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DEPARTMENT OF STATISTICAL SCIENCE
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Various Administrators
University of Nebraska—Lincoln

Dear Administrators:

I have been told that you intend to disband your Department of Statistics. And I am writing to tell you why I think this is a myopic plan.

Before explaining my reasoning I want to convey my *bona fides*. I am a fellow of the American Statistical Association, the Institute of Mathematical Statistics, and the American Association for the Advancement of Science. I am a professor in the Department of Statistical Science at Duke University. I'm the former director of the Statistical and Applied Mathematical Sciences Institute, and I founded the journal *Statistics and Public Policy*. I'm a former editor of the *Journal of the American Statistical Association*, my profession's flagship journal. I have given the Deming Lecture and Gosset Lecture, served two terms on the Board of Directors of the American Statistical Association, and I have been president of the Classification Society, the International Society for Business and Industrial Statistics, and a few other offices. I am a recipient of the Founders' Award, the highest honor bestowed by the American Statistical Association. (I realize this sounds a bit vainglorious, but I was advised that I should communicate my weight in the field of statistics.)

There are several reasons why I think you are wrong to disband your department.

1. It will do long-term reputational damage to your university.

Your ability to attract top-quality researchers in *any* domain will be diminished. If one of my students had to choose between accepting a faculty position at UNL or taking another position, I would probably have to advise them to take the other offer. A mathematics professor or an English professor would surely provide similar counsel to their students.

If one of Duke's undergraduates wanted to pursue a PhD at your university, in any subject whatsoever, I would feel obliged to warn them that UNL had chosen to summarily dismantle some of its departments, and that the student could not count on being able to complete their degree.

2. Statistics is the midwife to all other departments.

UNL has a strong agricultural mission and a proud track record in agronomy. So

does statistics. My field was started by Sir Ronald Fisher, who worked to analyze agricultural data at the Rothamsted Experimental Station before moving on to University College London and eventually the University of Cambridge. The work that Fisher did laid the mathematical foundation for continual improvement of yields. His co-founding of statistical genetics has been the basis for nearly all improvement in agriculture over the last 100 years (aside from the Haber-Bosch process, which gave us plentiful fertilizer).

But statistics doesn't just feed agronomy. It provided the necessary confirmation of the Higgs boson in physics. It undergirds the risk analyses that drive medical therapies, business decisions, insurance, and the amelioration of climate change. English professors use latent Dirichlet allocation to identify themes in literature. Philosophy faculty study the implications of Bayes' Rule for rationality and coherence. Chemists, entomologists and historians all employ statistics on a regular basis, either on their own or through collaboration with research statisticians.

3. **You will undermine your undergraduates.**

At Duke University, statistics is required of all undergraduates. It is an important element in teaching young people how to reason about their world. I hope that we manage to convey to most students that a strongly held belief or an argument from authority must give way to data from a well-designed experiment. And that one should be trained in how to examine the quality of an experiment. Was it randomized? Was it controlled? How could subtle biases have crept into the research?

If your students are not taught such things, then you are dooming many of them to build their lives upon whatever they read on the Internet, whatever a politician tells them is true, or whatever meme is currently trending. And that would be a serious dereliction of pedagogy.

4. **Other reasons.**

This will be difficult for your faculty. For all of them to find new positions in a single academic year is essentially impossible. As a matter of fairness, if you decide to cut any of your departments (not just statistics), you should cap every administrator's salary at your university at \$100,000.

I am told that your lawyers have found a loophole that allows you to ignore tenure guarantees when you remove a department. I am not a lawyer and I do not know the specifics. But I don't need to be a lawyer to know that this kind of loopholeism stinks. It shreds the social compact.

You have some amazing faculty, and your statistics department is punching above its weight. Bertrand and Jennifer Clarke have written the bible on predictive statistics. When Covid-19 was at its height, Chris Bilder was advising the state of Nebraska on group testing, and his methodology was used. Bhaskar Bhattacharya has published seminal work in the *Annals of Statistics*, which is Holy Grail of mathematical statistics.. Erin Blankenship is one of the world leaders in agricultural statistics. Heike Hofmann was recently hired from Iowa State, and she is a Fellow of the American Statistical Association, and there are several others in your department who outshine

even her. My former posdoc, Yawen Guan, started her career at UNL, and it was a great launching pad for her—fortunately for her, she accepted an offer from Colorado State University a few years ago, and thus is not under the current gun. I could write more about your superb faculty, but you should know all that much better than I do.

In short, I am very sure that disbanding your statistics department is against the interests of your university. I urge you to rethink this decision. If your financial situation is so grim that you *must* shed faculty, then there are other departments that are more expendable—I would be happy to provide a list.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. L. Banks". The signature is stylized and written in a cursive-like font.

David L. Banks
Professor, Department of Statistical Science