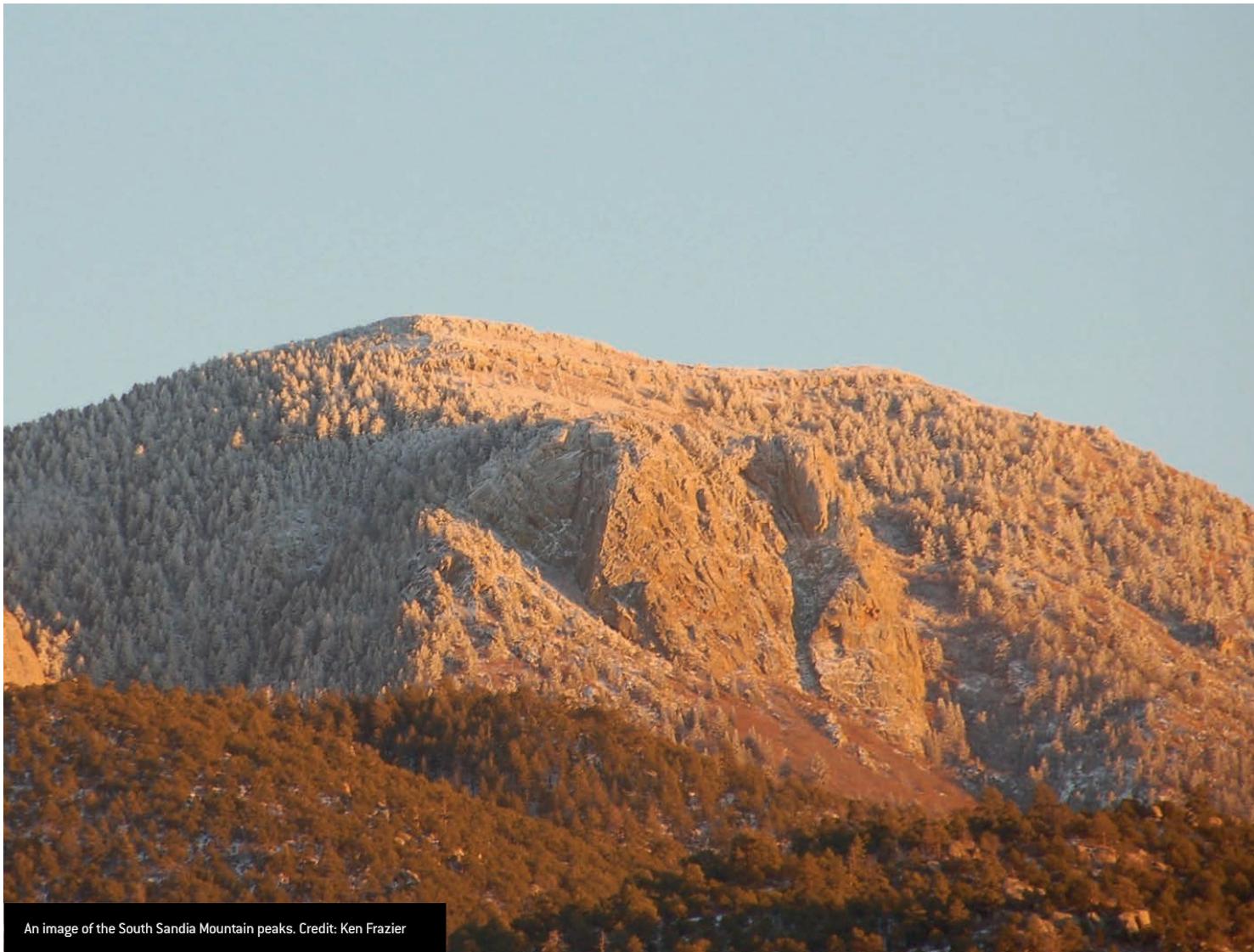
Although the appeal of the paranormal and pseudoscience will always be with us, I think it should be the goal of scientists, scholars, and scientific-minded skeptics everywhere to combat and contain the most extreme and irresponsible elements of claims-mongering. Outright misrepresentations of science must bring strong correction. Efforts to introduce bad science or pseudoscience into science curriculums or the political process must be opposed. (Frazier 2001b, 48)

For such a genial man, he took a hard line on the sorts of extreme, ideological misinformation that motivates attempts to seize political power, harness political violence, or target vulnerable groups. One prescient 2006 column warned of the “dangerous capturing of mainstream, liberal, open-minded, religious viewpoints by those with far more extreme, narrow, rigid, authoritarian, judgmental religious viewpoints.” He saw these “deep-seated ideologies” corroding American political culture as “attacks on democracy itself. For these fundamentalist partisans would—if allowed—willingly impose their own, very specific ideological views on those they oppose. We have to fight these trends. We *will* fight these trends” (Frazier 2006).

### Love, Service, Gratitude

In the end, what can one say about such a long and distinguished career of public service? What stands out to me is his obvious love for that work. “I consider it a genuine privilege to be involved in the effort to scientifically evaluate exotic claims on the fringes of science,” said Ken in the early years of his career (Frazier 1984, 105). In his final contribution, writing from his hospital bed, Ken again rejoiced in the good fortune that had led him to that useful work: “What more could one ask?” (Frazier 2022, 6).

It seems fitting to give the last word to Ken himself, one of the finest leaders skepticism has known. In a 2020 editorial, he expressed his heartfelt gratitude for the readers who “treasure skeptical inquiry.” He continued:



An image of the South Sandia Mountain peaks. Credit: Ken Frazier

I am also grateful to our authors and contributors. And to skeptics and scientific thinkers everywhere. You research, report, investigate, test, analyze, critique, explain, and educate. This is not easy, and it comes with few rewards. Our authors do whatever is necessary to ascertain the facts and to help us all understand the realities and complexities of nature and human behavior. It is a magnificent quest. It is a crucially important quest. I am so grateful to everyone who participates in it and shares the results with us. Thank you. (Frazier 2020, 4)

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Daniel Loxton is an author, illustrator, and skeptical researcher. He was formerly the longtime editor of *Junior Skeptic* for *Skeptic* magazine. His books include *Evolution—How We and All Living Things Came to Be* and *Abominable Science!* [coauthored with Don Prothero]. He is a Committee for Skeptical Inquiry fellow.

## Richard Dawkins

Ken Frazier was a great editor and writer, but I knew him mostly as a fellow member of the board of the Center for Inquiry. Whenever he spoke up, I knew we were about to be lifted to a higher level of thoughtful kindness, wisdom, and generosity. His death represents a huge loss to the cause of reason and science.

Richard Dawkins is author of *The Selfish Gene* and other books on evolutionary biology plus, most recently, *Books Do Furnish a Life* and *Flights of Fancy*.

## Robyn E. Blumner

I've met many inspirational figures but none who were both as accomplished and as humane as Ken. That magical combination is what made him so remarkable and beloved. Ken's storied career speaks for itself in his decades of groundbreaking and impactful work. But it was Ken's kindness, compassion, and utter humanity that inspired loyalty and deep regard from everyone he worked with and knew.

Robyn E. Blumner is the president and CEO of the Center for Inquiry and the executive director of the Richard Dawkins Foundation for Reason & Science.

## Ann Druyan

There is much to celebrate in Ken's life and work. I admired him as a superb editor and an impeccable voice for skepticism. His writing was elegant and always clear. And he was in it for the lifelong haul. His commitment to presenting the skeptical point of view endured through every spasm of religiosity and pop fad flirtation with nonsense. He was the winter soldier for reason and for science.

In addition to his talent and impressive character, I was deeply impressed by his kindness and modesty, and I know that Carl Sagan felt the same way about him. During my phone conversations with Ken and the times we met in person, I was always struck by what a fully alive person he was. His love for Ruth and their family was obvious to anyone who knew him. There was a sweetness about him and a joy in life that made it a pleasure to know him.

If skepticism is to be more than just a cudgel used to make other people feel stupid, if it is to captivate the imagination of the public as powerfully as other belief systems have, it better exemplify the best human qualities that inform this view of nature. One of them, humility, that inner voice telling us we might be wrong, and another, compassion, in the absence of absolutist conviction, are, in my opinion, critical to our success. Ken had all that without ever diluting the method or meaning of the skeptical way of thinking. The loss of his voice

is a profound one for our community and the wider world. What a mensch he was.

Ann Druyan is the creator, producer, and writer of *Cosmos: A Spacetime Odyssey* (2014) and its sequel series, *Cosmos: Possible Worlds* (2020). She is a CSI fellow.

## Bill Nye

Ken Frazier was a master critical thinker. He could analyze and evaluate evidence as well as anyone. If you ever had a chance to speak with Ken or exchange messages with him, you immediately sensed his intellect, his judgment, and the respect he had for all us humans. Ken was a humanist, who believed in our worthiness as a species. He worked hard to help all of us be better—so long as we were willing to think critically about extraordinary claims and extraordinary proof. We will miss him and especially his voice of reason.

Bill Nye is an American mechanical engineer, science communicator, and television presenter.



Sequoia National Park. Credit: Ken Frazier

## Barry Karr

*Editor's note: Barry Karr had several exchanges with Ken and his wife, Ruth, during Ken's last days. He asked that this message, sent to Ruth three days before Ken's death, stand as his tribute.*

Dear Ruth,

How is Ken doing?

I don't know if you have time for a talk today, but I have been talking with people about the magazine over the past couple days about the ideas that we (he and I) discussed the other day.

I wanted Ken to know that I've talked with Stuart Vyse, and Stuart has agreed to help in any way he can to step in and act as interim editor for as long as we may need him. Daniel Loxtton too said that he'd help if we needed him as well. Also, I have heard from Ben Radford, and Ben is coming back early from his leave and will jump right back in with the magazine. So, I don't want Ken to worry at all about the magazine. He can concentrate his energy on his treatments.

I am so sorry, Ruth. I admire Ken so much. I always say to people that Ken is the nicest guy on the face of the earth, and I really mean that. He gets along with everyone; he is such a moderating force. You know his views on things, but he doesn't impose them on others. He discusses, he reasons, and he finds common ground. And his writing—my god I wish I could write just a quarter as well as Ken. Everything is said so beautifully. Often, when writing, I've found myself asking, "How would Ken say this?" and then failing miserably to come close to what Ken would say. He just has this intelligent, optimistic, and beautiful soul. An expression I have said dozens of times over the past several decades is, "When I grow up, I want to be like Ken Frazier." Thank him for being such a role model and truly someone to try to emulate.

Barry Karr is the executive director of the Committee for Skeptical Inquiry and the SKEPTICAL INQUIRER.

## Carol Tavis

Like Ken's legions of admirers and colleagues, I was shocked and heartsick to read the essay he sent out about his devastating illness. It was just like him to write such an elegant and eloquent piece, evoking all that is good in the natural world of beauty and the human world of love, before the bombshell to the reader that his death was imminent. In his essay, he set a model of how to live, how to face our mortality. The sorrow I felt on learning of his leukemia was eased, somewhat, by knowing that he was able to take that magnificent journey into America's beauties with his beloved Ruth at his side. Ken lived the richest of lives: close family, friends, long-standing colleagues, work that gave him immense satisfaction. And he surely had the gratification of knowing that his life's work was always and ever meaningful, combatting humanity's endless



enemies: superstition, pseudoscience, and nonsense. Ken was therefore an inspiration to so many, always a pleasure to work with, always warm and patient and professional. Skepticism could not have had a better or more tireless advocate.

Carol Tavis, PhD, is a social psychologist, writer, and lecturer. She is author of *Psychobabble* and *Biobunk* and coauthor of *Mistakes Were Made (But Not By Me)*.

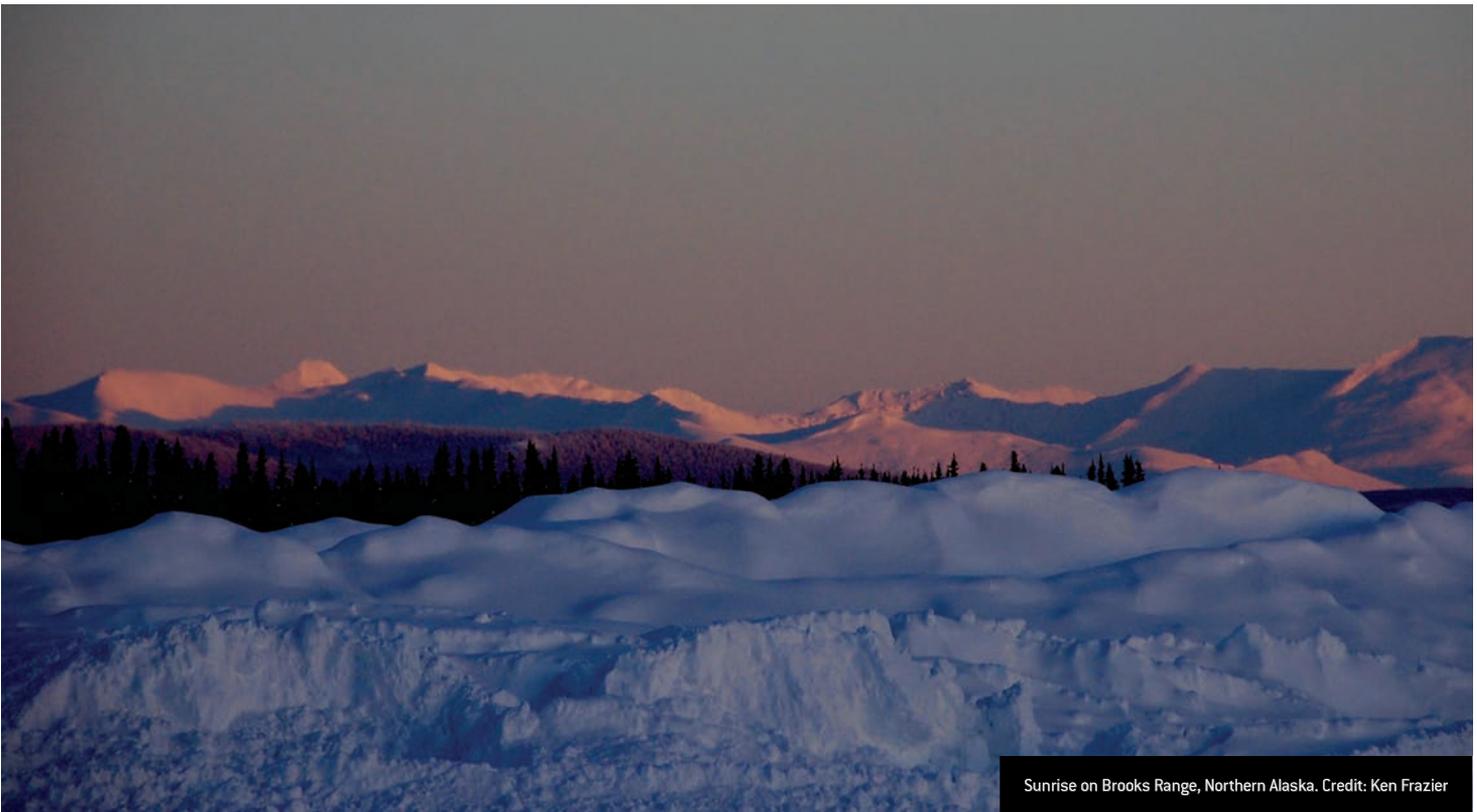
## Edward Tabash

The cause of science and reason has suffered a tragic loss with the passing of Ken Frazier. Ken spent much of his life confronting a world too often benighted by false beliefs. Yet he also addressed such beliefs with a deep understanding of how weaning people away from unsound thinking requires a sympathetic gentleness, particularly for those who are struggling with the way evidence is eroding their previously cherished worldviews.

