

A BRAIN SURGEON'S STAIRWAY TO HEAVEN



Allan Hamilton's unconventional route to becoming an expert on gray matter.

BY STEPHEN KIESLING

For the last several weeks I have been trying to wrap my mind around this story about the iconic brain surgeon, Allan Hamilton, M.D. Why? Because he's finally launching his big book, *Cerebral Entanglements: How the Brain Shapes Our Public and Private Lives*. He's been working on this one for years, and I know that because stories in the book have appeared in this magazine. What happens is that we talk on the phone, our brains get entangled, and then a feature begins to grow at AZTECA, his famed surgical simulation lab at the University of Arizona. Allan thinks in pictures (he first wanted to become an artist), and he can produce words about as fast as an AI bot.

So a few days after our conversation, as many as 11,000 words show up in my inbox—pressing against print space for 1,600 words. I slice through layers of gray matter, lopping off metastases, and send it back. And again. Get it wrong and it just lies there, impenetrable glop. But we've done this for years and it tends to go right. Allan tells great stories that begin about 30 seconds after the big bang—and help make sense of everything that has followed. His new magnum opus may be the best guidebook to who you are and where you are coming from.

Whoa! You say. I consider myself highly conscious. I don't need to read about my brain.

But take a breath. A deep breath. Hold it. And let such thoughts go.

As Allan explains, "We're the first generation that's ever been able to look at human emotion and thought in action. And all of a sudden, we realize that we've got this tiny bandwidth of conscious processing. Conscious bandwidth is the drip from your faucet and unconscious bandwidth is Victoria Falls. Two hundred bits per second compared to 11 million. And that 11 million bits is constantly making decisions about what it allows those 200 bits to process or not to process." Those structural issues decide, for example, whether you are liberal or conservative ["This Is Your Brain on Politics," September/October 2024]. It's not what you think.

To put it bluntly, to compliment someone as "conscious" is really to suggest they're clueless. Like flat-earthers, they're in no danger of falling off, and their sense of direction remains useful. But given inflation, 200-bit guidance just ain't much. To know yourself, you've got to embrace your brain architecture, and to realize among other things that great ideas take time and teams. That's in the book. Meanwhile, my 1,600-word assignment came down to four words:

WHO IS THIS GUY?

"So, Allan, you're on a plane and somebody asks you, 'What do you do?'"

"I breathe," he answers. "How about you?" He laughs. "It's very hard, when your life is a rich mosaic, to take out one tile, or two, or three and tell you what it means, because I'm not sure I know what it means."

And that's what friends (and editors) are for. As an old friend and an old editor, my job is to ask questions and then decimate what proves to be a 16,000-word transcript to unlock whatever secret his story might teach. I'll get there in a bit.

My obvious problem is that Allan's resume weighs in at just under four pounds, and that's the digital version. Highlights include being a Harvard-trained brain surgeon, head of surgery at the University of Arizona, a professor of engineering and a few other professorships, a horse whisperer, a mountain climber, a skier, and chief medical consultant to the television show *Grey's Anatomy*.

As a resident, he was recruited by the Army to research protocols to acclimatize our soldiers to high altitudes in case we were ever called to battle the thousands of Chinese soldiers living in the thin air of Tibet. Serving during Desert Storm, Allan broke his back, and then spent a year stuck in bed drawing plans for a new field of high-tech brain surgery—extracranial stereotactic radiosurgery—that has saved countless lives and made him an icon among neurosurgeons.

Alas, his backbreaking story

wasn't really up to par:

