

What's the Intersection of War...Braumoeller's Research Happens

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SPEAKERS

Eva Dale, David Staley, Bear Braumoeller

- B** Bear Braumoeller 00:00

From the heart of the Ohio State University on the Oval, this is Voices of Excellence from the College of Arts and Sciences with your host, David Staley. Voices focuses on the innovative work being done by faculty and staff in the College of Arts and Sciences at The Ohio State University. From departments as wide ranging as art, astronomy, chemistry and biochemistry, physics, emergent materials, mathematics and languages, among many others, the college always has something great happening. Join us to find out what's new now.
- D** David Staley 00:32

Bear Braumoeller is Professor and Director of Graduate Studies in the Department of Political Science, the Ohio State University College of the Arts and Sciences. Before arriving at Ohio State, Professor Braumoeller previously held faculty positions at Harvard University and the University of Illinois at Urbana-Champaign. Professor Braumoeller is head of the Complexity Community of Practice, organized under the Translational Data Analytics Institute at Ohio State. In the summer of 2016, he was a Visiting Fellow at the Nobel Institute in Oslo, Norway. Welcome to Voices, Dr. Braumoeller.
- B** Bear Braumoeller 01:05

Thank you very much.
- D** David Staley 01:06

So, you say that you study the intersection of war and math?

B Bear Braumoeller 01:12
Yes.

D David Staley 01:12
Tell us what that means?

B Bear Braumoeller 01:14
Well, it usually means I'm at a cocktail party and somebody has asked me what I do, and I don't want to have an in-depth conversation about it.

D David Staley 01:21
Well, assume we're at the cocktail party.

B Bear Braumoeller 01:23
And someone says, wow, that sounds fascinating, tell me more. So basically, I think a lot of people take undergraduate political science classes, at least I did, without having any inkling that, at the graduate level and above, very often math is used in one way or another to help us understand politics. And at a very basic level, a lot of people know that we do polling and look heavily at polling data, especially when an election is coming up. But, far fewer people realize that we use data analytics to help us understand when war happens and why. And they also don't often don't understand that we use computer simulations sometimes to help us get at what's really going on in interstate relations. So, my specialty is mostly in the quantitative study of international politics, and that means that both that I study international politics using quantitative tools, and that I develop new statistical tools for use in studying international politics.

D David Staley 02:27
So data analytics, you used that example, define data analytics and its application to this particular problem.

B Bear Braumoeller 02:34
Data analytics is sort of, I think, what most people think of as statistics.

D David Staley 02:39
Okay.

B**Bear Braumoeller 02:40**

You have data about a particular problem or you go out and gather data about a particular problem, and you download the data and bring them into a statistical package and try to understand what trends are, what variables are related to which other variables. Importantly, you try to understand when there's a change in the value of a variable, is that due to a real change in the underlying phenomenon, or is it just random fluctuation, those sorts of things.

D**David Staley 03:09**

You say that part of your work involves computer simulations - of what type?

B**Bear Braumoeller 03:14**

So, one of the things that we are trying to do currently, and this is me with a group of graduate students here at Ohio State - which, by the way, I should call it we have fantastic graduate students here at Ohio State, it's one of the things that makes me love being here - we're trying to understand when it is that international order forms in the international system, and that's something that I'll talk about a little bit later when I'm talking about my substantive work. But, to give a brief summary, every once in a while, we've gone from Hobbes-ian war of all against all in the, in the 1600s and 1700s, into a situation in which some of the major actors in the international system have tried to set the rules in a meaningful way to make outcomes better for everybody. And that's something we refer to as international order. And one of the things that I'm trying to get at right now with computer simulations, is the question of why it is that we see international order forming. And the way that we do this is we, essentially we program countries, and we give them very simple decision rules, but those decision rules correspond to rules that they're actually following, behavioral rules that they're actually following. And once we've programmed them, we set them loose in a simulated international system and we see does the outcome look like what I expect it to look like? And very often it doesn't.

D**David Staley 04:39**

And so what does that mean, when it doesn't?