Even in his role as a guardian against falsehood, Ken never took glee in bursting the bubble of magical hope that someone might be holding onto. Rather, as a writer, and ultimately as a teacher of how to assess claims and evidence in our daily lives, he kindly offered an approach to seeing things as they really are and not just as we might wish them to be.

Of all the ways Ken communicated to the world, this publication, SKEPTICAL INQUIRER, was his main medium. He served as editor for forty-five years. During this time, he shepherded the magazine to world renown status and made it highly respected by leading scientists everywhere.

The Center for Inquiry focuses on the need to apporportion belief to the evidence in all areas of human endeavor and thought. Ken was a central figure in holding up the sci-



Sunrise on Brooks Range, Northern Alaska. Credit: Ken Frazier

ence-based prong of this quest for truth. Ken had an almost parental patience with those who would contact him, even if they insisted that they had just made some revolutionary discovery that would forever change our lives. Ken was always civil to those who insisted that they just discovered the specific gene that can double the human life span or announced that they will soon be able to blow a hole in the spacetime warp and reveal a portal to the sixth dimension. Ken was perennially diplomatic while explaining to such people why their work has not yet reached a level at which it could be confidently embraced by empirical science.

Ken was very empathetic with those who had been duped by bogus claims. At the same time, he could be justifiably aggressive in dealing with those who sought to profit by fleecing the public through the intentional promotion of false cures and fraudulent solutions to life's problems.

Ken tried to teach everyone that there is no need to embrace false claims to fully appreciate how fascinating, weird, and wonderful the world already is. As long as there will be people devoted to a fearless search for truth, Ken's life and work will never be forgotten.

Edward Tabash is chair of the board of directors of the Center for Inquiry.

## Amardeo Sarma

Kendrick Frazier was the epitome of the skeptic. While so much changed from the early stages of CSICOP to the Com-

mittee for Skeptical Inquiry today, including its incorporation into the Center for Inquiry, Ken Frazier remained the often-invisible pillar that held skepticism together while mostly not being in the limelight. He did so as editor of *SKEPTICAL INQUIRER* magazine and a CSICOP/CSI Executive Council member.

Ken played a central part in expanding the role of skepticism, from shedding light on the deception of pseudoscience to the defense of science itself. In 2009, his edited book, *Science Under Siege*, was published, extending beyond the typical issues of skeptics to the defense of science, now more central than ever. In 2013, at the European Skeptics Congress in Stockholm, Ken gave a historical overview of how pseudoscience has developed and was still pervasive. He also mentioned new topics, such as conspiracy theories and the denial of anthropogenic climate change.

For him, it was always about science and addressing "citizens who long for scientifically reliable information in what has regrettably become an age of misinformation." His message to us all was clear: We must remember that our work will remain crucial even if we feel discouraged from time to time. We should take threats to science seriously and be prepared to take action.

The last time I met Ken in Albuquerque, we talked about the role Douglas Hofstadter played with his article in *Scientific American* in February 1982 that boosted sales of the *SKEPTICAL INQUIRER* and led to many new groups being formed worldwide.

Hofstadter's book, *Metamagical Themas: Questing for The*

*Essence of Mind and Pattern*, has a chapter as an update of the *Scientific American* article. He quotes Ken, writing four decades ago in one of the editorials in the SKEPTICAL INQUIRER:

Skepticism is not, despite much popular misconception, a point of view. It is, instead, an essential component of intellectual inquiry, a method of determining the facts, whatever they may be and wherever they might lead. It is a part of what we call common sense. It is a part of the way science works. All who are interested in the search for knowledge and the advancement of understanding, imperfect as those enterprises may be, should, it seems to me, support critical inquiry, whatever the subject and whatever the outcome.

I see these words as a description of our timeless cause.

Ken was not just an outstanding skeptic. He was also a compassionate and thoughtful global citizen, a fine person you could not but like from the first encounter.

Being separated by the Atlantic, most of our communication was by email. But there were notable exceptions both in the United States and Europe. For one, my wife and I enjoyed Ken and his wife, Ruth's, hospitality when we visited the United States eight years ago. Coming from Europe, I had looked forward so much to meeting him and his wife at CSICon in Las Vegas last year after a long time. Alas, it was not to be. It now remains on us to carry his legacy worldwide.

While losing a great skeptic already is so depressing, having such a fantastic person and friend no longer among us is truly heartbreaking. There also remains the sorrow that distance prevented me from meeting him more often. Our thoughts remain with Ken's wife, Ruth, and the entire family.

Amardeo Sarma is a fellow and member of the Executive Council of the Committee for Skeptical Inquiry. He is founder and chairman of the German skeptics organization GWUP.

## Susan Gerbic

Writing a tribute to my friend Ken Frazier has been sitting on my to-do list for weeks. I can barely write this without tearing up. I have been avoiding all the other tributes and resisting writing mine so that I can pretend that he isn't really gone. He's just traveling with his wife, Ruth, somewhere overseas. He doesn't have internet where he is, which is why he hasn't responded. Any day now I will see photos from his latest adventure, maybe of a sunset.

I wish.

Ken was so darn knowledgeable, kind, and welcoming. He and Ruth visited Monterey County Skeptics for dinner a few years ago, and they hosted me at their lovely home, took me to dinner and a botanical garden, where I watched Ken take photos of flowers and the pond, delighting in one of the ant exhibits and discussing everything and nothing.

I've photographed him at home with his pets and at his desk—I am so glad I was privileged to be able to do that. I'll remember him sitting there, surrounded by piles of books and articles to read with his cat and dog beside him. He was so happy to be doing exactly what he was doing.

I've been rereading some of his work, and so much of it

resonates with me that I keep finding quotes that I think represent him, and then I find another that reveals a different aspect of his wisdom. But let me end with this one, from his contribution, "From the Editor's Seat," written in 2001's *Skeptical Odyssey* book of essays, about how to fight against what he called "the new irrationalisms." He wrote:

If I didn't think we were accomplishing something, I wouldn't be doing this. The first step, however, is to understand the human needs ... and have some compassion and understanding for the human condition. We are all in this together. It is self-defeating to put yourself above the fray, separate from the rest of humanity. Understanding these powerful needs is essential ... emphasize the positive. Emphasize what you are *for*.

Wise words from my friend Ken Frazier. You made a difference and will be missed.

Susan Gerbic is the cofounder of Monterey County Skeptics, founder of the Guerrilla Skepticism on Wikipedia (GSoW) project, and a fellow of the Committee for Skeptical Inquiry.

## Benjamin Radford

It's hard to believe that Ken Frazier has been a part of my life for a quarter century. After I was first introduced to the magazine by chance in a used bookstore in a small Utah town, I discovered that we lived in the same city. My journalist father, who knew Ken in passing, suggested I reach out to him. I did, and Ken kindly encouraged me to write a short News and Comment piece, which he published. Soon an editorial position opened up in Buffalo, New York, and I was on my way to a career in skepticism (later expanding into investigation, writing, and education).

Most of our day-to-day interactions were editorial, which to many readers may sound dull. It is, after all, the oft-dreary domain of magazine production: looming deadlines, tardy columnists, agonized art decisions, author revisions, diplomatic rejections, rampant typophobia, and so on.

But it was always fun. The staff changed a bit over time, but often it was Ken, Julia Lavarney, and I who would hash out ideas and suggestions. On the rare occasions we disagreed, Ken was always respectful, thoughtful, and equitable. In fact, he was fair-minded to a fault; now and then some article we'd published would spur an indignant rebuttal, which we'd then be obligated to (or harangued into) publishing, which would often spur another round, then another. I felt we should cut it off sooner—for both space reasons and reader patience—but he'd bend over backward to make sure that the different points of view were fairly represented.

Paul Kurtz often said that SKEPTICAL INQUIRER is the heart of the skeptical movement. He helped found the magazine, but this was more than a self-serving comment. To the extent that skepticism—like science in general—is based on precedent, Ken felt the responsibility of being the written record for what's going on in the world that merits skepticism, from false memory claims to alien abduction panics, ghosts,



Ken framed by the twenty-seven-dish Very Large Array radio telescope west of Magdalena, New Mexico.

alternative medicine, conspiracy theories, and so much more. We rarely decided that a proposed topic was too silly or stupid to address, because some people (often many people) believe in it. We tried to be a voice of reason and critical thinking in a sea of uncritical claims. Soon, of course, other fine skeptical magazines appeared both domestically and internationally. But SI was the original, and it's a responsibility that we take seriously.

Ken was far more than a magazine editor. He was a writer, photographer, amateur astronomer, traveler, friend, and so much more. Space doesn't permit me to describe all that Ken meant, but what I'll remember most was his boundless, almost child-like enthusiasm for science and nature. He loved ideas and thoughtful discussion, and this magazine reflects his passions.

Benjamin Radford is the deputy editor of the SKEPTICAL INQUIRER.

## C. Eugene Emery

This is heartbreaking for me. It was Ken's feature article in *Science News* about CSICOP's founding that created a watershed moment in my life, showing me that I had a place to turn to find the truth about all the bunk I had casually followed in high school and college. Purveyors of this junk science had repeatedly claimed—as they continue to claim—that “establishment” scientists were unwisely dismissing important discoveries about UFOs, psychics, and the like. Ken turned me on to the fact that the opposite was true and that the real research-

ers had discovered that it was all hokum. As a result, I spent much of my forty years at the *Providence Journal* working to expose pseudoscience falsehoods whenever the opportunity presented itself. He and the SKEPTICAL INQUIRER became my trusty guide along a journey that gave me some of the fondest memories of my career. His death is a huge loss.

C. Eugene Emery was a staff writer at the *Providence Journal* and is a former columnist for SKEPTICAL INQUIRER.

## Kenneth L. Feder

Looking through my CV, I see that Ken published my first article in SKEPTICAL INQUIRER all the way back in 1980 (on psychic archaeology)! I believe that this was during the Miocene Epoch. I'm sure despite his better judgement he continued to publish my articles about archaeology and skepticism. Particularly in the early years, as a young scholar with what many of my colleagues considered to be a niche interest, Ken provided me with an outlet to share my ideas. In a very real sense, those SI pieces paved the way for my book *Frauds, Myths, and Mysteries*, a fact for which I will be forever grateful. Ken's support made a huge difference in my professional life. Thank you, my friend. Your memory is a blessing.

Kenneth L. Feder is a professor of archaeology at Central Connecticut State University and the author of several books on archaeology and criticism of pseudoarchaeology, such as *Frauds, Myths, and Mysteries: Science and Pseudoscience in Archaeology*.

## Ronald A. Lindsay

I had a unique relationship with Ken in that for several years he was both my boss (as a member of the board) and my subordinate (as editor of SI)—though the latter relationship was more theoretical than real. The only comments I ever made to Ken about his SI work were to commend him for the consistently excellent issues he produced. Ken had complete independence as editor because, among other things, no one could improve on his judgment. Ken was reliable, intelligent, professional—dedicated to his work and the mission of CFI. His personal warmth, even temper, and prudence made him a wonderful colleague, and these qualities were invaluable as he helped guide CFI through some turbulent times.

Ronald A. Lindsay is the former president and CEO of the Center for Inquiry.

## Luis Alfonso Gámez

I would have liked to have known Kendrick Frazier better. We both shared a profession, journalism; a passion, promoting skepticism; and points of view. I have admired his work since the day I first opened a copy of *SKEPTICAL INQUIRER*. As a journalist who knows how hard it is to make a magazine, I have always admired the very high standard of his work. It's hard to imagine how difficult it is to maintain the quality of a magazine such as *SKEPTICAL INQUIRER* for more than four decades.

