Evolution 2.0 · Reversing Cancer

October 2026

New Reasons to Believe

Ten years ago, my friend and colleague, Denis Noble, announced a conference at London's Royal Society to explore the new evolutionary biology.



Twenty-one Royal Society Fellows circulated a petition to squash it. Denis had to seek support from the British Academy and the president of the Royal Society to keep his conference from being stillborn. It was a watershed event.

This past January, Denis held a new conference. Similar ideas, a decade more advanced. It was at Oxford University.

There was no petition. The naysayers had gone silent. Donors were eager to fund it, speakers eager to come, and an audience hailing from the US, Japan and Australia hung on every word for three days.

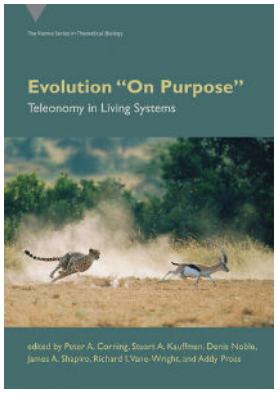
An entire field of medicine is pivoting, shifting, shaking, evolving, breaking new ground.

Red-headed stepchildren: Now the cool kids on the block

The theme running through everything I have worked on for the last 22 years is now an institute. A group led by Charlie Munford has founded the Agential Biology Institute (agentialbiology.org). The board includes Denis Noble, Michael Levin, Richard Watson, and Stuart Kauffman, some of the most respected leaders in the field. I am on the scientific advisory board.

AGENTIAL BIOLOGY INSTITUTE

Each month they host a deep technical discussion with the top thinkers in the field. They are hosting a conference in Boston in November. ABI champions the thesis that living things are agents. **Every cell, every organ, every organism has the capacity to make choices**. Neither us, nor our bodies, diseases or pathogens are merely wind-up toys running a genetic program. Evolution is fueled by self-awareness, sentience. Life is intrinsically purposeful. Consciousness is THE central question in science.



5-10 years ago, such talk got you laughed out of the academy, or worse. 180 degrees from the mainstream.

Substantial scholarly literature now backs this, and its advocates have *not* been shoved in the trunk of a black sedan and whisked away. A book from MIT Press called *Evolution on Purpose* with contributions by blue chip renegades makes the case that **purpose** is a real, intrinsic feature of biology. Not an illusion. Not layered on top after the fact.

It is "common sense" that your heart, your hand, your dog, even a virus infection has a purpose. Yet the profession has gone to extraordinary lengths, with combative opposition and labyrinthine rhetoric, to avoid admitting what is bloody obvious to any six-year-old. It's like an accountant who doesn't believe in spreadsheets, and forbids his employees to use spreadsheets. (The team members use them anyway and don't tell anybody.)

The "Newtonian" view of science that insists everything is ruled by equations is inherently bound to interpret purpose as an illusion. In the 1970s when Denis Noble asked one of his peers why purpose was taboo, the reply was, "The minute you admit purpose, you let God in the door." The guy was right. And maybe that was the point.

So long as the profession denies purpose in nature, it will continue to grind away at the same 'impossible' problems and never solve them. Yet… if every time you hit a scientific brick wall, you throw up your hands and say "God did it"... you continue to grind away at the same 'impossible' problems and likewise never solve them.

The truth hides in the space between those two poles. Solve that dilemma and *everything* changes. How we steward this is one of the greatest levers in civilization. That is why I am doing this work.

Lex Fridman recorded a three-hour interview with Michael Levin last November that is mind-blowing. Mike explained his life work in high school English. Go to evo2.org/levin-fridman/. Scan the QR code and listen. If you have followed these newsletters, you will find it captivating.

Why this matters for what we are doing at Evolution 2.0:

Drugs keep getting more expensive and less effective. Diseases resist cures we have invested billions into creating. **We are failing in medicine because we are twisting the most difficult levers on the dial.** There's an easier way. Many diseases, cancer included, do not exist at the level of a molecule. They work at the level of the organ or system. You cannot fix a communication problem by staring harder at a single letter of the alphabet. You have to go up many levels to where the actual decision-making is happening.