B**Bear Braumoeller 04:40**

When it doesn't, what it means is this argument that people have made about, you know, how international order forms, doesn't hold water, or it doesn't explain part of what we see in reality. So in a lot of ways, it's sort of a logical check on the arguments that we make. When you say that it's states behave in a certain way, therefore, you get a particular outcome, often the implications of the way that states behave in a big complex arena, like the international system, can be very counterintuitive, and this modeling technique is a way of putting a logical check on these arguments and seeing which ones logically hold water and which ones don't.

D David Staley 05:23

Your most recent research is the forthcoming book, *Only the Dead: The Persistence of War in the Modern Age*, which is going to be published by Oxford University Press. Tell us about this research, and in particular, what do you mean by the persistence of war?

B Bear Braumoeller 05:37

Right. So there's a literature, a small literature until recently, on the decline of war. And this was something that, you know, my colleague, John Mueller, had written about, and you know, a few other people in international relations. And I had always been a little skeptical, but it was always a relatively marginal sort of discussion.

D David Staley 05:59

And what does that mean, the decline of war, I mean, we're just fighting...

B Bear Braumoeller 06:02

We're fighting less often.

D David Staley 06:03

Less often.

B Bear Braumoeller 06:04

And the words that we have are less severe than they used to be.

D David Staley 06:07

And we're looking over the span of centuries?

B Bear Braumoeller 06:09

Yes, that's right, yes. Mueller's argument is starting at World War One, there's been a decline of war. But then Steven Pinker came along with a book called *The Better Angels of Our Nature*, and argued that we've seen a very comprehensive decline over the course of many centuries, in the frequency of onset of conflict. And we've also seen, he argues at least since 1945, a decline in the deadliness of wars. Now, it's hard to argue that you had seen a decline prior to

1945 because World War Two is, by a significant margin, the deadliest conflict in human history. So, that would be sort of an uphill fight. But he argues that after 1945, we've seen a decline in the deadliness of conflict. And, partly because he's a prominent public intellectual-

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David Staley 06:13

Steven Pinker?

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Bear Braumoeller 06:18

Yeah. This has gained a lot of traction. So I picked up the book - again, I was sort of skeptical - and I thought, but this is something that's right in my area, because he uses lots of data to get at the answer to the question. And initially, I thought, you know, someone else is gonna pick on this, I don't really need to spend time doing it. But you know, most of the initial reviews were very positive. So I picked up the book and I started reading through it, and the more I read, the bolder my marginal annotations got, and the more exclamation points there were. And, and I started writing up a paper in response. And the more I wrote, the more I realized, I think this is probably a book rather than a paper, because every answer, create, you know, unearth new questions. So I went to Dave McBride, who is the editor at Oxford University Press, and I said, I'm thinking of writing this book about what I think is right about the decline of war argument, what I think is wrong about it, and the right way to go about understanding it. And as it happened, he had just read Pinker's book himself, and he said, he had had a lot of arguments with it, and he said, I think this is a great idea. And then I said, I want this to be for a popular audience, because, number one, this is a debate that's playing out in the public sphere. But number two, I work at a state university, and I think one of the important things about a state university is that the faculty give back to the community in some ways. And so the, the course that I've, that I've taught that we'll talk about later, one of the reasons I wanted to put it on the Internet is so that other Ohio institutions could pick it up and use it if they wanted to. This, to my mind, is another way of giving back, is writing this, going to the trouble of writing it in plain English, which sounds paradoxical, but if you've read, you know, if you've read professional political science books, you know that they're anything but. And after about 20 years in this business, I found it to be quite a challenge to switch back to plain English and explain things in a clearer way.

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David Staley 09:03

So, what conclusions do you draw in this book about the decline of war?

B

Bear Braumoeller 09:09

Well, to put it succinctly, everybody's wrong. There are people on one side of the debate who say that war has been in decline, you know, steady decline and pieces breaking out all over the place, and, and everything is awesome. I don't think that conclusion holds it all, for a handful of reasons. There are other people who say, no, we are every bit as red in tooth and claw as we were, you know, hundreds of years ago. And I don't think that's actually right, either. I think what's happened is, we've seen outbreaks of essentially islands of peace.

D

David Staley 09:39

Islands of peace?