Ken was a pioneer. He joined CSICOP in the 1970s. At that time, spreading critical thinking and asking for proof of extraordinary claims was heroic in a world full of flying saucers, paranormal powers, mysterious disappearances, and other “phenomena” that sold a lot of books and hours of radio and television. The pioneers of modern skepticism—Ken among them—warned us of the dangers of a society incapable of distinguishing facts from lies. It took a pandemic and political leaders such as Donald Trump, Boris Johnson, and Jair Bolsonaro for the mass media to start to warn of the risk to democratic societies of disinformation that they themselves had nurtured for decades.

Our present is the future that Ken and other pioneers feared. Unfortunately, they are no longer here to guide us. But we have their message, and we have an obligation: to try to leave a more rational world to those who succeed us, as Ken did until the end.

Thank you, Ken.

Luis Alfonso Gámez is a journalist and CSI scientific and technical consultant. He works for the Spanish newspaper *El Correo*.



Hot Air Balloon Festival 2021. Credit: Ken Frazier

## A Man for Light (An Elegy for Ken Frazier)

JOE NICKELL

He fought  
to reach  
great  
lights,  
whether  
fire-  
brand or distant  
star,  
& at times  
appear  
himself to emit  
light.  
I think it will be  
long since  
that we shall see  
another  
such one  
for science,  
or, among men,  
another such prince.



Graham Hancock, host of *Ancient Apocalypse*. Credit: Netflix

# Apocalyptic Pseudoarchaeology

The Netflix show *Ancient Apocalypse* recycles old pseudoscientific tropes and mixes them with fallacies and other unreliable content to create a misinformation miasma.

DAMIAN FERNANDEZ-BEANATO

The current Netflix hit *Ancient Apocalypse* features stunning high-quality panoramic images of amazing places, historical and archaeological sites, on different continents—on land, under it, and underwater—places you and I will probably never visit in person. Graham Hancock, the author who hosts the show and on whose ideas it is based, delivers an engaging presentation. The show’s main contention is both interesting and fun: mainstream science is wrong, human civilization is much older than usually accepted by historians and archaeologists, and scientists are, of course, too career-invested, stubborn, and full of themselves to admit it. At face value, the well-spoken Hancock seems to deserve a chance to make his case.

He makes his beliefs sound more plausible by carefully avoiding any explicit mention of extraterrestrial visitors, something similar authors were fond of doing in the 1960s and 1970s. The show appears to be more serious and well done than, for example, *Ancient Aliens*. *Ancient Apocalypse* can be enjoyable; I’ve watched the entire series seven times since its release on November 10, 2022.

But those who might mistake it for a real documentary should know that *Ancient Apocalypse* recycles old pseudoscientific tropes and mixes them with fallacies and other epistemically unreliable content. In what follows, I offer an analysis

and deconstruction of the whole series from a scientific, philosophical, and historiographical point of view. In the process, I will also point out some key red flags to watch out for when judging the degree of reliability of a source of information or of information itself. This critique is exclusively based on what’s presented in the show—not on any of Hancock’s writings or on knowledge of him as a person.

## The Problem with the Hypothesis

According to Hancock, approximately 12,800 to 12,500 years ago a catastrophic event (the titular ancient apocalypse, related to the Younger Dryas climate change event) destroyed an advanced civilization of the Ice Age whose existence modern science completely ignores. Survivors of that civilization then spread around the world and introduced other, less advanced peoples to agriculture, monumental architecture, the rule of law, astronomy, and other amenities of civilization. He presents myths and legends about civilizing heroes from cultures around the world, such as those of the Sumerians and the Mesoamerican Quetzalcoatl, as examples of stories ultimately based on memories of those “real” historical events. For other fringe authors, these mythological characters were assumed to be extraterrestrial astronauts. Hancock replaces the ancient

astronauts hypothesis with an Atlantean one, which for many is an attractive narrative.

The glaring problem is that virtually no mainstream, trained scientific historians or archaeologists support such an idea, because there is simply no sufficient scientific evidence for it.

### 'Sudden' Developments and Mystery Mongering

One of the hallmarks of pseudoscience is that it sometimes “appeal[s] to unfounded non-mysteries (cf. Tuomela 1985, 228), i.e., presenting a real phenomenon that already has a satisfactory scientific explanation as if it were mysterious, or misrepresenting a scientifically explained phenomenon to make it mysterious” (Fernandez-Beanato 2021, 1341). *Ancient Apocalypse*, much like its predecessors of the 1960s and 1970s, tries to make much of the alleged fact that hunter-gatherers “suddenly” started to build monumental carved megalithic structures. From whom did they learn to do that? Or, how did they come up with that idea? And, how were they able to realize it? This is an old trope typical of ancient astronauts authors such as Erich von Däniken.

*Suddenly* is a vague term. How suddenly is too suddenly for plausibility? The idea that this happened suddenly is a misrepresentation. Hancock gives the example of the amazing Anatolian site of Göbekli Tepe, which is some 11,500 years old. But the archaeological record for its general area (the Fertile Crescent) instead indicates a gradual development. Archaeologists found that pre-Neolithic people, increasingly sedentary and starting to cultivate plants more and more, led to sedentary and farming people in the Neolithic. Known precursor cultures, such as the Natufians, were previous to, and located near, Göbekli Tepe. Our ancestors had plenty of time to practice and develop their techniques; there's nothing suspiciously *sudden* or mysterious there. Neolithic cultures whose members watched the sky and stacked and carved rocks are well accounted for in mainstream historiography and archaeology. Hancock does not even mention those precursor cultures (they would dissolve the “mystery” of Göbekli Tepe). Instead, he focuses on fringe datings of other archaeological sites, such as Gunung Padang, on the island of Java, Indonesia, a site that he, based on the work of one geologist—notably, not an archaeologist—claims is as much as 24,000 years old! The geologist himself admits on the show that he hasn't been able to get the scientific community to agree with his ideas. Archaeologists date the site no earlier than 500 BCE.

Hancock acknowledges that the oldest accepted megalithic structures, such as those of Göbekli Tepe, were built *before* the accepted invention of the wheel and the domestication of the horse. Writing would take another 6,000 years to be invented. Why, then, didn't the advanced expatriates whom he talks about teach their students any of these? Was carving and arranging rocks all that the students could do? It seems that they could very well do that on their own.

Science does have small intriguing mysteries, in the sense that it tries to fill gaps in what is already a reasonably clear knowledge picture. It is usually in this sense that legitimate

scientists talk about researching mysteries. Scientific revolutions, “paradigm shifts,” or changes of basic understandings are rare and must be well justified (first, you must prove that the mainstream account has too many problems and then prove that your alternative proposal works better). Big mysteries are rare in science and would indicate that a whole approach has serious problems. Pseudoscientists, on the other hand, seem to want to revolutionize our basic understandings at every turn without good reasons to do so. Hancock does not present any evidence that's inconsistent with the current mainstream scientific understanding—only his interpretations are. The current understanding doesn't require highly speculative, unjustified, and unsubstantiated narratives. So Occam's razor (the principle that, of two theories that account for the same data, we should favor the simpler one) favors the mainstream account. If something is not broken and a suggested fix is not better than what you already have, don't try to fix it.

### Epistemic Authority

We generally accept that amateur enthusiasts know more than the general public and that accredited professionals in turn know more than amateur enthusiasts. In the case of science, this takes the form of the principle of the epistemic authority of science: simply put, in virtually every case no one knows more about a subject matter than the scientific specialists on that subject matter. Why would, or how could, it be any different? You don't go to your surgeon to learn about dolphins, and you don't go to a cetologist to have your open-heart surgery performed. Cetologists are not usually allowed to operate on people unless they are also accredited surgeons, usually working within the framework of an established medical institution. There are obvious and very good reasons for this. Hancock describes himself as a journalist, admittedly not a historian or an archaeologist, which immediately raises the questions of why a non-archaeologist would understand archaeology better than the scientific archaeological community and why a non-historian would know historical matters better than the academic historical community. And his claims fly in the face of those communities' consensus on the history of human civilization. This is a huge red flag indicating that one should be on guard about the degree of reliability of what one is about to hear.

Hancock dismisses this by arguing that this amounts to committing the informal fallacy of arguing from authority. Science should indeed be based on reason, logic, observation, evidence, and experimentation, not on mere authority. But appealing to the epistemic authority of putative specialists is only a fallacy when they are not really specialists—or if their claims were not arrived at via reason, logic, observation, evidence, and experimentation. Hancock admits that he is deemed a pseudoscientist and a pseudoarchaeologist, and he defends himself by declaring that he is these things as much as a dolphin is a pseudo-fish. The thing is, while dolphins are mammals and not fish—and dolphins certainly do not claim to be fish—a dolphin *is* indeed a pseudo-fish in the sense that dolphins can be, and are, mistakenly taken to be fish by mil-



Gunung Padang Megalithic site in Cianjur, Java island, Indonesia.

lions and millions of people. The same goes for the pseudoscientificity of Hancock's hypothesis: it is still pseudoscience and pseudoarchaeology even though he doesn't claim to be a scientist or an archaeologist because millions of people will mistakenly believe he is right on these archaeological matters.

Hancock calls mainstream archaeologists "so-called experts," which suggests that he doesn't recognize that the scientific community's epistemic authority in its own field. This is another red flag to watch out for. Scientific revolutions have, of course, happened, but they are very rare and require, above all, enough adequate evidence. And although science can sometimes use a certain degree of convention (because we cannot test everything from scratch every time), true science is, at its heart, anti-dogmatic. The historical and archaeological scientific account of the human story is not *a priori*; rather, it is falsifiable. In science, if something is logically possible, there is always an evidential threshold that would convince us of that something. And if you have enough appropriate evidence, we will accept it. But extraordinary claims require extraordinary evidence. Epistemically appropriate evidence for Hancock's hypothesis would, for example, show that exclusively modern knowledge or capabilities had a substantial civilizational influence on some human culture right before the Neolithic transition. It would be undeniably traceable to ruins of an entire advanced lost civilization. What is not appropriate scientific evidence for Hancock's hypothesis is the mere fact that ancient peoples accomplished marvelous and admirable things with the resources and technology that were available to them.

Hancock also says that archaeologists set "artificial horizons," as if they had decided that they wouldn't dig or consider anything beyond a certain stratum. If that were the case,

younger archaeologists would have a very easy time making a brilliant career for themselves out of all those literal mountains of ignored material!

### Misrepresentations, Persecution, and Shortcuts

Misrepresentations and a paranoid outlook are also typical hallmarks of pseudoscience. *Ancient Apocalypse* misrepresents current research by stating that the mainstream scientific position is that farming only started after the end of the Last Glacial Period (the most recent "Ice Age"), which took place around 11,700 years ago. This ignores recent findings done within the framework of scientific research that push the origins of the Neolithic transition back (Snir et al. 2015; Nadel et al. 2016).

Another major misrepresentation in the show is the assertion that Antarctica appears on maps drawn before it was discovered. What those maps show is the *Terra Australis* ("Southern Land"), a hypothetical continent believed since Antiquity, on metaphysical grounds, to exist in the South of the world to "balance" the lands existing in its North.

The persecution complex stems from pseudoscientific theoreticians needing to offer an explanation (other than being wrong) for the fact that virtually every scientific specialist disagrees with them. So, persecution becomes that alternative explanation. On *Ancient Apocalypse*, Hancock makes continuous references to something he calls "official" historiography and archaeology and "official" timelines, as if historiography and archaeology were decided on by a state or a government and enforced as a mandatory party line. Of course, when the show uses these phrases, it is really simply referring to current mainstream historiographical and archaeological science, which is mainstream for epistemically good, reliable reasons. There *have* been cases of real official "sciences" (for example, Lysenkoism in the Soviet bloc), and it is true that in those cases, the official "scientists" were way off the mark. But for a long time now, cases of "official science" have occurred only far and apart from each other and have been very recognizable. Current mainstream historiography and archaeology are done in open societies and are obviously not official science. Perhaps when Hancock derisively uses the word *official*, he really means Thomas Kuhn's (1996) concept of *normal science*, that is, the science done in between scientific revolutions, which is supposed to be relatively conservative, unimaginative, and affected by tunnel vision. After all, Hancock does use the quintessentially Kuhnian term *paradigm* more than once in his show. But, even taking into account all that's correct in Kuhn's work, history has shown time and again that scientists have had no trouble accepting that they were completely wrong when enough evidence of the right kinds has been actually presented.

Yes, sometimes pseudoscientific "searchers" are banned from archaeological sites (accredited researchers are allowed in, even if they hold opposing scientific views). This is because what pseudoscientific "searchers" intend to do there is not worth it and can be counterproductive in terms of public education. Their very use of the sites tends to lend them

a varnish of epistemic respectability that they don't deserve. Hancock claims that this amounts to censorship; it does not. Archaeologists have trained, put in the effort, and done the work in their field of expertise. Not every interpretation is equally worthy, and archaeology is not really work for a journalist who's not an archaeologist. Journalists, even investigative journalists, are trained—and qualified—to report on science, not investigate it. That's what scientists are for. It's not like journalists can "investigate" particle physics and then opine on it at the same levels as particle physicists. Investigative journalists are called "investigative" because they can investigate topics suited for journalism, such as government corruption; their opinions are not at the top level in every field. As with any other science, what journalists should do on archaeological matters is mainly report the archaeologists' consensus, not try to act as archaeologists themselves. In a flashback videoclip in the show, Hancock says that it is his "job to offer an alternative point of view." On archaeology? For a journalist? It really isn't, and it fuels a false equivalency fallacy. For example, journalists are under no obligation to give creationism equal time with evolution or include anti-vaccination talking points in a science-based article on vaccination in service of "offering an alternative point of view."