Which is the premise behind *everything* we are doing and funding. **And for the first time in a century, the mainstream is beginning to embrace it.**

At higher levels of the organism, solving problems is MUCH easier. Michael Levin's lab transferred a tadpole embryo's eye from its head to its tail. With tweezers. No genetic engineering, no exotic drugs, no micro-management. The tissues in the tail recognized it as an eye, connected nerves to the eye. The brain recognized the signals. Mike's team verified the tadpole could see out of its butt.

The average mechanical reductionist would never attempt that experiment in the first place – because they would never expect those tissues to have the *agency* to do such a thing.

This one experiment has sweeping implications for every branch of medicine. It's a seismic shift that forces a new definition of science itself. Science for centuries has been addicted to certainty, to mechanistic models, to the notion that everything is really just cogs and gears like a clock.

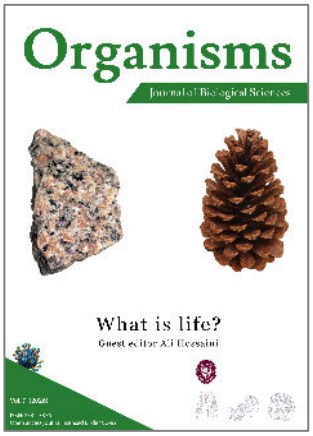
The first nail is now in that coffin. (I wish I had a way to jump out of my skin with excitement and shake you by the lapels and assure you how big a deal this is. Then I could jump back into my skin and we'd all go out for a beer!)

Stories, Not Molecules

In July, a new scientific paper appeared called "Defining Life, A Conversation," in the peer-reviewed journal *Organisms, Journal of Biological Sciences.* Lead author Michael Levin asked a cadre of scientists to define life in three sentences or less. Then he opened up a giant reply-all email thread and let the conversation run for several months.

He took the best of it and edited it into the paper. I am among the 33 co-authors. Several, like Nick Lane, James Shapiro, Scott Gilbert and Stuart Newman are rock stars in the field.

The following story of mine appeared in that paper:



My favorite prof at the University of Nebraska was an English professor, Robert Knoll. Every single class he taught was a revelation. He was one of the most cherished professors on campus. His classes were always full and I would always leave his provocative lectures feeling my mind had been expanded.

One day Dr. Knoll said, "Kids in their teens and 20s are drawn to subjects like chemistry, math, physics and engineering because they have a need for exact answers. But as you mature, you become more comfortable with grey areas and ambiguity. The older you get, the less need you have for exact answers.

"When you get into your 40's and 50's you're much more comfortable with politics and imperfect human beings. So… if you want to spend the rest of your life looking for exact answers, you can go to Indian Hills Community Church."

Hey wait a minute! That was the church I grew up in!



I felt like Professor Knoll had smacked me in the face with a 2×4. I meandered to my classes for the rest of the day in a daze.

Suddenly, several hours later I realized:

"Hey, wait a minute… I don't even go to that church anymore! I left."

"Why did I leave?"

"I left because the exact answers were so excruciatingly exact I couldn't stand it anymore."

I suddenly realized:

"Hey wait a minute… that means even though I'm only 20, I AM growing up. Just like he said!"

I no longer felt like I'd been whacked in the head with a 2×4. Dr. Knoll had certified my rite of passage.

Then in the paper I went on to explain:

"The science profession itself is in a similar place. The mathematicians began disabusing themselves of their Supreme Confidence in Exact Answers after Gödel's incompleteness theorems shattered the absolute certainty of mathematics. Ninety years have gone by, yet science is only now starting to get the memo. We've been in the grip of reductionism since Newton, and even Einstein's work did not manage to change it. I think it will take the New Biology to drive the nail in the coffin. This also means the 'soft sciences' are more sophisticated than the 'hard sciences.' They demand more maturity. It means biology is a soft science, not a hard science.

“It’s troubling to consider that if any amount of free will exists, no law-like model of the universe can ever succeed. All living things have agency, and life not only obeys laws but also breaks them and makes new ones.

“I say all this as an electrical engineer whose most comforting sense of ‘what is absolutely true’ in the world came from the fact that I could model a circuit on a computer, and when I built it, it behaved exactly as the model predicted. That is true of many dead things, but it’s not true of alive things. Only those who are truly alive can accept this.”

~

Ladies and gentlemen, I can hardly express what a watershed moment we are celebrating today.