B

Bear Braumoeller 09:40

Yes, and this is, this is where we get back to when I was talking about international orders earlier. A lot of times, a major power in the international system will say okay, we just had an awful war, and we need not to have that again, so let's set up some basic rules of the road that will allow us all to navigate one another and not get into the kinds of fights that we've gotten into. So after the Napoleonic Wars, you have the content of Europe where an actually a period of-

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David Staley 10:08

That's early 19th century?

B

Bear Braumoeller 10:10

Yes, sorry. An, actually, a fairly prolonged period of peace. Subsequent to that, during the 1870s, and 1880s, you had this guy named Bismarck, who made something of himself. And he decided that for Germany's sake, it made a lot of sense for him to entangle the rest of the continent in a series of alliances that would keep them from fighting each other. And if they did fight each other, make sure that Germany was, as he said it, on the side of the majority, no matter what happened.

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David Staley 10:39

Whoever that majority might be.

B

Bear Braumoeller 10:40

Whoever that majority might be, that was Bismarck. So there are instances like this, when major powers sort of take the reins and say, this is what we want to do, it makes sense for everybody to create some degree of international order. And in those cases, what you tend to see is a decrease in conflict initiation. You don't see a decrease in conflict deadliness when it happens, but you do see a decrease in conflict initiation. So that's one part of the story. I haven't really explained why I don't believe what the optimists say, right?

D

David Staley 11:14

Okay.

B

Bear Braumoeller 11:15

And that is that international order can be sort of a double edged sword, and that's something that I think people don't quite realize. And to explain why, let me use a couple of analogies. In some ways, I think international order kind of resembles a protection scheme, where you know, a great power will say, okay, I tell you what, let's set up this organization, you join it, you pay me tribute on a regular basis, and if someone comes and attacks you, I will beat them up, right? And the purest example of this that I can think of, and you may well know more, is the Persian Empire from many centuries ago.

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David Staley 11:54

I was actually thinking NATO, that sounds like NATO.

B

Bear Braumoeller 11:56

NATO, as well. It's not unlike NATO. And so you set up this agreement, right, and you hang out a shingle, make sure that everyone's aware that the major power at the heart of this order is going to increase your, your cost for conflict if you attack, and that has a way of producing peace within the international order, right? On the other hand, it can also embolden those countries to taunt or sort of be more aggressive in their dealings with countries that are outside the international order, because they know they have this degree of protection. Now, there are ways to sort of finesse that, giving purely defensive alliances rather than ones that include offense. But I think, I think it's very difficult to say that even a purely defensive alliance doesn't make it easier for the countries in the alliance to be a bit more aggressive when it comes to foreign policy. The other aspect of international order to take into account is it, in some ways, it's sort of like a social club. Now, if you imagine a country club, or some sort of social club based on a shared interest - for a while, I headed up the local Slow Food chapter in Columbus, and so we attracted a bunch of people who are interested in food - and you tend to attract people with a particular interest, right? And in the case of NATO, you set up this club that is meant to protect freedom in the in the world, and you attract countries that are interested in that, right? So, to the extent that the criterion for membership in the club correlates with causes of conflict around the world, what you can do is draw in countries that already wouldn't be fighting with each other, and put them all into a single club, where they then turn around and fight other countries, right? So, what you get in that instance is not a reduction in conflict, but really a displacement of conflict. So, there are a handful of reasons to be skeptical about the claim that the growth of international order corresponds in any direct sort of one to one way with an increase in peace.

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David Staley 14:12

You talk about in your book, and I guess in Steven Pinker's book as well, both relying on data, what sort of data are you looking at to make these conclusions?

B

Bear Braumoeller 14:20

B**Bear Braumoeller 14:20**

So, there's a wonderful data project that was started and for a long time maintained at the one school that I probably can't mention on this podcast, but it's not south of here or east or west.

D**David Staley 14:33**

That's okay, you can mention it.