### The Quality of the Information and the Quality of Its Source

Other hallmarks to watch out for when evaluating the degree of reliability of a source of information, or of information itself, are basic confusions, conflation, the unexplained inclusion of random material, or the incorrect use of terms. These might flag a lack of basic knowledge or understanding, faulty logic, poor thinking, unstructured argumentation, an oversimplistic outlook, lack of care or rigorosity, or other deficiencies. *Ancient Apocalypse* claims that there have been developmental ups and downs in the history of civilization, that it has not been all straight-line progress toward what the show calls "anatomically modern humans." But every hypothesis mentioned in the show deals only with times when we humans had already been anatomically modern for a long, long time. This leaves the intelligent audience member wondering whether the mention of anatomically modern humans is an out-of-the-blue occurrence having nothing to do with anything else on the show or whether Hancock believes that humans *weren't* anatomically modern a mere 13,000 years ago. (Our species, *Homo sapiens*, has been anatomically modern for over 300,000 years, and, as far as we know, has been the only extant human species for tens of thousands of years since the extinction of the Neanderthals.) Similarly, a bizarre instance occurs when Hancock, a human being, tells another human being standing right in front of him that there was "an extinction of human beings" (and no, he doesn't mean that humans were brought back from extinction like the dinosaurs in *Jurassic Park*).

Another feature of pseudoscience is that it often relies on anecdotes instead of proper data gathering, surveys, or statistics. When analyzing the so-called Bimini Road with other team members (a biologist and a wreck searcher, no geologist

or archaeologist in sight), Hancock and the biologist mention that *they* have never personally seen beach rock fractured that way, as if that were anything to go by in science (for more on the Bimini Road see Randi [1981] and Shinn [2004]). Other claims that grossly conflict with current mainstream science—such as the contention that there is evidence for humans in the Americas 130,000 years ago—are simply glossed over in the show without being explained or justified.

### Emotional Appeals

To evaluate the degree of reliability of sources vying for our attention, we should also watch out for emotional rather than rational appeals. *Ancient Apocalypse* appears to use current ecological and climatological concerns and fears to shore up its highly speculative narrative. It insinuates that if a civilization suffered a terminal catastrophe 12,800 years ago, perhaps related to a worsening of the climate conditions, then maybe we should learn from what happened to them in an attempt to avert a similar cataclysm occurring in our times. From the archaeological point of view, this is patently a purely emotional appeal, because, obviously, whatever we are facing today has no bearing whatsoever on what happened 12,800 years ago. Therefore, it has no bearing on whether Hancock's hypothesis is true or false.

Audiences (and even skeptics) can enjoy this entertaining and visually gorgeous series and might even seriously enjoy it as a mockumentary. But please don't think that it is scientific, and don't take it seriously. For history or archaeology, ask historians or archaeologists. ■

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Deepak Chopra visiting Yahoo!. Credit: Yahoo Inc. - Flickr

## How Spiritual Is Deepak Chopra?

Deepak Chopra claims to follow the Vedanta path, which calls for adherents to give everything up to seek enlightenment in their final quarter of life. Now seventy-five, is Chopra practicing what he preaches? The answer is a resounding No.

SUSAN BLACKMORE

**D**eepak Chopra, Ayurvedic practitioner and famous promoter of mind-body medicine, is among the richest spiritual leaders in the world with ninety-five books to his name and a thriving, and very lucrative, alternative therapy business. He has millions of followers on social media and says his goal is to reach at least a billion people. In other words, he is extremely influential and wants to become even more so.

There are many reasons to worry about his powerful influence, from his misuse of science and philosophy to his extreme health and medical claims. On science, he sprinkles his books and lectures with such terms as *epigenetics*, *neuroplasticity*, *homeostasis*, and *quantum superposition* yet twists them to fit in with his extravagant claims. He talks much about evolution but sneakily twists the idea from talking about the undirected Darwinian process that explains the evolution of

life on earth to praising the ever-popular (and long discredited) idea that consciousness is driving human evolution toward ever-higher states.

As for his philosophy, Chopra claims that everything is consciousness and matter does not exist. He says there are no objects, no sounds, no bodies, and no minds—only consciousness having experiences. He happily pounces on the difficulty materialism has in explaining consciousness—a problem that numerous scientists recognize and are working on—but seems completely oblivious to the fact that idealism confronts the opposite problem in explaining the appearance of matter. Saying “matter does not exist” is his glib (non-)solution.

Turning to health, he claims that “quantum healing” can banish illness, end aging, and overcome death. He says that through meditation and insight people jump to a new level of consciousness and so attain perfect health. And, being per-

fectly consistent, he has never been ill and claims he will live, wealthy and healthy, well beyond a hundred years. That's a strong claim for someone now in his mid-seventies.

I don't wish to add more to the many scathing criticisms that have been made of these ideas; I want to ask a question: As, arguably, the most influential spiritual teacher around, does Deepak Chopra practice what he preaches?

Chopra's books are full of sound spiritual teachings on meditation, compassion, and kindness. His teachings on the nature of self and transcendence chime with those of the no-self concept found in Buddhism and Hinduism. He has a beautiful, gently soothing voice, and I have found some of his early-morning guided meditation sessions truly helpful. But the spiritual life is not only about meditation, and in *The Ultimate Happiness Prescription* Chopra urges his followers to "live for enlightenment" (Chopra 2009a). Does he do this himself? Is he a shining example of someone seeking enlightenment and living by his own spiritual principles? This is the question that has been bothering me, and I recently had the opportunity to find out.

I have met Deepak Chopra several times, having quiet meals with him away from busy conferences or just snatching a few minutes' chat when we had the chance. In private, I have found him attentive, interested, willing to engage in all sorts of topics—and, above all, open and friendly. He is not always this way in public.

My first, and rather dramatic, encounter with him took place ten years ago in a debate titled "The War of the World Views" with Menas Kafatos, Leonard Mlodinow, Chopra, and me (UofAConsciousness 2012). This was at the 2012 "Toward a Science of Consciousness" conference held every two years in Tucson, Arizona. Each of us began with a short lecture (UofAConsciousness 2013). I disagreed with Chopra's "consciousness only" theory, and although I agreed with many of his spiritual ideas, I pointed out how he diverts his popular seven spiritual laws into ways of making money. The most popular of his books was then *The Seven Spiritual Laws of Success* (Chopra 2009b); recently it's been followed by *Abundance: The Inner Path to Wealth* (Chopra 2022). In both, it is neither "inner wealth" nor spiritual gifts and abilities he is talking about but plain old money and power. Should a spiritual path be aimed at getting rich?

As soon as I finished my talk, Chopra leapt out of his armchair, stood over me, and lectured me on the four principles of Vedanta (a school of Hindu spiritual philosophy): Artha, Kama, Dharma, and Moksha (UofAConsciousness 2012). Moksha, he explained, means money or wealth, and spiritual people should not be ashamed of being wealthy. "And I am *very* wealthy," he added. Then, coming closer and jabbing his finger aggressively at me, he explained the four stages of the Vedanta life.

In the tradition I come from, the first twenty-five years of your life is spent in education and knowledge. The second twenty-five years of your life is spent in making money and achieving success. The third twenty-five years of your life, which is where I am now, is spent in giving it back. And I have a foundation that feeds 1.5 million children every day. And the fourth phase of life is giving it all up and trying to achieve transcendence, enlightenment. So, I am

very well on the path that I started out on. And I'm not ashamed of it.

Afterward I felt flattened. He had been aggressive both verbally and in his manner; he had hardly let me get a word in edgeways, and I wished I had found the strength to stand up to him. I blamed myself for being so submissive.

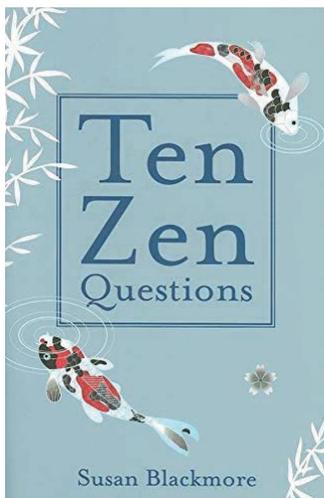
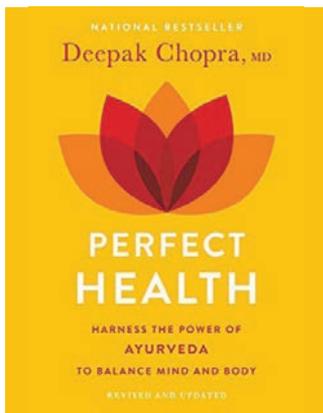
Later, I began to wonder. Chopra was then sixty-five years old, with just ten more years of the third phase ahead of him. What would he do at seventy-five? Would he give up flying first class around the world giving lectures, selling alternative therapies, leading retreats, promoting his Center for Well-being, and getting even richer? Would he really follow what he claimed was his spiritual path and give it all up "trying to achieve transcendence, enlightenment"?

I confess that these questions stayed with me all those ten years. Is Chopra really following the Vedanta path he so loudly and proudly proclaimed? Does he live by the values he espouses of love, compassion, and inner peace? When his time comes, will he move into that final phase of life and use all his own spiritual teachings to fall into enlightenment? Might I even meet him again in 2022, when he would be seventy-five, and ask him myself?

My opportunity came when I learned that in 2022 he was, once again, to be at the Tucson conference, now having been upgraded to "The Science of Consciousness" (*toward* apparently no longer needed!). I contacted an organizer, and she immediately suggested that Chopra and I could have a return match and arranged a public dialogue for us after the opening reception. She even made sure that the previous evening Chopra and I had a private dinner together. I had come to the conference with my daughter and coauthor, Emily Tro-



Susan Blackmore, third from left; Deepak Chopra, far-right. Credit: Dave Chalmers



scianko, who found us a quiet table, got us drinks, and left us to it.

As ever, we got on well, talking about our lives, our meditation practice, our thoughts about consciousness, and our plans for the following evening. He said he was “done with debates,” and I didn’t want to turn our event into a fight any more than he did. So, I suggested I might open with just a couple of minutes saying that I agreed with much of his spiritual teachings but not with his theories of consciousness or quantum healing, and then we could just have a conversation about the agreed topic, which, after much discussion over email, was to be “Mystery of Existence: Why Is There Sentience?”

We even talked about aging, both of us being in our seventies, and Chopra said he was now meditating more and working less. Maybe, I thought, he

really is gently winding down from his frenetic working life toward his search for enlightenment. After all, I don’t suppose the Vedanta way means you have to go into solitary retreat on your seventy-fifth birthday. So maybe he is following the Vedanta path after all. Maybe he would talk about this tomorrow and answer my question.

This being Tucson in April, the welcome reception was outdoors in lovely desert surroundings under starry skies with delicious food and wine. I was enjoying myself. I was a little nervous about what was coming but well-prepared with my few opening words. Then, just before we went into the lecture theater, Chopra strode up to me and said, “I think we should each begin with ten minutes about our life journey.” I was thrown; that was not what we had agreed to the evening before. I didn’t think of my life as a journey; I had no time to prepare, yet I lamely agreed (*The Science of Consciousness [TSC] – Conferences 2022*). It was only much later that I wondered whether this was a deliberately manipulative move.

My next shock came from the moderator, Stuart Hameroff. He is one of the original founders of these conferences, the current co-chair, and a leading proponent of a quantum theory of consciousness. We’d long disagreed, and I knew he

was annoyed with my daughter and me for including only a brief summary of his theory in our consciousness textbook (Blackmore and Troscianko 2018). He was only there to chair the event, so I was not worried. I should have been.

Struggling to pull together something about “my life journey,” I mentioned the dramatic out-of-body experience I had had as a teenager. I said how wonderful it has been, over my lifetime, that neuroscience has finally given us a thorough understanding of how and why these strange experiences happen (Blackmore 2020). Then after barely five minutes, Hameroff, although supposedly moderating, leapt in and demanded I provide evidence. I managed to stop him after two or three more interjections and carried on until, abruptly, he told me to stop. I was thrown by this, but, not having looked at my watch, I did as he said. I only discovered much later, when the video went online, that I had spoken for less than nine minutes.

Then began the weirdest “dialogue” I have ever had. Chopra made long speeches that changed topic so often that I could hardly follow him, let alone find a way to respond to one point before he’d moved on to the next. Meanwhile, Hameroff kept interrupting me whenever I tried to respond. I remember sitting there, flanked on either side by these two men, constantly interrupted and desperately trying to get the discussion back on topic.

After a while, I began to hear a kind of roaring sound from the audience. It was not so loud that I could hear what was going on and, in any case, I had to concentrate so hard to find any chance to speak that I had no spare brain power to listen. I saw a woman walk up toward Hameroff and disappear again, but I had no idea why and just kept trying to get a word in (I later learned that it was Hameroff’s wife).

With only ten minutes to go, I realized it was now or never to ask my question. I grabbed the moment and jumped in with, “I would like, if it’s all right with you, to change the subject and ask a different question.” I reminded Chopra of our meeting ten years ago and then, to my own surprise and quite unplanned, I jumped up, leaned over him as he had done to me all those years ago, and repeated the four stages of the Vedanta life.

“I would like to ask you, Deepak. Now you’ve come to this final stage in your life. What form is—” But Hameroff interrupted me again. I tried to ignore him and carry on, “What form is this stage of your life going to take? What form is your withdrawal from life and seeking enlightenment going to take?” I suggested that he might not choose the traditional route of life in a cave in the Himalayas with villagers bringing him food once a week but thought he might prefer a beautiful place on the California coast to meditate in solitary retreat. What is your withdrawal going to be like, Deepak?

And here’s his response:

I think at this stage, I surrender to the formless [laughter from the audience], and without that formless there is no form. And I go back to my tradition. Tagore says, in this infinite playhouse of forms I got sight of the formless. The formless is the only thing that’s timeless. Forms come and go, and if we surrender to that mystery of form, the formless, then that is what I call faith. Faith is surrendering to the invisible that makes the visible possible and when you understand that, in that invisible, we are all entangled

then the ultimate message that comes from that is love.