First, this *sort* of story appearing in a peer-reviewed scientific journal is unheard of. Yet it speaks to exactly what is happening in science right now. Second, it really is true that the gods of Exact Answers and Mathematical Certainty are finally being dethroned. Science is wriggling out of the straitjacket of “reductionism” and skepticism.

When you visit your chiropractor, acupuncturist or massage therapist and she says, “my job is to help your body restore its original balance,” she is expressing her holistic conviction that every card-carrying reductionist will reject. This is why a conventional MD can only offer you pills and surgery.

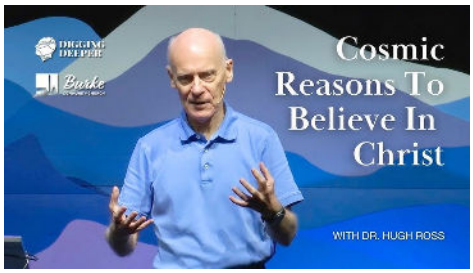
In the medicine of the future, we’ll be asking, “Thyroid, why are you unhappy?” We’ll be asking cancerous lung cells what went wrong. And we’ll get answers, because cells know how to talk.

When you read scientific papers from 100 years ago, you’ll find authors make room for a story, a poem, a digression that got them thinking. But somewhere along the way those aesthetic flourishes got purged from the profession. It made the writing tedious and the thinking *narrower.* I am happy to see that returning.

From outsider to “We need you on the steering committee”

I have been a member of the American Scientific Affiliation (asa3.org), the largest professional association of scientists who are Christians, for 11 years, and I have spoken at their annual conference almost every year. The first few years, I had detractors. *Who needs an engineer to come in here to tell us scientists how to do biology?* I was the red-headed stepchild.

My lecture there in July was packed. Scientists across many disciplines lined up with questions afterward and spent hours with me in the cafeteria, saying they could not believe they had never heard any of this before, asking where they could learn more. One of the senior people in the organization is lobbying to get me on some planning committees, because, in his words, “Perry knows everybody they need to know, and they do not.”



Something similar happened with **Reasons to Believe**, who invited me to speak this summer. I have a history with them that goes back to 1994.

I was one year out of college working at my first “real” job in Chicago. In a conversation one day at work, all us engineers were shooting the bull about religion. I was advocating my faith competently, but then Jon, one of my co-

workers, said to me, “Perry, I respect and admire religion. It brings people together. But if you’re going to tell me that the entire history of humanity is 6000 years with a woman, an apple and a snake, I’m not buying it.”

I had no comeback. I immediately realized my ultra-conservative evangelical church background had *not* equipped me to answer science questions from educated people. *Note to self: You need to sort this out*.



Less than a year later, Hugh Ross from Reasons to Believe gave a talk at my church. Hugh is a Caltech-educated Cosmologist and Astrophysicist who delivered a presentation that forever shifted my understanding of life, the universe and everything. He weaved together the Big Bang, modern cosmology, and the Genesis text in one fell swoop. His talk was a tour de force. It’s online at evo2.org/hugh-ross-origin-of-the-universe/. Scan the QR code. Despite its vintage, it is still relevant and it will blow your mind even today. I urge you to listen.

It satisfied my needs at the time. It appeased my insecurity and reinforced my conviction that our cosmos is an incredibly purposeful place.

Ten years later when I had an evolution argument with my brother, however, it did not address my biological questions. Reasons to Believe holds a more traditional Christian view of human origins that is different from mine. Nevertheless, seven years ago Hugh Ross approached me after a talk I gave and said, *Perry, keep doing exactly what you’re doing, because nobody is more honest about questions of origin than engineers*.

In June they invited me, along with Sy Garte, to speak to their scholars about The New Biology. Their own biologist, Fazale “Fuz” Rana, said molecular biology has transformed in the last five years in ways he never expected to see in his lifetime. Fuz offered an ingenious re-framing: “Does God use evolution to create?” and “Does God use the creation itself to create?” are one and the same question. The audience was extremely receptive.

Had you been a fly on the wall in that room, you would not have guessed that creationists and evolutionary biologists had spent decades lobbing cannonballs at each other. I need to emphasize that there are dozens of factions in the origins debate *and every single one of them has valuable things to say, even if you or I categorize them as ‘nutty.’* One of the things I respect most about Reasons to Believe is that they never indulged in the mudslinging that usually goes with these fights. They maintain civility and respect, even when they are the ones taking fire.

