

My Career and Some Semiserious Scientific Serendipity

Jim Lynch



According to the Merriam-Webster Dictionary, serendipity has the narrow meaning of “finding pleasing things that one had not been looking for.” In other words, unsought after good luck. Because random chance has a big role in luck (as opposed to how much of our luck/good fortune we consciously create), this distinction between luck and serendipity seems reasonable to make.

Because the theme of these *Acoustic Today* essays is “The Role of Serendipity in Our Scientific Careers,” I would contend that the most serendipitous event in any of our scientific careers is the circumstances of our birth. We certainly don’t get to choose the family we are born into or their circumstances.

If that logic is acceptable, I can state that my birth circumstances were reasonably serendipitous, though not perfectly so. I was born a white, male, Irish Catholic in the “technology happy” 1950s United States. These circumstances were favorable to the probability of a technical career. The religion part may seem odd, but the Catholic schools at that time were very good, so my education through high school was quite adequate for entry into a technical career. (It was less so as far as socialization is concerned, because these schools separated boys and girls at the time.)

Less serendipitous was my socioeconomic background. Not being born into a professional, academic, or well-off family lessens the chance for higher education. My family was one of many where the parents were World War II veterans and children of the Great Depression of 1929. But, due to a rising middle class at that time and aided by the GI Bill that provided college funding for veterans, my father was able to go from longshoreman to co-owner of a small marine and industrial electrical contracting company,

and our family’s financial picture rose. I’m not sure if the change in the fortunes of the United States’ middle-class rates as serendipity, but it fulfilled the financial requirement for my higher education, if just barely. It also allowed me to work summers and vacations on ships, at construction sites, and in factories and so to understand how hard blue-collar jobs can be outside the academic sphere that I’ve inhabited since starting graduate school. I regard the opportunity to have that bit of real-world education as very serendipitous.

Because one expects to make friends and have inspiring professors in college, I won’t call the influence of a good friend and an enthusiastic physics professor serendipity. But I would say that my interaction with those two people at the Stevens Institute of Technology, Hoboken, New Jersey, firmly cemented my career direction into physics. An electrical engineering degree would have sufficed to aid my joining the family business after graduation, but a physics degree promised a future that could actually be exciting to me. This type of decision is a common experience at the undergraduate level, so I won’t belabor it.

After undergraduate graduation, I enrolled at The University of Texas at Austin (UT Austin) as a graduate astronomy major, and at this point, I can relate an event that I regard

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as quite serendipitous, my encounter with the astronomy graduate advisor. Unlike the inspiring encounters I'd had in the past with science faculty, there was an immediate antipathy between us. My request to take some courses in the Physics Department, as opposed to a (too) basic refresher course that he insisted I take, widened the initial gap into a chasm. So, being utterly naïve about interdepartmental politics and the fight for students, I walked down to the Physics Department office that was happy to admit me into *their* department. When I returned to the astronomy advisor with my story, I was admitted to the “persona non grata” club in astronomy, which thankfully only lasted for a year or two. (I later took my “outside of main field” course requirement in astronomy and am now president of an astronomy club on Cape Cod, Massachusetts [see capecodastronomy.org].)

The next bit of serendipity occurred when the Atomic Energy Commission shifted some of its funding away from university grants to support their new Los Alamos Meson Production Facility (LAMPF), Los Alamos, New Mexico, which in the end resulted in some UT Austin physics graduate students (e.g., me) being shifted to research assistantships. A year before finishing my PhD thesis, I was made an assistant at UT's Applied Research Laboratories (ARL:UT) and began to learn about sound in the ocean. My acoustics career had begun through no impetus of my own. The late Bill Kuperman's (see bit.ly/kuperman) saying “nobody starts out in ocean acoustics” was somewhat of a truism in the 1970s, and I was one of the people who were part of that era. I had also wound up back in the ocean, which had been my family's heritage back to its roots in Ireland. So, in a funny way, I have to question whether this was serendipity (as I've had a wonderful career) or simply fate.

After finishing my PhD degree, I stayed on at ARL:UT, which offered me a good salary and a permanent position. Being newly married (another piece of serendipity as neither I nor my future wife, Chris, were looking for more than a random tennis game when we met), having such an offer was manna from heaven. We stayed in Austin for three more years, enjoying the vibrant culture of UT Austin, Austin, and Texas in general.