“Good, very good,” said Hameroff.

What a master of deflection. Whatever I asked Chopra, he managed to squiggle away to some totally different topic, in this case “entanglement” and “love.” And how could I object to “love”? But I persevered: “I think it is possible, but difficult, to carry on with a life of writing lots of books, earning lots of money, coming to conferences, and flying around the world, but that’s not the point of this four-stage process—” *Again* Chopra interrupted, and again I persevered: “But here you are in Tucson, on an airplane from New York.”

All he said to that was, “It’s something to do, right?” I fought back.

“Seeking enlightenment is also something to do.” But he cleverly got out of that one.

“No,” he said, “You fall into it. You don’t seek it because that which you are seeking is the one that’s seeking.”

“Deepak gets the last word,” said Hameroff, and it was over.

I staggered off the stage and found myself surrounded by people asking, “Are you all right? Do you feel okay?” and saying “You poor thing,” all of which baffled me. I guess I was still buzzing from the effort of concentrating and didn’t know what they meant. Then others started calling the men bullies, children, pathetic teen boys, and shouting about the outrage of two grown men turning on one woman. And only then did I begin to grasp how it must have seemed to the audience. One man even said, “I want to apologize on behalf of all men!” Some, I learned later, had simply walked out.

When the video was posted online some weeks later (The Science of Consciousness [TSC] – Conferences 2022), my instant reaction was deep disappointment—even shame. I was so feeble! I watched myself being gradually diminished and doing nothing to fight back. I should have jumped up and interrupted Chopra many times over. There were so many sensible points I could have made, and instead I just sat there putting up with it. Why didn’t I challenge him on claims such as that “matter doesn’t exist” or talk about the neuroscience that is changing the mystery of consciousness, about the new philosophy and science of how the self is constructed, or why illusionism means replacing false assumptions with a nondual view of consciousness (Blackmore 2016)—or any number of other things I had in mind? How could I have let them walk all over me?

My daughter Emily was upset by the event and shared with me some excerpts from the diary she had written the morning after. She said she had been moved by how people rallied to my defense, listing some of the comments people had made. One said it was like watching me being attacked by two bulldogs. Another said that it was depressing to see Chopra, someone they had respected, behave like this with claims of wisdom but ultimately just an enormous ego he was trying to defend. Three said how embarrassed or ashamed it made them feel as men. One even thought that it robbed the entire conference of its credibility, perhaps because people tend to think of the Tucson conferences as a space for open-

ness, sharing very different ideas, and a general air of niceness. This certainly wasn’t nice.

For my daughter and some, but not all, the most obvious interpretation was about gender. Here were two men ganging up on one woman whose lifelong coping strategy has been to ignore sexist treatment and whose response to this debacle was to blame herself. But in the end Emily concluded that “maybe what was under attack here was not in fact woman-kind but skepticism. And lots of people really dislike skepticism.”

She wondered why these two “dislike skepticism so much they’d be willing to risk making themselves look like close-minded misogynists to attack it.” Answers are not hard to find. Hameroff was, as ever, pushing his quantum agenda, and Chopra was on brand with his blend of dubious science and banal but spiritually coated life advice and untestable but lucrative claims.

I still blame myself for not standing up to them, but I did get my answer. One enormous ego remains fully intact and, despite his many claims, Deepak Chopra shows no sign of stepping boldly into the fourth stage of the Vedanta life. While he tells the rest of us how to live for enlightenment, he is not willing to surrender his busy, powerful, and wealthy life just yet. ■

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# From Ghost Hunter to CSI's Chief Investigator

For many years, I chased ghosts, demons, and other supernatural beings. I believed they existed without any doubts. Then came an experience in Gettysburg, Pennsylvania, that caused me to rethink my beliefs, eventually leading me to becoming an activist of skepticism and critical thinking—and CSI's new chief investigator.

KENNY BIDDLE

In October 2022, just before the start of CSICon, I achieved a goal I didn't think was possible: I accepted the position of chief investigator for the Committee for Skeptical Inquiry. I had taken my passion of investigating mysteries for the past twenty-plus years and turned it into one of the very few full-time skeptical investigation positions in the world. It was a dream come true.

When I began writing for *SKEPTICAL INQUIRER* as a regular online columnist in 2018, my first entry briefly touched on how, when I was younger, I not only believed in almost every supernatural idea but was also an avid ghost hunter (just like you see on TV). As I explained, "I accepted claims at face value, promoting them to others without checking the validity of the information. It wasn't until a decade later that I developed an interest in skeptical literature" (Biddle 2018). In recent years, I've been asked what changed my mind. What caused me to doubt my beliefs in the paranormal? I have spoken briefly about the pivotal experience during several speaking engagements, but I've never put it down in writing. After I hinted at it during my CSICon 2022 presentation, several people asked me about the episode that changed my mind about the supernatural, so I would like to share that story with you now.

The year was 1999, and I, in my late twenties, had been actively "ghost hunting" for about two years. Basically, I would sit in a dark room of a "haunted" location for a few hours and ask the "ghosts" for a sign they were there. Usually nothing happened, but occasionally a random noise would coincide with a request of "If anyone is here, make a sound." This often resulted in excited squeals as I (and those with me) readily accepted the random noise as absolute proof of ghostly communication.

In that same year, I attended one of the first ghost hunting seminars along the east coast. In Gettysburg, Pennsylvania, several hundred ghost hunters converged on the Holiday Inn Battlefield hotel (later renamed 1863 Inn of Gettysburg), where we could hear other ghost hunters talk about their alleged evidence, hear famous authors retell their spooky stories, and, of course, purchase a wide range of ghost-themed merchandise. I thought I'd be learning the "best practices" from more experienced ghost hunters, people who "knew what they were doing." Sadly, the speakers and vendors were more interested in promoting themselves rather than providing any-

thing remotely educational. Nevertheless, I was a believer, so I listened and (sadly) blindly accepted every story without question.

It wasn't until the second day of the conference that I began to have doubts. This story begins the night before, when my friends and I left the conference and headed to the Gettysburg battlefields to do what we did: ghost hunt. We had previously spoken with a park ranger who had warned us about a small area next to the Wheatfield section of the battlefield that was allegedly known to all the park rangers for its high level of "ghostly" activity. (It was allegedly avoided by all of the rangers.) To a ghost hunter, this was a golden ticket—a location with a lot of ghostly experiences and that was feared by the park authorities.

The Wheatfield had seen intense fighting on July 2, 1863. The area we were told about was a patch of woods on the northwest border of the field behind a large monument made from boulder with a bronze tablet attached to it.

[The monument] marks the location of a temporary field hospital



The Wheatfield section of the Gettysburg battlefields is allegedly known to all the park rangers for its high level of "ghostly" activity.

of the 32nd Massachusetts Infantry Regiment that was directly in harm's way during the seesaw battle for the Wheatfield on July 2, and honors their Surgeon, Zabdiel Boylston Adams. ... During the fighting, the area changed hands four different times, finally becoming no man's land. This must have been a brutal place to perform amputations. It was very much a makeshift hospital behind those rocks—Adams had to use a large boulder as a surgical table. (Lumbricus 2013)

We arrived before 7 p.m. and parked across the field, away from our target area. Ghost hunters used to be extremely territorial (some still are); we didn't share our favorite locations for fear that someone else would steal all the "good evidence" before us—so we didn't share. After a short hike, we were in the center of the "haunted" patch of woods and settled down for a long night of waiting for ghosts.

About half an hour later, we got our first bit of activity, though it did not originate from the afterlife. Across the open Wheatfield, I watched as three cars came around the bend of Sickles Avenue and parked at the Auto Tour Stop, which was about 300 yards from where I was standing (as measured by Google). I watched about a dozen people exit the vehicles, talking loudly and laughing. Soon, multiple flashlights and laser pointers (from infrared non-contact thermometers) began swinging around as the ghost hunters marched into the Wheatfield.

My friends and I sat quietly, all of us waiting for this noisy group of ghost hunters to either quiet down or, preferably, get bored and move on. Unfortunately, they changed direction and began heading toward us. As mentioned earlier, ghost hunters—including me at the time—were territorial; we didn't like to share our favorite spots. I began to get anxious and angry because I didn't want anyone to find out we were there. If they had, they would likely have wanted to join us, and I simply refused to let that happen.

As the seconds ticked by, the group got closer and closer. The thought of being discovered increased my anger until I couldn't take it any longer. I marched down to the tree line and stepped a few feet out into the open field. As I emerged from the trees, I shouted at the approaching group. I have no recollection of exactly what I said, but I'm pretty sure it was something like, "Shut up! You can't be here! You need to shut up and GO AWAY!"

To my astonishment, the group stopped dead (no pun intended) and fell silent. A few seconds later, they turned around, rushed back to their vehicles, and sped off down the road. Satisfied that I had accomplished my goal and kept our secret spot ... well, secret, I returned to my friends. The rest of the night was uneventful. I sat in the cold, dark woods having no idea what I had just done.

The next morning, my wife and I joined the rest of the conference attendees in the hotel lobby. We were early, so we used the extra time to socialize with our fellow ghost hunters. We soon learned that someone had witnessed a full-body apparition of a soldier the night before. Ooh, how exciting! I wanted to know more, so I continued to ask around for details. Eventually we found the group of people who had witnessed the ghost. When one of the young men mentioned the group had seen the apparition at the Wheatfield, I got very inter-

ested—and puzzled that I had missed it given I was there all night. I asked for more details: Where exactly did they see it? What time did it happen? What did it look like? What did it do? Did anyone photograph it?

Slowly, my questions were answered. According to the group, they had left the seminar, stopped for food and drinks, then headed to the Wheatfield around 7:30 p.m. I thought, "Damn, I was already in the woods at the same time." In dramatic fashion, the witnesses went on to reveal the details: the apparition was of a large man who appeared from the darkness of the woods along the edge of the Wheatfield. It marched a few steps toward the witnesses and yelled something unintelligible in a booming voice. The apparition then turned and disappeared into the darkness of the woods.

I briefly wondered how I and my friends could have missed this amazing event when we were right there at the same location. And then the old "light bulb" finally flickered to life over my head, and I knew what had happened. The ghost they saw was me. I was the apparition.

I brought this revelation to the attention of the witnesses, but they refused to accept that they had been mistaken. I offered details that accurately described exactly where the alleged apparition came out of the woods; still they said it was not me. I described the three cars they arrived in, their multiple flashlights and IR temperature readers with laser pointers, and how, after I—the apparition—yelled at them, they turned and ran back to their cars. Nothing I said mattered. No matter how many details I provided, they refused to accept that their interpretation of the experience was wrong. "We know what we're doing. We know what we saw. It was a ghost; we can all validate that fact!" Finally, when I was told, "You're just trying to steal our spotlight," I walked away, frustrated and confused.

How could these ghost hunters—people just like me—so easily dismiss information that explained their experience and clearly demonstrated they had made a simple mistake? I had all the details; I described the experience exactly as they remembered it—so why didn't they accept the information? Why did they dismiss me and claim I was trying to steal their spotlight?

Bingo! "Their spotlight." They completely believed they saw a ghost the night before, and as a group they likely continually reaffirmed each other's belief throughout the rest of the night. As they excitedly told other attendees, they realized the story brought them attention, popularity, and the "spotlight" among a conference room full of fellow ghost hunters.

When I showed up and began punching holes in their story, the conflicting information threatened not only their credibility but their newly found fame. It was much easier—and beneficial to them—to deny and/or ignore the details and information I offered. It was easier to accuse me of trying to take away their "spotlight." They chose to believe despite a simple explanation that was literally right in front of them (me).

And then another thought hit me: Have I done this very same thing? Have I purposely ignored information because it would have spoiled (explained) a supernatural experience



The old "light bulb" lit up for the author when he realized the "ghost" the other ghost hunters saw was him.

I wanted to be true? Have I treated people like crap because they simply tried to help me understand something better? The answer, sadly, was "yes."

This personal revelation hit me hard. I struggled with the idea that I had undoubtedly deceived so many people because I chose to hold onto my beliefs rather than embrace valid information that contradicted them. I had falsely influenced families, telling them they lived in "haunted" houses, they were surrounded by "evil" entities, and the beeps and flickering lights on my various gadgets "confirmed" they had ghosts (even though they did no such thing).

After coming to terms with my self-deception, I was determined to rectify my mistakes. I refocused my attention onto learning proper investigative techniques and scientific testing, leading to a better understanding of critical thinking and skepticism. I eventually discovered *SKEPTICAL INQUIRER* magazine and the work of Joe Nickell and Benjamin Radford (along with so many others). Not only were these SI writers investigating and solving the mysteries I used to promote, they also backed up their conclusions with data, documentation, and science—something that was foreign to my belief-based ghost hunting. They were doing the work that I had been pretending to do for so long.

My experience in Gettysburg planted the seed of doubt,

forcing me to confront my beliefs in a way I had never done before. I have told this story at several lectures, and it's become my "skeptical origin story." However, it's more than that; it's a demonstration that we can change by reevaluating our beliefs, changing them, or giving them up entirely. Although the seed of doubt was planted, it was the continued encouragement from my mentors and colleagues in the skeptical community (and a lot of learning) that helped me become who I am today—CSI's chief investigator.

What does that title mean? Am I just a full-time Ghostbuster (sadly, without an unlicensed proton pack)? Not really. Sure, I'll be investigating and solving mysteries, delivering that information via articles for SI and the video series *Ghosts in the Machine* (on the CFI YouTube channel), but these mysteries won't be confined to just "paranormal" topics. I'm planning to tackle topics such as facilitated communication, anti-vaccine beliefs, homeopathy, and other potentially dangerous issues that fall under the heading of pseudoscience.