Reasons to Believe inspired me to make our conversations a demilitarized zone rather than a battle line. When you live that out instead of just talking about it, the walls come down faster than anyone expects. Hugh Ross continues to resolve the existential conflicts people have about science; I am walking in his footsteps.

Zero Resistance

Every door that opened in 2026, someone invited me. None of what I’m describing today happened because I pounded on a table, kicked down a door or forced an issue.

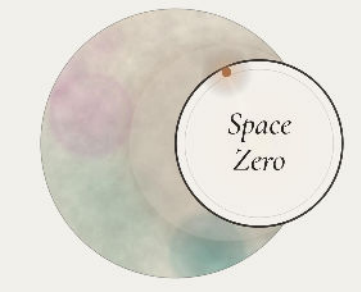
This happened because of years of flying to conferences all over the world, making friends, and having conversations, many intensely confidential. That built trust for scientists to take a chance on an outsider. **Relationship building is expensive and slow, and it is exactly what your support of this work makes possible.**

I was recently on a camping trip with a group of scientists, and what struck me, once again, is how some of the most talented researchers in the world maintain regular spiritual practice. A profound conviction for what we do not

know and cannot know. A belief that there is an Ordering Principle to the universe, however they choose to express it.

Which is about as far as you can get from the old stereotype of scientists insisting the universe is just billiard balls bouncing with no meaning behind any of it. The spiritual viewpoint is pragmatic, because some of the world's most prolific, exciting research is now coming from this group.

Last year we got cancer early-detection company PredictRX off the ground. The firm is now in the hands of a managing investor. I continue to advocate cancer work by Jinsong Liu (MD Anderson), Doru Paul (Cornell) and Michael Levin (Tufts). In 2026, many new doors have opened to **heal the rift between science and a purposeful view of the world.**





I am now on the board of a new organization called Space Zero (www.space-zero.org), founded by Yen Chen, built around precisely this idea: **that wonder, prayer, art, meditation and time in nature belong in scientific inquiry, not outside it.**

Space Zero is in a unique position to make advances inside the science profession where dozens of other groups failed. It has a diverse enough leadership base with stellar credentials, that other efforts lacked. I joined Space Zero because they can move the needle socially, academically and technologically. Co-founder Adam Goldstein hails from Oxford and MIT with multiple successful companies under his belt, from travel to biotech to AI.

The war between science and religion is THE monster at the bottom of the swamp. It more than anything else is responsible for the roadblocks of materialism, reductionism, and the appalling lack of progress in most cancers and many diseases. Space Zero contributes by bringing together people from Buddhist, Jewish, Christian and many other traditions to explore and create the future. Right: The first Space Zero meeting in Crescent City, California October 2-5. There, Laura and I had hours of rich conversations with many people. I gave a presentation there, and I'd have a hard time naming a talk that's been more enthusiastically received. I gave away copies of my book *Memos From the Head Office* and all were snatched up.



Prior to the Cancer and Evolution Symposium in 2020, I was doing this work mostly alone. Now I have eminent scientists endorsing this work and co-authoring papers together, and inviting me to the gatherings where the next generation of science gets built.

Oxford Debate Airs in Late 2026

In June, I was invited to Yarnton Manor, a stone's throw from Oxford University, to debate Adam Rutherford on the podcast "Uncommon Ground" hosted by the well-known Justin Brierley. The subject: "Does evolution need a re-think?"

Adam Rutherford is a genetics professor at University College London. He is President of Humanists UK; was host of BBC's *Inside Science* show, and author of numerous books about genetics, race and science.

Adam's position: No, evolution does not need a rethink. My position: Yes absolutely, and it's 100 years overdue.



Justin Brierley is renowned for moderating civil, more-light-than-heat debates about faith and science for 20 years. He created the *Unbelievable* show whose format is Christian vs. Non-Christian Viewpoint on every imaginable topic in philosophy, research, religion, culture and society.

Justin has an enviable following and has interviewed the world's tippy-top intellectuals and thinkers: Jordan Peterson, Richard Dawkins, Philip Pullman, Tim Keller, William Lane Craig, Francis Collins, Tom Holland, Douglas Murray. I debated atheist PZ Myers and Intelligent Design advocate Stephen Meyer on his show.

