Radu's Rides: **Ideas to the Rescue**

Radu Craiu writes: Writing for this column can really be a pain in the neck, especially when I think a good idea is coming to fruition and then I lose momentum once things get a little more complicated. Sounds familiar? I thought I should write about statistical ideas, how their life is sometimes great and how sometimes they should just curl up and die with or without honour. What makes an idea live is pretty evident, or I thought it was. A living, thriving idea should excite, motivate and animate whatever audience witnesses it. Among other things, a healthy idea will tend to have many babies and some of these will grow strong, perhaps even stronger than their parent. One can think of a good idea as a strong tree that in time nurtures an entire forest around it. In this ecosystem, like in most of them, there is room to grow, and also to grow old. This would be a natural evolution, except that old ideas tend to cling on to us (or we to them) because we fail to see their wrinkles, emboldened, perhaps, by grant agencies that seem fond of keeping an old flame on artificial life support. That is indeed unfortunate because old good ideas could do so much to fertilize the future.

Speaking of manure, one must take into consideration also those thoughts that should have been chased by better ones, if not for poorly conceived incentives, menacing tenure deadlines, or predatory journals that turn them into… *zombie ideas*. The latter are kept alive by whatever ails our profession, and not unlike their Netflix counterparts can infect a healthy ecosystem to the point where evacuation of an entire area is needed. Pushing this tired metaphor to its logical limits, please look at the nearest respectable statistics editor as the Mila Jovovich [*Resident Evil*] or Matt Damon [*World War Z*] of our profession. Obviously, one wants to know where ill-conceived, or

merely obsolete, zombie statistical ideas go to die, and I was about to write something about that. The problem, I soon realized, is that they rarely die. Granted, some fall out of favour, but from exile they continue to show resilience and the ability to create mini-them versions that are not better, merely better costumed. The zombie ideas that we thought died with that paper's tenth rejection are not really gone and, moreover, hang around like cryogenized bodies waiting for a magical future cure. One can think of a bad idea's future as that bank with endless credit that justifies present and past foolishness indefinitely. Whether my pessimistic view is justified or not, only the future will tell and therein lies the catch. If the future doesn't provide answers, I thought the past would and I had this cool thought about the ancient world's belief that a person's death was as important, perhaps even more important than that person's life. Obviously, this doesn't apply to ideas, because no ancient believed that waiting in a suspended state to become relevant again is an honorable way to go (or stay). Sometimes the future and the past shake hands on a rotten deal. For instance, in a really twisted time-warped cosmic joke, some probability ideas born in the '90s— some of them good—went to die in some Soviet journal from the '60s or '70s, but that's neither here nor there.

Clearly, in my delirious conceptualization, I have momentarily forgotten that an idea's fate depends on us, those who deal in this supposedly rare currency and really have power of life and death over it. Experience shows that few are willing to wield the executioner's hatchet and many are ready to squeeze the last drop out of an idea until all it wants is to bask in the slowly dying glory of Google Scholar.

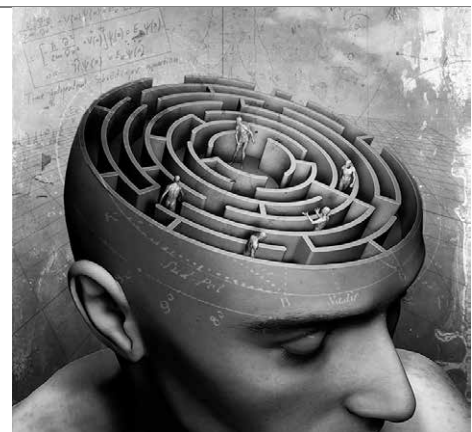But not everything is about life and death, there is always the hope of beauty

in between. We think of immutable truths as beautiful—if nothing else, at least the Law of Large Numbers deserves a crown and the chance to tell us how it will achieve world peace—and the same applies to all ideas sustained by elegant mathematics. There is poetry in mathematical statistics, but when was the last time a poet fixed your sink? There is another hidden beauty in statistics, that may have mathematical crutches but ends being much more than that[1]. While an idea that has a beautiful a mathematical construction behind it will never be completely buried—nor should it be—we should also recognize the utilitarian beauty in ideas that solve a problem that's staring us in the face or kicking us in the… bilateral hippocampus. There is room for beautiful mathematics and useful statistics and there is a throne available for each of their offspring.

I like to think of Academia as this maze we enter in search of Big Ideas. But the maze is devilishly complicated and it keeps challenging us at every turn until we lose sight of what motivated us to begin this adventure in the first place. So, while you patch the leaking faucet of your grant account or the endless flow of teaching-related complaints, remember the time-honored method to orient oneself when lost: keep an eye on the starry sky.

1   We give several examples in "Six Statistical Senses," *Annual Review of Statistics & Its Application*, 10:699–725.