But there are so many other directions I plan on taking this job. For example, I teamed up with Bertha Vazquez, CFI's director of education, to develop a lesson plan to teach critical thinking skills to students using my investigations of ghosts, monsters, and UFOs. Vazquez and her colleague Janas Byrd created the presentation; my part was Zooming in for Q&A sessions with the students. The first use in a seventh-grade class was a huge hit, with the kids heavily engaged and asking about how "psychics" get their information. I'll be using this lesson plan with more teachers in the future.

I also want to get more personal with skeptical groups around the country (and hopefully around the world) by getting skeptics back together for in-person events, such as lectures, workshops, and team-building social events more than just once a year. I want to visit groups across the country, trading ideas about how to approach different topics and different types of people (e.g., curious or combative). Eric Shaver, CFI's outreach coordinator, has a plethora of ideas on how to bring our community back together, and although I won't spoil what he has planned, I'm excited to be involved.

This is just a small sample of the many ideas floating around in my chaotic head. I hope you come along with me and enjoy the ride. And never stop learning. ■

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Kenny Biddle is the chief investigator for the Committee for Skeptical Inquiry.

# Ten Health and Wellness Fallacies Every Skeptic Should Know

An exercise physiologist and health and wellness skeptic presents the ten informal logical fallacies that appear most often in marketing for his field.

NICK TILLER

“In addition to teaching us what to do when evaluating a claim to knowledge, any good baloney detection kit must also teach us what not to do. It helps us recognize the most common and perilous fallacies of logic and rhetoric. Many good examples can be found in religion and politics, because their practitioners are so often obliged to justify two contradictory propositions.”

- Carl Sagan, *The Demon-Haunted World*

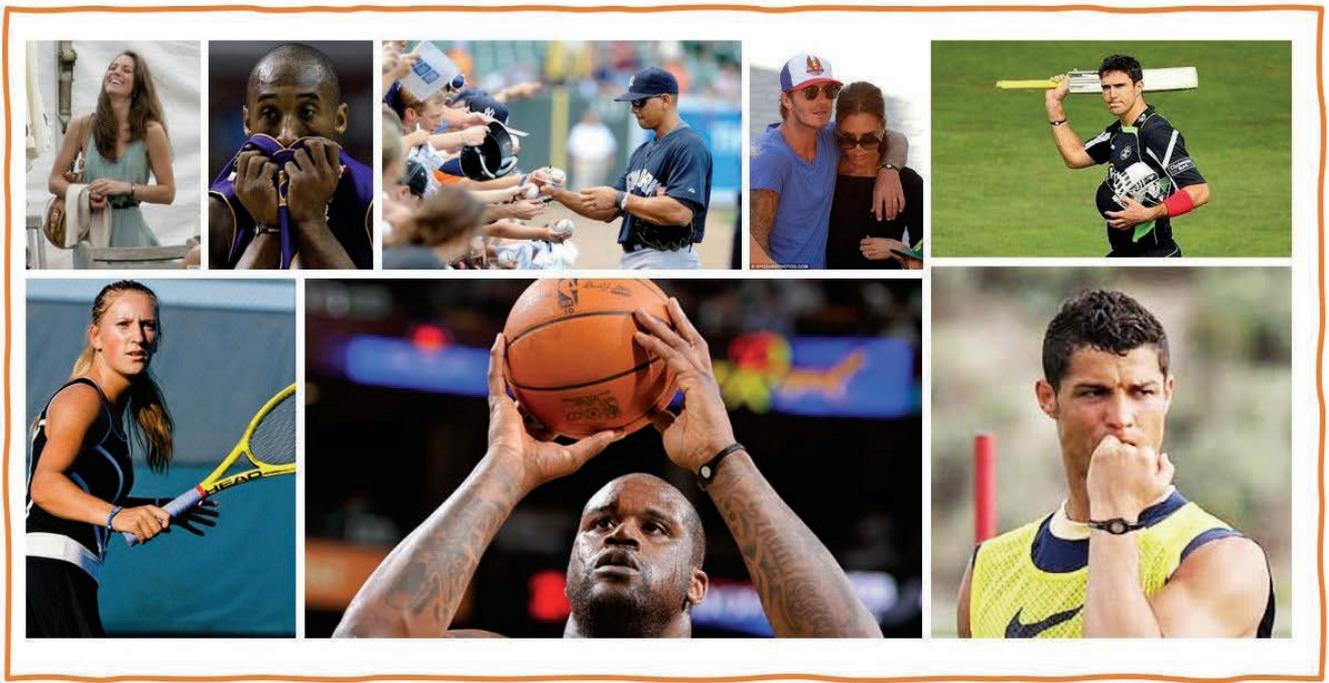
If my recent work as a health and wellness skeptic could be distilled into a single lesson, it would be this: Marketing companies understand our biases better than we do. In a commercialist culture, saturated by big business and bad science, I believe this is a fundamental lesson in determining objective truths and making sound judgements.

The average American is exposed to as many as several thousand advertisements and sales pitches every day (Story 2007). To cut through the noise and capture our limited attention, marketing companies often invoke logical fallacies—informal errors of logic—in their sales pitches to exploit ingrained biases and convert “prospects” (potential customers) into sales. Understanding logical fallacies, and their potential to sway our decisions, was an integral component of Carl Sagan’s Baloney Detection Kit.

There are hundreds of logical fallacies, each with its own subtle nuance. In this article, I’ve condensed Sagan’s list of twenty informal logical fallacies to the ten that appear most often in health and wellness marketing.

## The Appeal to Popularity

One of the oldest fallacies to serve the commercial machine, the appeal to popularity assumes an assertion is true, or at least valid, because many people agree with it. Of course, mere popularity is not a sufficient reason to believe an assertion; in fact, it’s the absence of a reason. Would it be sensible to buy an activity tracker, some running sneakers, or a protein supplement based solely on the number of units sold? Or would doing so conflate popularity with efficacy? It stands to reason that the number of people using a product says nothing of its quality or effectiveness, because popularity can be influenced by marketing, creative statistics, political control, or falsification of data. Many people may have purchased the product and never used it. Resisting this and other fallacies is characterized by the classic conflict between intuition and reason about which Bertrand Russell wrote so eloquently. If we follow Russell’s guidance, and temper our intuition with intellect, then reason compels us to invest in products with proven efficacy.



Having been blinded with “science,” numerous athletes and celebrities wore the PowerBalance bracelet due to the misconception that it would improve their physical and emotional wellbeing.

### Blinding with Science

The pursuit of health and wellness requires the manipulation of bodily systems, often through exercise, food, and supplements—all practices influenced heavily by science. Commercial products are often sold therefore with sciencey-sounding terms and technical jargon designed to confuse and mislead the consumer. For years, athletes and celebrities around the world wore the PowerBalance bracelet due to the misconception that it would improve their strength, speed, and vitality. Made with “holographic technology embedded with frequencies that react positively with the body’s energy fields” the bracelet was wildly popular until 2011 when the Australian Competition and Consumer Commission (ACCC) deemed that the company had engaged in misleading advertising. “Holographic technology” is a pseudoscience, and the notion that a hologram can resonate with frequencies of the body is not a physical phenomenon.

### The Argument from Authority

An array of brands and businesses—including Coca Cola, LiveScore, Free Fire, Nike, Herbalife Nutrition, and Tag Heuer—sponsor Cristiano Ronaldo to endorse their products through his Instagram account. Partnering with an online “fitness influencer” has become a fundamental part of brand marketing because forging an affiliation with revered athletes tends to improve sales (see Tiller 2022). Michael Jordan endorsed Gatorade; Mo Farah endorsed Quorn; and Lance Armstrong endorsed cycling brands, nutritional products, and health clubs, among others. It isn’t just athletes and online

influencers leveraging their perceived authority for financial gain. Many pseudosciences proliferate because they’ve been endorsed by contrarian medical doctors or high-profile scientists whose opinions do not reflect the scientific consensus. To quote Sagan: “One of the great commandments of science is: ‘Mistrust arguments from authority.’ ... Too many such arguments have proved too painfully wrong. Authorities must prove their contentions like everybody else.”

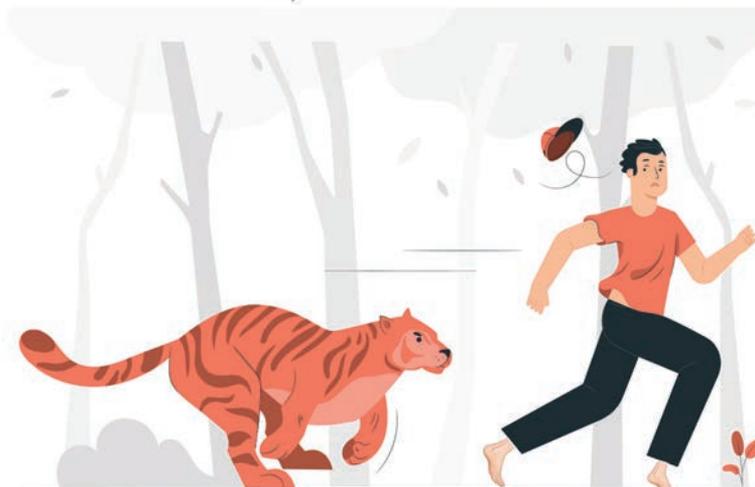
### The Appeal to Tradition

Used with increasing regularity in the sports industry, the appeal to tradition states that an assertion is correct because it correlates with a past practice or tradition—a golden prior age when athletes were naturally trained and sport was pure. However, traditions pass from generation to generation, remaining intact often for no other reason than ingrained behavior or sentimentality. Two prominent examples in health and wellness are barefoot running shoes (an oxymoron) and the Paleo Diet, which encourage consumers to run or eat “like their paleolithic ancestors” as if the lifestyle practices of an extinct human species were something to which to aspire. Both practices stake a claim for efficacy, at least in part, because they are traditional.

### Observational Selection

The observational selection fallacy was described by philosopher Francis Bacon as “counting the hits and forgetting the misses.” Fad diets, such as Atkins or Keto, draw the consumer’s attention with online weight loss success stories and the

*Run like your Paleolithic ancestors!*



An example of the fallacious appeal to tradition. Created with Storyset.com.

glossy “before and after” images they engender. But long-term follow-up studies generally show fad diets to be ineffective for weight management (Tiller 2021). Most individuals regain all the weight they originally lost, and one-third of people exceed their baseline weight leading to “yo-yo” dieting. Those aren’t the stories that make the headlines.

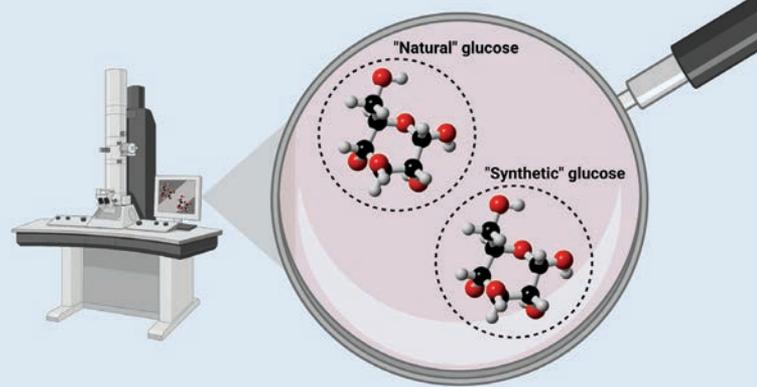
### The Appeal to Nature

Probably the most widely committed fallacy in all of health and wellness, the appeal to nature posits that something is “good” because it’s natural or “bad” because it’s unnatural or synthetic. Every product advertised as being made with “all-natural ingredients” is exploiting this fallacy, just like advertisements for foods or cosmetics that are “free from chemicals.” The organic food industry, for instance, makes a claim for relevance partly based on this fallacy and the notion that consumers would generally prefer to consume “natural foods.” But consider two glucose molecules—one synthesized in a lab and one found in nature. Both have the chemical formula  $C_6H_{12}O_6$ , both appear as identical under an electron microscope, and both will have an identical effect on the body when consumed. That most people would prefer to eat the “naturally derived” sugar molecule over the synthetic one speaks to the ubiquity of the fallacy.

### Definitional Ambiguity

When engaging in logical discourse, the language used should have a conventional meaning, otherwise you will be talking at crossed purposes—analogue to playing a game of football by two different sets of rules. But in health and wellness advertising, language is often deliberately misleading or vague because it makes claims easier to defend. For example, the word *fast* means “moving, or capable of moving, at high speed.” If a running coach sold you a new program to run a “faster marathon,” you could consider their claim on the basis of the accepted definition. But what about less explicit terms such as *recovery*, as used in the sale of supplements, recovery shakes, massage therapy, stretching, cryotherapy, and ice bath-

## The Appeal to Nature



Two glucose molecules are inspected under an electron microscope. The molecule on the left was derived in nature, and the one on the right was synthesized in a laboratory. Can the chemical structures of the two molecules be differentiated at the molecular level? Or is the difference between them nothing more than conceptual—just the projection of a cognitive bias?