Three years ago, Justin left Unbelievable to create his own media channel. He produced a docuseries called "The Surprising Rebirth of Belief in God" which is a great listen. Denis Noble and I appeared on that podcast discussing cancer and evolution. Justin's latest innovation, Uncommon Ground, brings Christians and non-Christians together with the rule:

"Steel Man" your opponent's argument

In debate, a "Straw Man" argument is when you misrepresent your opponent by making a "straw man" version of your adversary, then beating it up to demonstrate how amazing you are. Describing a WEAK version of their argument and making yourself look like a champ by comparison. It's dishonest and happens everywhere all the time. Especially on TikTok, Facebook and YouTube.

Justin cultivates the opposite. As we were preparing for the show, his producer told me: "Justin is going to ask you to describe Adam Rutherford's position. The way we know you're doing a good job is, if someone were to randomly tune in during that segment and knows you, they should wonder if you switched to the other side. You must deliver the most convincing version of Adam's view you possibly can."

They had a full video crew with three cameras rolling, and when they kicked off the discussion, Justin asked me to Steel Man Adam's position not once but twice. He asked Adam to Steel Man MY position not once but twice.

By the time we both did that, the points of contention were stunningly clear and we enjoyed a feisty, respectful, entertaining, informative discussion about some of the most pivotal questions in biology.

Adam's employer, University College London, is an epicenter of genetics, because much of the field's modern machinery, including Population Genetics, was birthed there. He is a respected science communicator who has published numerous editorials in UK's *Guardian.*

When *Evolution 2.0* came out 11 years ago, I was perceived as the "outsider engineer critiquing biology." Today I'm a biotech entrepreneur and co-founder of the Cancer & Evolution Working Group. I'm an established scientist with peer-reviewed papers. I'm founder of the Evolution 2.0 Prize. No longer is anyone accusing me of being a latecomer to the party. I'm working with and debating the top people in the field.

Our exchange was great. I did not seek a "hammer and tongs" battle but hoped instead that I would make a new friend and colleague. That is indeed what happened, and when you listen to the episode I think you'll appreciate the warmth of the conversation despite our stark differences.

Our show was taped in June and will air in late 2026 with the launch of Uncommon Ground's second season – any minute now. Subscribe at youtube.com/@justinbrierley or scan the QR code; or search "Uncommon Ground" on your favorite podcast platform.

This. Is. Working.

In 2022 and 2023, ReversingCancer funded a group of cancer researchers and connected them to a new funding source, a firm I met at an ASA meeting. Now, two cancer therapies are in commercial development: 1) a way to give cancer cells amnesia, making them forget their drug resistance; 2) shutting down communication between cancer cells, instead of killing them (which makes the surviving cancer cells furious). Reduces growth in brain cancer, with existing drugs never tried in cancer before.

In future issues I will get into more of the science and medicine coming out of this, because it is going to change what happens in oncology wards, hospital beds, and pharmacies. The gears are turning.

Which is why I want to THANK YOU for supporting Evolution 2.0 and ReversingCancer. Some readers of this newsletter have been investing and donating for over 10 years. "Another 20-year overnight success." You have patiently watched this unfold.

Not only does Evolution 2.0 / ReversingCancer have many financial supporters, we also have a great many volunteers like CEO Jon Correll, Dave Seldon, Derek Dearden, Paul Beauchemin, Alex Makarski and Kelly Cusick. Keep supporting. Keep the cards and letters coming. Keep writing the checks that make research, travel and relationship-building possible, because that is the unglamorous engine underneath the progress I just told you about.

Please visit www.evo2.org/donate and help us with your year-end giving. We are healing the rift between science and spirituality and advancing medical progress in cancer, limb regeneration, viruses and infectious diseases. We are connective tissue bridging gaps that no one else is bridging.

Today you've followed my journey in 2026 across biotech startups, the science-religion divide, multiple Christian faith groups, three new methods of cancer treatment, evolutionary biology at Oxford and the Royal Society, the new Agential Biology Institute, and the science-spirituality endeavors of Space Zero. Evolution 2.0 is the bridge between these groups, from conservative churches in Nebraska to San Francisco's liberal Haight-Ashbury district, where I'm typing these very words right now.

No one else spans such a wide range of voices; no one else is facilitating this channel of dialogue. Your support makes this possible, and I am so very thankful.

Seize the day,

Perry Marshall