But other parts of life also tugged on us. A newborn daughter and the illness of Chris' father eventually pulled us back toward our roots in New Jersey and

the Northeast. So, we started looking for possible new opportunities, which is when the next bit of serendipity occurred. While I was “rounding up the usual suspects” to send my résumé to, Chris was leafing through the current *Physics Today* magazine. She spotted a “sail-boat” logo that she thought was catchy and asked me if this place “Woods Hole Oceanographic Institution,” Woods Hole, Massachusetts, did anything like what I was doing at ARL:UT. Because I did know of George Frisk and Bob Spindel (Acoustical Society of America [ASA] Silver Medalists), two faculty members at WHOI, by reputation, I figured, “Sure, let's send them a résumé as well.” A few months later, I was working there. I have now been there for over 40 years, currently as a retired emeritus scientist.

Let me switch gears some to discuss the academic/scientific serendipity I've experienced in my career. The switch to acoustics from quantum physics is, as many will attest, not an overly hard one because the Schroedinger equation and the Helmholtz equation are basically the same aside from a change of variables. If the universality of the mathematical basis of physics can be called serendipity, then all of us who have switched fields within the physical sphere have been beneficiaries. However, I don't think that the laws of nature had my changing fields in mind when they were generated and so perhaps my benefiting from that universality should be ascribed simply to good luck.

Meeting and eventually working with George Frisk and Bob Spindel at WHOI was fortunate because their work was how I initially recognized the Institution, but it was also by design and so not serendipitous. However, the strong oceanographic component of the work at WHOI was serendipitous for me. The fields of physical oceanography, biological oceanography, marine geology, boundary layer physics, atmospheric dynamics, and more were (mostly) new to me, and as anyone who knows me can attest, I *love* picking up new fields. I am a world-class technical-text bibliophile, and I even read what I buy. Moreover, when you approach a field that is totally new to you, you can ask really dumb questions, including about “well-known fundamentals,” without being bogged down by standard wisdom. You are also often at the interface of fields, which we all know is fertile ground for new advances. And finally, if you make a dumb mistake, you can use the plausible deniability line

of “well, it’s not exactly my main area.” (NOTE: You can only do this to a limited extent; people catch on quickly.)

But to be serious, this chance/license to shamelessly explore a huge breadth of scientific areas was perhaps the biggest bit of scientific serendipity during my career. The technical societies I belong(ed) to, the ASA; the American Geophysical Union (AGU); the Institute of Electrical and Electronic Engineers (IEEE); the Oceanography Society (TOS); and the American Physical Society (APS), also mirrored this. I won’t deny being a kid in a candy store.

The last piece of serendipity I’ll allude to is in my editorial role. While being a new scientist at WHOI, I came across the late Bill Carey as a sponsor for some shallow-water bottom acoustics work I was doing with George Frisk. Bill was also the editor in chief (EIC) of the *IEEE Journal of Oceanographic Engineering (IEEE JOE)* at that time and was headhunting for someone to pass the baton to. Playing shamelessly on our mutual Irish backgrounds, Bill lured me into a guest editor role and eventually into the EIC role. While in that role, Bill Carey, Bill Siegmann, and ASA Publications EIC Allan Pierce also worked with me as adjunct scientists at WHOI, and our conversations were as likely to be about publications trends as about ocean science. And then, as my role in *IEEE JOE* wound down, Allan Pierce inveigled me into editorial roles in ASA publications. The rest is history, and I would contend serendipitous.

The last bit of my story comes about more from design than by serendipity but is worth including because it rather completes the arc of my career trajectory. When I retired from WHOI, I wanted to spend some time doing amateur astronomy. In 2014, two years before I retired, Chris again serendipitously found a relevant advertisement, this time for a “100th Birthday Party” at an astronomical observatory on Cape Cod celebrating the observatory’s founder, Werner Schmidt. We decided to go. After the party, we joined the Cape Cod Astronomical Society and have been active members ever since. Thanks to Chris, some serendipity, and our admittedly “Pluggger” mentality, we have been able to explore and enjoy both sea and sky during our lives. Not a bad lot to have drawn. (As an aside, “Pluggers” is a comic strip that was created by Jeff McNeely that relies on reader submissions [see gocomics.com/pluggers]. It describes thrifty, working-class people who have a mentality typical of the baby-boomer generation and are a bit out of touch with modern times. They are portrayed as anthropomorphic animals, often bears. I highly recommend it!)

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