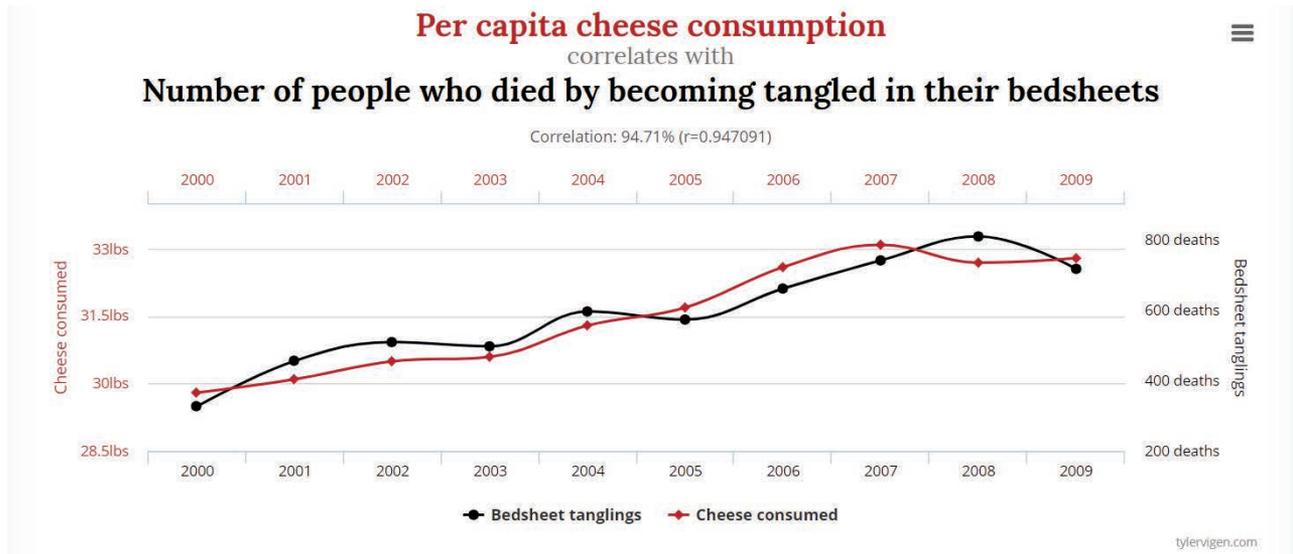
ing, among others? It has no definitive operational definition or end point. Does it reflect a return to baseline function? Is it specific to the musculoskeletal system? And what about recovery of immune function, hydration, or psychological well-being? By itself, the term is ambiguous and cannot pertain to all body systems. Even *wellness* has no agreed-upon meaning and can be interpreted to serve any number of functions from person to person. And that’s the intention.

### Confusing Correlation with Causation (*Post Hoc Ergo propter Hoc*)

Humans are pattern-seeking animals. Our ability to spot trends in the environment once served an important survival advantage and proliferated due to positive evolutionary pressure. But seeking patterns can bias our opinions because in contemporary culture we are terrible at distinguishing which patterns are meaningful and which are not. The *post hoc ergo propter hoc* fallacy is committed when two events occur in sequence, one after the other, and then one assumes that the first event must have caused the second. A colleague of mine once committed the *post hoc ergo propter hoc* fallacy when his partner’s back pain spontaneously improved after he applied acupressure to the balls of her feet. To assume a physical connection—that the one action necessarily resulted in the other—without objective evidence is *post hoc ergo propter hoc*. Failing to consider alternative explanations for the outcome of events leads to erroneous conclusions, like Michael Jordan’s insistence that wearing his University of North Carolina shorts under his Chicago Bulls uniform would bring him “good luck.”

### The False Dichotomy

A particular diet, supplement, or exercise program may be presented as your only option for achieving long-term health or weight management. Vendors of one product might even



Using data compiled by the U.S. Department of Agriculture and the Centers for Disease Control and Prevention, we can model the association between “Per capita cheese consumption” and the “Number of people who died by becoming tangled in their bedsheets.” The two entities are highly correlated with an  $r=0.95$  [a near perfect linear relationship]. But correlation does not necessarily mean causation. Image from TylerVigen.com.

demonize others as being harmful or ineffective. This is a false dichotomy because there are many ways to achieve health and wellness. There is good evidence, for example, that yoga is an effective form of weight loss. Does this mean that yoga is the only means of achieving weight loss, or that it’s necessarily “better” than other methods? No. In fact, there’s research showing that weight loss and good health can be achieved with regular walking, running, weight training, swimming, team sports, spinning, and gym programs—basically anything that increases activity levels on a consistent basis. Dietary changes alone may even be sufficient to improve overall health, although a combination of good diet and activity/exercise is considered most effective.

#### The Appeal to Anecdote

An anecdote is a short narrative of an individual’s experience. These personal accounts are accessible and trigger emotion and empathy in the consumer. Moreover, anecdotes contrast

**Of course, mere popularity is not a sufficient reason to believe an assertion; in fact, it’s the absence of a reason.**

sharply with impersonal conclusions from large data sets of numbers and statistics. But because anecdotes trigger an emotional response without necessarily representing the mainstream scientific opinion, they can evoke tremendous bias in the decision-making process. Health products are often sold alongside customer testimonials and “before and after” images—visceral accounts of dramatic weight loss or recovery from injury—sometimes to compensate for a lack of scientific legitimacy. We see ourselves in those images, desperate

to believe that such rapid transformations with minimal cost and effort could also work for us. But meaningful outcomes require meaningful investments. That is, careful planning, commitment, and many months or years of consistency.

#### Conclusions

Understanding logical fallacies is a skill with utility that extends far beyond the world of health and wellness. There are individuals and groups lurking in all walks of life who would have us make impulsive decisions on intuition alone. But being a responsible member of civilized society means becoming familiar with logical rhetoric, and the pitfalls of flawed logic, so that we can mitigate bias and make rational and informed decisions that benefit ourselves and those around us. Sagan said it best: “When applied judiciously, [logic] can make all the difference in the world—not least in evaluating our own arguments before we present them to others.” ■

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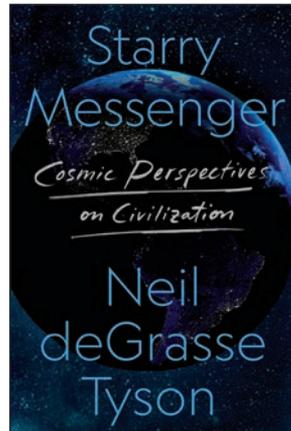
## The View from Above

Stuart Vyse

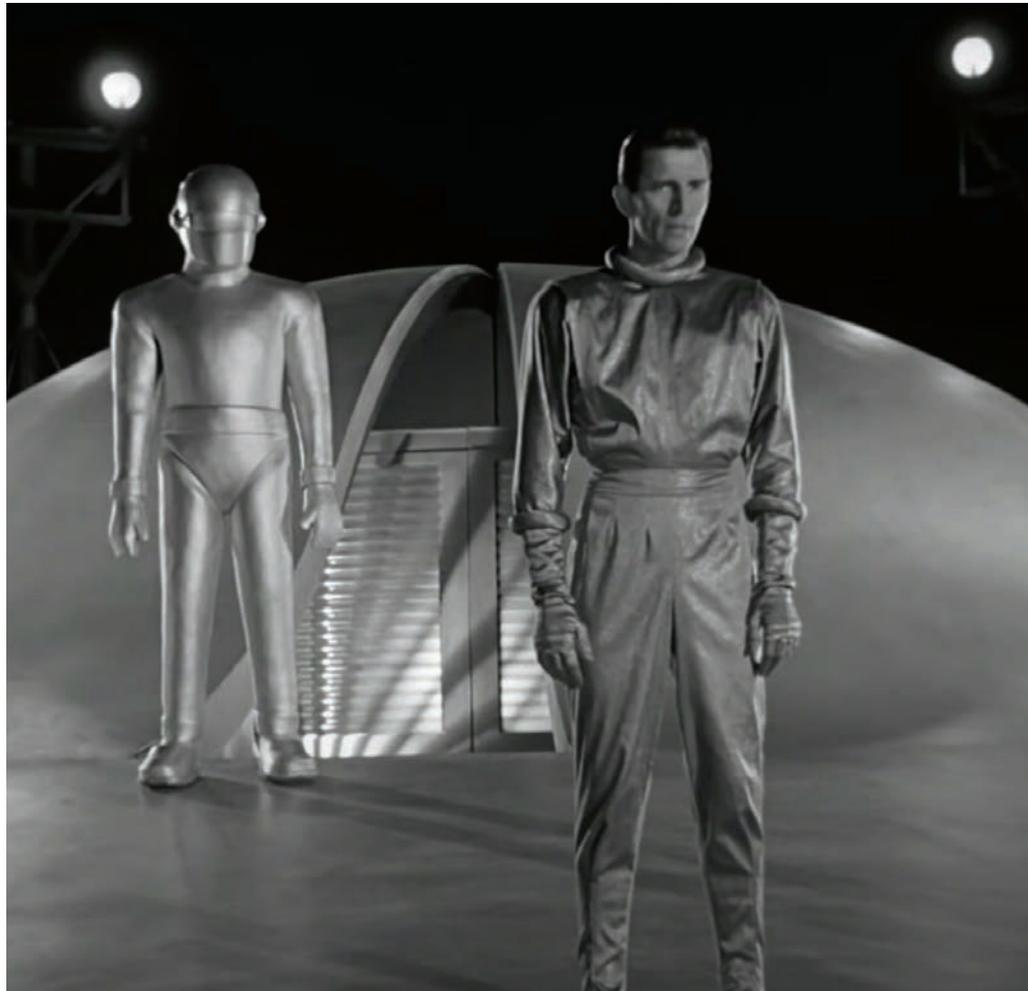
There is no shortage of science fiction stories involving alien visitors to Earth, but the temperaments of these fictional space tourists run the gamut. On one end of the spectrum are the mindlessly destructive heat-ray wielding giants of H.G. Wells's 1898 novel *War of the Worlds*, and on the other is the adorable adopted pet of Steven Spielberg's *E.T.* But as a child of the 1950s and 1960s, my favorite galactic visitors appear in the Cold War classic *The Day the Earth Stood Still* (1951). In this case, the travelers were the silver-suited Klaatu, played by the distinguished British actor Michael Rennie, and his hulking robot friend Gort. Klaatu and Gort were envoys from a far superior civilization who had come to Earth out of concern for the growing aggression of people here now that we had developed rockets and nuclear weapons.

With the help of the Einstein-like character Professor Jacob Barnhardt (Sam Jaffe), Klaatu assembled a group of Earth's greatest scientists and explained that Gort was an example of a species of robot with highly destructive powers that were created as an interplanetary police force. These robots were easily capable of destroying Earth, and Klaatu threatened that fate if humans didn't change our ways: "Your choice is simple: join us and live in peace, or pursue your present course and face obliteration."

In his latest book, *Starry Messenger: Cosmic Perspectives and Civilization*, Neil deGrasse Tyson imagines an alien visitor who has the same rational Spock-like temperament as Klaatu but views the Earth with fresh eyes. Although there are no Cold War-era fears or threats of mass annihilation by robot destroyers, Tyson does describe the book as "a wake-up call to civilization" (xiii), and, like Klaatu, Tyson's messenger is concerned about us—civili-



*Starry Messenger: Cosmic Perspectives and Civilization*. By Neil deGrasse Tyson. New York, NY: Henry Holt, 2022. ISBN 9781250861504. 269 pp. Hardcover, \$28.99.



Alien visitor Klaatu and his robot Gort standing on their flying saucer spaceship in a scene from *The Day the Earth Stood Still* (1951).

zation and culture on this planet. Armed with an astrophysicist's wide-angle view and his extensive knowledge of science and math, Tyson takes a rational and humane approach to a long list of social problems.

As you might imagine, some of Tyson's broad perspective comes from his experience of viewing Earth from far away. He argues that exploration and discovery are essential to the development of civilization and gives special attention to the famous *Apollo 8* Earthrise photo of the Earth rising over the surface of the Moon. Seen from space, most borders between countries disappear—the two exceptions are the green outline of irrigated Israel in contrast with the Gaza Strip and sections of the West Bank and the line between North and South Korea seen at night, when the northern half of the peninsula goes dark and the cities of the south light up. Tyson suggests that these 1968 *Apollo 8* photos of Earth seen from space and images from the first Moon walk during *Apollo 11* in 1969 may have created a global perspective that helped inspire many of the social and Earth-friendly movements that began at that time, including Doctors Without Borders (1971), the establishment of the Environmental Protection Agency (1970), Earth Day (1970), and the Whole Earth Catalog (1968–1972). The Whole Earth Catalog and the unofficial Earth Day flag both displayed photos of Earth taken from space.

In the central chapters of the book, Tyson's starry messenger casts a brilliant and unbiased eye on many areas of human activity, revealing our common errors and misunderstandings. For example, the messenger is numerate. Tyson relates the story of a 1986 hotel scheduling conflict that resulted in 4,000 members of the American Physical Society holding their conference in Las Vegas. After the conference, a local newspaper sported the headline "PHYSICISTS IN TOWN, LOWEST CASINO TAKE EVER." In daily life, those of us who are not as mathematically trained as physicists are often bad at estimating risks, and Tyson argues persuasively that the cur-



Neil deGrasse Tyson  
@neiltyson

## Earth needs a virtual country: #Rationalia, with a one-line Constitution: All policy shall be based on the weight of evidence

10:12 AM · Jun 29, 2016

rent lack of instruction in basic statistics and probability in our public schools is a glaring error.

Tyson explores many of the fraught topics of our time, including gender identity and race, always making surprising observations from his galactic perspective. In the case of race, he imagines his visiting extraterrestrial might look at humans and find them indistinguishable from each other: "All they see of us are four limbs, a torso, and a head." This is not unlike how we see other animal species that may have subtle differences that separate them, but looking from a distance—and sometimes even close up—we are unable to distinguish them. In a similar vein, I was once sitting around a kitchen table in London when our British host turned to the Swedish nanny and asked if, to her ear, the English spoken by Americans and Brits sounded different; she replied, "No." We were gobsmacked that accent differences that to us seemed so obvious were inaudible to someone with a different perspective. It may not be possible to just magically see people as identical after so much cultural training has gone into learning to see differences, but Tyson's alien view reveals how arbitrary these categories are.