He fell down some

stairs. So the

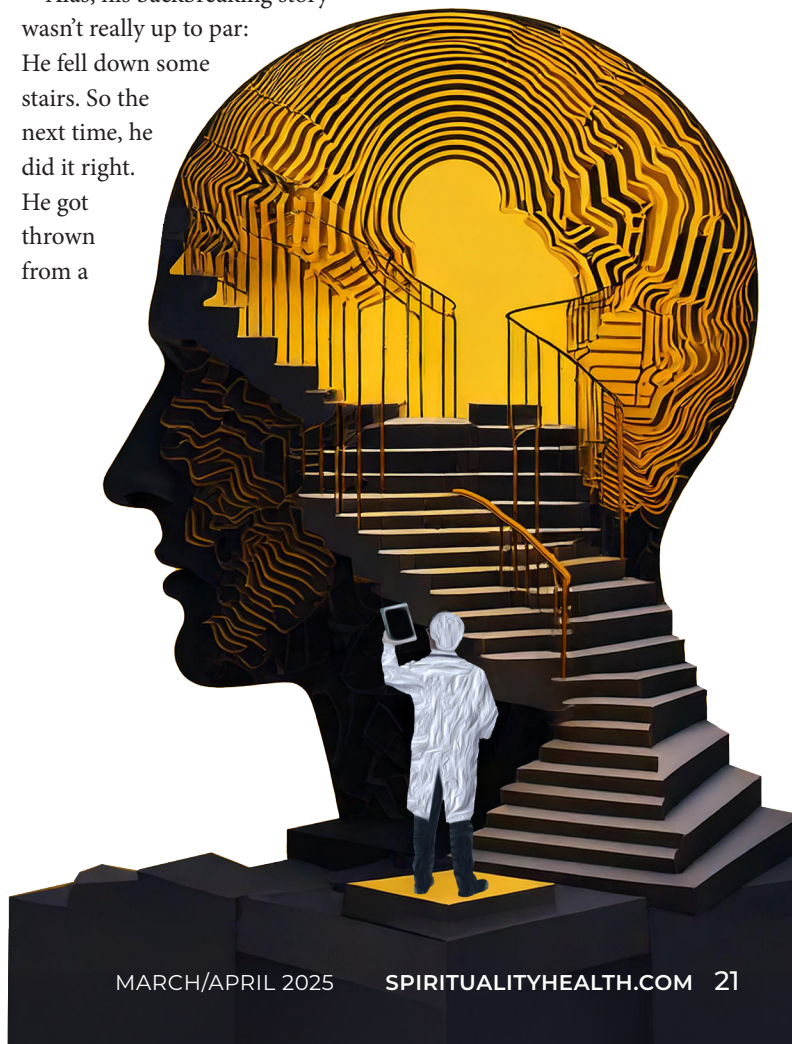
next time, he

did it right.

He got

thrown

from a



mustang, proving that if you break enough wild horses, one will eventually break you. After that, standing was too painful for him to operate, so he began building AZTECA, the world's first surgical simulation suite using 3D printers to form artificial body parts. It's a vegan Buddhist paradise, where surgeons perfect their bloody arts without doing harm to anything alive.

About the same time, a new television show called *Grey's Anatomy* had an emergency: A pair of conjoined twins connected at the hip had fallen in love with the same woman and demanded to be separated. Those television surgeons needed a double spinal cord, fast! Could Allan print one? *Absolutely!* Then he joined the show as a consultant. Since then, his 450-square-foot lab has grown into a 75,000-square-foot building. These days, when he's not just teaching with simulated skin and organs, he's teaching AI

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to both doctors and computers, or he's drawing out new areas of research.

HOW DID THIS START?

"I look at the composite, and I'm really not responsible for how the pieces fell together," he says. "A lot of it was just good fortune and some bad fortune. But, when I look at my life and ask why am I doing everything I'm doing, I periodically come back to the same answer. I'm trying to fill the hole my father left when I was 3. I'm still trying to prove to him that I'm worth coming back home for. It's that simple."

But nothing about Allan is simple. His mom wanted to get out of the shadow of her father, so she ran away from France to the U.S. with a guy she met in the Resistance during World War II. Says Allan, "After three years of beating up my mom and me, my dad just left. My mom went through all these relationships, and I would roll with the punches."

Allan also says his father role was filled magnificently by his grandfather, the man who cast such a big shadow. His grandfather was a cavalry captain in World War I who trained his horse so perfectly that when they charged uphill into a hail of artillery, the horse reared up as a shell exploded, absorbing the blast and receiving mortal wounds. (Imagine training your best friend to do that—and having the training succeed in saving you.) His grandfather became a powerful man, supplying fuel for the mechanized cavalry of World War I and then later rebuilding the oil business in Europe. His



efforts would spread to the Middle East, the North Sea, and eventually Alaska.

Every summer, Allan would take a ship to Europe to be with his grandfather in Paris or Lausanne, where he learned to ride horses and to climb mountains and how the world really works. As a teenager, Allan remembers climbing in the Alps when the Six-Day War broke out. "I came back to the house with my little rucksack and saw 12 limos with 12 chauffeurs outside and asked my grandma what was going on. She said, 'Oh, your grandfather called all the boys. They're worried about the war in the Middle East.'"

Surprisingly or not, Allan turned out to be a devoted husband and father of three. He and his wife Jane went off to Harvard together, where she got her doctorate in clinical psychology and, like Allan, became a renowned equine therapist. Allan says Jane would prefer to work with dogs in therapy, but dogs are predators like us. Horses are prey animals, and the complex interplay between predator and prey is where deep learning takes place. Think of a cavalry charge or your mom being beaten. What's remarkable is that time with horses can heal the trauma from stuff like that.

THE STAIRWAY TO HEAVEN

Allan says that as a kid, he drew pictures of anatomy. When he went to school, he realized that "everything was pictures." He tried to become a fine-arts major but realized he'd never make a living at it. So he began working summers at an ad agency on Madison Avenue. He didn't like advertising, but he did like working with words and graduated as an English and education major. Then he couldn't find a job.

He took a job he initially hated: as a janitor, mopping the First Presbyterian Church. Unable to make ends meet, he added a horrible job at a veterinary hospital, mopping up after dead dogs. "I guess I mopped a little too much opposite the doors of the operating room, because one of the surgeons noticed. He said that if I got my chores done early, I could come in and help hold the retractors, which hold the incision open. So I did that, and I fell in love with surgery. And I went back and did premed, and learned I was very good at science and math. That took me to



Harvard Medical School and neurosurgery, and then we went to the promised land."

This key to the promised land wasn't given by the veterinary surgeon who noticed him mopping. The key was the mop, transformed by a janitor at the church who taught him to use it. "He hated his job too until he learned to get into the details of what the mop was doing," Allan said. "He taught me this whole Zen approach to mopping. And bit by bit, I got into the choreography of it: the flow of the water and how we got the floor cleaned, and how we got the pews all shined, and the gigantic wooden staircase that we just took forever to polish." His "stairway to heaven" was learning a spiritual practice on a real staircase. At the time, the polishing seemed to take forever. What never ended were the gifts of the practice. ☞