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MRS Bulletin

Coincidence, the gift to gab, or the nature of scientists' global network?

To the Editor:

Thanks for a great read and the invitation to comment on Bob Fleischer's column in POSTERMINARIES, published in the January 2011 issue of *MRS Bulletin* (p. 80). The article "Coincidence or hidden connections?" brought up unusual circumstances in which the author met someone who knew someone he knew. I would say we are drawing from the same well in terms of connections made in oddball places. I would argue that my frequency (and magnitude!) of such encounters is somewhat comparable to Bob's and certainly exceeds the norm. Thus I wonder how much the likelihood of these events is related to an accumulation of life experiences/associations considering I am somewhat younger than Bob when he wrote the column. Let me offer instead that, like Bob was, I am probably more likely to talk to people in the first place and dig a bit to look for connections. Personally, I will strike up a conversation with anyone and often prod a bit until we can find some common ground. I am hungry to interact with interesting people and thoroughly enjoy good conversation—which I tend to remember. Furthermore, being in the sciences put us both at an advantage (versus the non-scientist), I would suspect, given the network of conferences, publications, and the like. Thus, my conclusion is that certain people are more receptive or open to the possibility of such coincidences. Of course we would need a control experiment wherein we took a room full of people and had a few terabytes of data on each and look for overlaps! I bet there would be connections that would never be found if the folks did not gab.

Christopher L. Cahill
 George Washington University

To the Editor:

I came across Bob Fleischer's note in an online MRS web page about coincidences. Pretty amusing, though I suspect that many of us have had similar experiences. For example, I was at a historic ceremony in Piazza San Marco in Venice a while back, with thousands of people in the audience, and found that the fellow sitting next to me by chance was not only from Quebec City, but a former student of mine—in physics! Other than the fact that our ilk makes many connections through traveling to scientific meetings in many lands, university/academic people tend to gravitate toward people that have a similar background. When I lived in Europe, I noticed how Americans were always surprised at finding other Americans in a given area—not too surprising, as they tend to seek them out, consciously or not (for example, through European contacts who would steer them toward other Americans). Scientists also have offspring who are likely to attend university, and that is another mixer that generates contacts worldwide, no matter what their field of study. I do not know if you would find many "coincidences" with a fellow running a grocery store in Oswego or some even more remote place. It seems to me that when you cite your "coincidence" experiences, you are actually working with a fairly small subset of humanity that is "plugged in" to a whole bunch of very large networks. (By the way, I liked the graphic added to the note—it looks like a map to bathrooms within a beehive!)

Émile Knystautas
 Université Laval

FEATURES POSTERMINARIES

Coincidence or hidden connections?

Events can correlate with one another in unpredictable ways. I have encountered three examples—as follows. At a conference at Cornell University on heavy-ion effects in solids, during cocktail hour, I met a guy who came from Finland. I noted that I knew only one person from there—one who had visited Cornell during earlier years—Jaha-Pekka Hivonen. The response was, "He's my thesis professor!"

The next scene is in the dining car of the auto train, from the Reston station near the District of Columbia to Sanford near Orlando, Florida. It is a relaxed atmosphere with no passenger stops until arrival down south, and my wife and I naturally started talking with the lady who shared the dinner table with us. She turned out to be from Warren, Ohio. Remembering a fellow in my dorm during the freshman year in college, "I know only one person from Warren. His name is Bill Lenon." Her response: "He's our best friend and trusted family lawyer."

While waiting near a reception desk at the Mayo Clinic in Rochester, Minnesota, I heard a fellow checking in with his name, "Cairwright." I restrained myself from saying I know only one person with that name (I knew of two, one of whom was dead). I did approach him to ask if his first name was Brian. After a "Yes," I asked whether the University of California at Berkeley, Buford Price, and CR-39 meant anything to him.

He replied, "Yes, yes, and yes. Who are you?" I identified myself as a long-time associate of his PhD professor, Buford Price, and therefore well aware of the important work he had done with Price in developing the special nuclear-track-detecting plastic CR-39. Because it is sensitive to alpha particles, CR-39 allows radon measurements of improved quality. It is widely used in such applications (and many others). One example

from our work at Union College is using the tracks in CR-39 eyeglass lenses to find average radon exposure of the wearers.

These encounters are unexpected and surprising. I wonder whether there are some hidden connections that make their occurrence statistically more reasonable than they first appear. For the first example, the fact that Hivonen had been at Cornell earlier increases the likelihood that he would send a student for a meeting in his area at a place he knew well. But it still looks unlikely that the student and I would meet.

The other two cases do not suggest to me any likely hidden connections. The events—riding on a train and going to a medical facility—are not ones that suggest any mechanism for expecting close associations.

What is one to make of these three events happening to a single person? One alternative is to assume that over time one accumulates so many associations and personal contacts that connections become much more likely than one recognizes. Another possibility is that the results of my experience are just unusual excursions from those of the average person. (If it were not, I would have not written this note. It would be helpful to know whether readers of this note feel they have had an unusual abundance of similar experiences. (My e-mail is given below).)

It is an often-quoted idea that by a series of no more than six associations, one can connect any two people on earth. However, the old radio program "Twenty Questions" showed that 20 attempts were often not sufficient to establish the route from a thought to its identification. So while six may make something possible, the probability may be low.

Meanwhile, some years ago, in a long line of people awaiting a tour of the Vatican, my mother—who was seldom inclined to preserve silence—struck up a conversation with a nice-looking English couple just ahead of her. The man turned out to be a professor at Harvard.

"Oh, I have a son who is a graduate student in materials there."

"His name, please?"

"Bob Fleischer."

"He's my PhD student."

—Bob Fleischer
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