Tyson has a penchant for posting provocative tweets to his millions of followers. In his chapter on law and order, he recounts a 2016 tweet in which he proposed establishing a virtual country called Rationalia with a one sentence Constitution: "All policy shall be based on the weight of evidence." The response to this idea was, as he described it, "apoplectic." Journalists and opinion writers leapt at the chance to attack this suggestion in articles titled "A NATION RULED BY SCIENCE WOULD BE A TERRIBLE IDEA" (*Slate*) and "THE RATIONALIA FALLACY"

(*US News & World Report*). The most common objection was that Rationalia would be morally adrift and unguided by ethical principles. In *Starry Messenger*, Tyson counters that the U.S. Bill of Rights contains no discussion of morals either. As he points out, "Nowhere does it say 'Thou Shalt Not Murder.' Yet there's an entire amendment—number 3—that prevents the military from bunking in your home without your permission" (193). Tyson also reports his experiences showing up for—and ultimately being dismissed from—jury duty. His expressed skepticism about the validity of eyewitness testimony was enough to get him sent home despite the fact that The Innocence Project, which uses DNA evidence to help restore freedom to the wrongly convicted, reports that 69 percent of exonerated cases involve witness misidentifications (179).

Neil deGrasse Tyson is not giving up his Rationalia citizenship, and he makes a strong case that we should not either. He points out that education for all would be highly valued in Rationalia: "Everyone would have a heightened capacity to smell bullshit wherever and whenever it arose" (185). This is music to the ears of those who value science and reason, and *Starry Messenger* is a consistently delightful book. It is beautifully and clearly written, often funny, and occasionally moving. Will Tyson's suggestions be adopted? Many of them would provoke the kind of reaction that his #Rationalia tweet received, but he shows readers how taking an alien-visitor's-eye view of human civilization can be remarkably enlightening. Like Klaatu, Gort, and E.T., he comes in peace. ■

Stuart Vyse is interim editor of the SKEPTICAL INQUIRER.



## The Antikythera Mechanism

Re: Evaggelos Vallianatos, “The Antikythera Mechanism: The Greek Computer of Science and Reason,” November/December 2022. I am sure the Antikythera Mechanism is remarkable in many ways, as Evaggelos Vallianatos made abundantly clear. However, I cast doubt on his claim that the device’s “complex interlocking gears were one of the many ground-breaking contributions of Ancient Greek culture and form the basis of much modern technology.” This seems to suggest that without the discovery of the Antikythera Mechanism by Greek sponge divers in 1900, we would be lacking much of our current modern technology, or its development would have been seriously delayed. This strikes me as hyperbole, to put it mildly, especially given the significant advances in technology prior to 1900 as the result of the Industrial Revolution. I would be very curious to learn what aspects of modern technology were directly derived from the examination of the Antikythera Mechanism subsequent to its discovery.

Dennis Middlebrooks  
Brooklyn, New York

In “The Antikythera Mechanism,” Evaggelos Vallianatos references “the burning of the great Library of Alexandria.” The one thing historians seem to agree on is that there was no single catastrophic destruction. The most likely (and unintentional) burning of a portion of

the scrolls was by Julius Caesar in 48 BCE. There is general agreement that the Christian Roman emperor Theodosius I destroyed the daughter library Serapeum in 391 CE. Otherwise, Wikipedia documents a slow, rather than sudden, decline of the library starting with the purging of intellectuals by Ptolemy VIII Physcon in 145 BCE.

Charles H. Jones, PhD  
Eugene, Oregon

Evaggelos Vallianatos responds:

Regarding the comments by Dennis Middlebrooks: *The discovery of the broken Greek astronomical computer, which we call the Antikythera Mechanism, in 1900 has nothing to do with the abundance of our technology in 2022. The Antikythera Mechanism is simply an embodiment of the advanced technology that existed in the second century BCE in Greece. The study by modern scientists of the fragments of this ancient astronomical device allows us to speak of a computer of genius. At the same time, this knowledge also helps us better understand the roots of modern science and technology. Those roots were Greek. The transmission of this advanced Greek technology to the Arabs and later to Renaissance Europe made us who we are. After all, the mathematical physics of Archimedes and the mathematical astronomy of Hipparchus made Galileo and Newton.*

*NASA scientists said gears started with the Greeks. In my book I document that, in April 1961, the Russians used the Antikythera gear computer to model their spacecraft gear computer for carrying Yuri Gagarin in space. In March 2017, NASA designed a geared machine made from hardened metals, the Automaton Rover for Extreme Environment, for the exploration of the hot planet Venus. The brain of the Automaton is a device modeled after the Antikythera Mechanism.*

*As to the note from Charles Jones: The expulsion of some scholars from Alexandria by King Ptolemy VIII has nothing to do with the burning of the great Library of Alexandria. I agree Julius Caesar in 48 BCE unintentionally dam-*

*aged a small section of the Library of Alexandria. The library was destroyed in the late fourth century BCE by the Christians. The evidence comes from the Greek soldier and historian Ammianus Marcellinus. In 363 CE, he reported that the Broucheion (Bruchion) was in ruins. This was the quarter of Alexandria that used to house the Alexandrian Library and the “distinguished men” who worked at the Mouseion (university). This destruction bypassed the smaller library located in the temples of Zeus Serapis (Serapeion or Serapeum), which impressed Marcellinus. He said that the Serapeum was “conspicuous” amid the temples of Alexandria: “No description can do it justice,” he said, “yet it is so adorned with extensive columned halls, with almost breathing statues, and a great number of other works of art, that next to the Capitolium, which elevates revered Rome to eternity, the whole world beholds nothing more magnificent” (Ammianus Marcellinus, History 22.16.15, 12, tr. John C. Rolfe [Loeb Classical Library, 1937]). Two years later, in 361, the Christians of Emperor Theodosius finished the job of desolation by burning the daughter library Serapeum.*

## The Fall of Rationality

Re: Massimo Pigliucci, “The (Linguistic) Fall of Rationality,” November/December 2022. Very interesting piece by Massimo Pigliucci. I suggest that 1980 was when earlier trends became dominant.

The century from roughly 1850 to 1950 saw the biggest improvement ever in people’s everyday lives. Foot and animal power were replaced by horsepower. The telegraph and telephone made communications easy and nearly instantaneous. There was nothing inside the walls of a house in 1850. By 1950, there was running water, sewer, electricity to run lights and appliances, and perhaps gas for heating and lighting. Houses now had telephones and indoor plumbing and reasonably effec-

tive central heating. Science and technology made all this possible.

But World War II ended with “the bomb.” By the 1960s, the world could be nuked in hours. The two marquis events of that decade were the Vietnam War and the moon landing. The War is associated with Robert S. McNamara, a technocrat par excellence. And the moon landing used the same technology that made nuclear winter possible. Not surprisingly, opinions concerning science and technology started changing.

In the 1970s, we got leftist hippies pushing “turn on, tune in, drop out,” eastern medicine, and “flower power.” It didn’t take long for the right to follow the left onto the anti-science bandwagon. The election will tell us if we have reached another tipping point.

Patrick J. Russell  
Seattle, Washington

So, Massimo Pigliucci is puzzled by “The (Linguistic) Fall of Rationality.” One obvious explanation: women. Around 1980, women came into positions responsible for more of the printed output of civilization. The year 2007 saw the rise of another generation. The women I know write about what interests women. They use the vocabulary that is theirs by nature and custom. The year 2007, for both sexes, is about the time the last of the pre-Baby Boomer generation departed in favor of more touchy feely generations “in touch with their feminine side.”

I wonder if other skeptics are such dutiful leftists that they can’t apply their principles to themselves when looking at the emperor’s new clothes or if they are, like the rest of us, terrified of woke bullies grinding our faces in the mud.

Our beautiful language has degraded in my lifetime into slang, spin, obfuscation, and vulgarity; urbanized, feminized, bureaucratized. Activism, advertising, and ignorance have been its downfall. When “social security” was foisted on us, the creators of

newspeak knew they were on to something. With “affirmative action” they realized we would ape anything, oblivious and straight faced.

Norman Carlson  
Busti, New York

Massimo Pigliucci’s discussion of a massive study of the rise and fall of the use of words denoting *rationality* or *emotion* is intriguing but fails to persuade that the study has any usefulness. Besides the question of how one determines what is a “rational” word, how do you determine whether it was used in a “rational” sense? For example, the word *vaccine* would appear to be a rational, scientific term, but as we witnessed during the COVID-19 crisis, it was often used in a highly irrational, anti-science manner.

As a young graduate student, I made my area of study seventeenth-century English literature, particularly the “Metaphysical Poets.” There were three major shocks to the overarching standards and explanatory organization of English culture in the first half of the century: the annihilation of the “divine right of kings” with the execution of Charles I in 1649, the splintering of the “one, true, holy and apostolic” Roman Catholic Church with the Protestant Reformation, and the shattering of the Ptolemaic “crystal spheres” and their replacement by the Copernican/Galilean heliocentric solar system.

These massive shocks to the longstanding, generally accepted—one might even say “rational”—understanding of the universe, king, and church resulted in a flowering of English literature. The shell-shocked English found three ways to respond. Some chose nostalgia, ignoring the current tumult in favor of the “good old days”; some, such as Robert Fludd, abandoned reason that as yet had no satisfying replacements of the old standards and opted instead for the occult and mystical; and then there were poets such as John Donne and scholars such as the Cambridge Platonists who

attempted to link or bridge the old with the new.

John Donne would write a love poem, “A Valediction: Forbidding Morning,” using the shocking trope of a compass, an instrument of geometry, to represent a loving couple with one fixed foot (or soul), which leans toward the roaming other soul “and makes me end where I begun.” He found a way to link the “rational” and “emotional.”

I’ve witnessed this same three-part division with America’s so-called Southern Literary Renaissance: one part nostalgia, one part anti-rational myth making (the Lost Cause), and one part embracing the future and the New South.

These are the three main ways we deal with rapid change or major shocks to our accepted explanations or “beliefs.” We can ignore troubling change by nostalgically looking backward; we can untether ourselves from reason through the occult, mysticism, conspiracy theory, UFOs, etc., or we can embrace the new reality and seek emotionally satisfying rational pathways to the future.

Karl Felsen  
Guilderland, New York

### The Power of Prayer

*Re:* Edzard Ernst, “What Happened to the COVID-19 Power of Prayer Study?,” November/December 2022. Thanks to Edzard Ernst for reporting on the COVID-19 Power of Prayer study. Ernst is a skeptic on this topic, as am I, but my skepticism extends to his report, which looks unfair. Ernst complains that:

- Research funds should not be wasted on implausible hypotheses. Implausible in whose view? This seems an argument for just believing what you prefer without evidence.

- There is no guarantee that the control group would not also receive prayers from friends and relatives. But as Ernst should know, the same may be said for the treatment group, so this al-

leged bias would cancel out.

- It is not acceptable to receive prayers from a different religious group. This seems a purely ethical objection that would not affect study quality even if it really is unethical.

- It is not acceptable to change the trial protocol without ethics approval. The only change mentioned in Ernst’s article is the sample size from 1,000 to 200, which probably reflects the difficulty organizers had in recruitment. Doesn’t seem very unethical, and, anyway, how do we know approval wasn’t obtained?

- Conflicts are introduced because the director of the sponsoring institute appears Hindu. This seems to be stretching things. Is there something wrong with being Hindu?

- We have a right to learn why the study was canceled. Maybe, but this is not a criticism of the proposed study.

Gordon Hazen  
Professor Emeritus  
Northwestern University

*Edzard Ernst responds:*

*Gordon Hazen asks who decides which hypothesis is implausible and which is not. In healthcare, treatments are usually categorized as implausible that have no rational mode of action and are out of line with science or common sense. Of course, this is often a judgement call, but I am confident that most scientifically minded people would find the hypothesis of treating a viral disease with prayer quite implausible.*

*Hazen argues that prayers by relatives and friends would occur for both groups of the prayer study and that their influence on the inter-group difference would thus be negligible. This assumption presupposes a dose-effect relationship between prayer and clinical outcome that I am not sure is true.*

*Moreover, Hazen suggests that ethical objections do not affect the study quality. I do not think that this notion is correct. On the contrary, I would argue that the two are inseparably linked.*

*Hazen finds that the tacit reduction of the sample size from*

*1,000 to 200 patients is not unethical. I would counter that such a change to the protocol is sufficiently important to require ethical approval. As this was not mentioned, we have to assume that it was not obtained.*

*Hazen asks whether there is something wrong with being Hindu. I did not imply that this is the case, nor did I state that “conflicts are introduced because the director of the sponsoring institute appears Hindu.”*

*My question: “Do we thus not have a right to learn why the study was aborted?” was clearly not meant to be a criticism of the study per se. It was an appeal to those responsible to put this information in the public domain. In this context, it is worth mentioning that I did, of course, write to the primary investigator but received no response.*

### The Aftermath of Surviving the Concentration Camps

*Re:* Roger A. Sabbadini, “Truth, Relativism, and Identity Politics,” November/December 2022. I must admit I was brought up short by Roger Sabbadini’s statement in his article “Truth, Relativism, and Identity Politics,” that “For many Jews who survived the concentration camps, their suffering was a liberating condition that gave life meaning.” I have known very few concentration camp survivors but have read about many others. For a great many, their experience destroyed their belief in God. For almost all, their experience—the destruction of any normality in their lives and the wholesale murder of their families—brought often-paralyzing bouts of depression. I know of none who found incarceration in a concentration camp, with their lives constantly in danger of being snuffed out, a “liberating experience.”

I am flabbergasted by Sabbadini’s statement and, frankly, don’t know whether to laugh or cry.

Carl Gurtman  
York, Maine





**Full moon rising over the Sandia Mountains in a pink sunset  
photographed by Kendrick Frazier on February 9, 2017.**