B**Bear Braumoeller 14:36**

Professor J. David Singer at the University of Michigan put together The Correlates of War Project in the 1960s, and they set out with the very ambitious project of going out and measuring all sorts of different characteristics of international conflicts, so they have not only a dataset on wars and the deadliness of wars, they have a very large and growing dataset on conflicts short of war, militarized interstate disputes. And those can be very helpful because, you know, some of them are deadly, some of them are not, some of them are reciprocated, some of them are not. But, there are actually very few wars relative to... and this is true going back, you know, centuries; war is a relatively rare phenomenon. And when you have something that's as rare as war is, it's very difficult to say whether it's getting more or less rare, you just don't have that much information from a statistical point of view. So, one of the things that can help is to look at these militarized interstate disputes, which are states contemplating war and running the, consciously running the risk of war in order to gain some sort of policy advantage. So, it gives you a more fine-grained picture of what's going on with international conflict than just looking at the war data would.

D**David Staley 15:55**

Obviously, you work a lot with data, data analytics. You've created a course titled "Data Literacy and Data Visualization" that you've reached a wide audience via iTunes. Tell me a little bit about the course, why did you decide to offer this course?

B**Bear Braumoeller 16:09**

Sure. Well, I actually can, I can attribute a lot of it to one of my undergraduates. In an undergraduate course, an Honors class that I taught, I taught the regular introductory statistics class for political science majors in the department for a number of years. And one of my students took the course, graduated, friended me on Facebook, which I thought was nice, which I'm happy to do as long as they're out of the course, and then dropped me a note, I think it was a year or two later. And she said, you know, I just want to let you know, I was going over my computer and I found the software for my course and for this course, and I wanted to let you know I thought you did a really great job of teaching the class. And I have to say, I haven't used a single thing that I got from the class subsequently. Now, I don't know what prompted her to write that note. I wrote back thank you with a question mark. You know, I'm not... I guess. But it got me thinking, and it made me realize that the course that I'm teaching, this basic statistics course, isn't really tailored for the needs of students. And that got me thinking about what else could be. And I thought, well, you know, we focus on literacy and language, we focus on literacy

and math, but we don't focus on literacy and data, and there's a lot to be had there that we really haven't discussed. So I thought, why not teach them something about how to go out and find data about a particular question, download the data, clean the data, and do some sort of basic visualization to give them a sense of what the answer is. And the way that I pitched it is: you're at Thanksgiving dinner, your crazy uncle says something that you don't believe, and you have a laptop and a half an hour to go out and make your database argument that your uncle is wrong - can you actually do it? And people coming into the class overwhelmingly can't, but the goal is, by the time they get out, they can. And data visualization is also a nice hook because lots and lots of companies now are interested in data visualization as a skill. The class uses R, which is a very widely used piece of statistical software. And I designed it in such a way that I don't teach any statistical tools that aren't free, because I know people pay a lot for college, and I don't want them to have to pay more for my class. And you can often get, you know, sort of a free version of some statistical packages out there, but then, once you leave college, all of a sudden it's \$1,000 or more for a new copy and all the manuals. And R is free, and it's always going to be free.

D David Staley 18:45

Quick definition of what visualization is, are we just talking graphing, or it means something else when we say visualization?

B Bear Braumoeller 18:53

Yes, graphing, but there are a lot of different ways to put numbers up on on the screen, from bar graphs and scatter plots to far more Baroque sorts of visualizations. And what I do, is I try to walk them through a bunch of different ways of looking at relationships among variables in data and try to give them a sense of what's the best way to look at data given the question that you have. So, it's really a course in exploratory data analysis, which is something that was taught in statistics classes, I think, in the 1970s or 1980s, and has kind of taken a backseat in the sort of data analytics revolution when people are worried about more complicated models. But those people often forget simply to look at the data, and that should always be the first step when you're engaging in an analysis. You really need to take a look at the data and see what they're telling you, and that's what this course is about.

D David Staley 19:50

You've said that you put the course on iTunes you and you share it with a wide audience. Is that part of what you mean about being at a state school and about sharing your knowledge widely?

B Bear Braumoeller 19:59

Right, right, exactly. The sort of course that you might have, I don't know if I should be mentioning specific companies by name, but there are companies out there that sell, you know, individual courses that you can use for training, and they'll sell them at sometimes a pretty steep price, and I wanted to make this one available for free. Because I know, you know,

today's economy is hard, and there are a lot of people out there, whether they're in college or not, who are trying to train and retrain and to get an edge in something that that will help them, you know, get a job and get promoted and move up. So, you know, I think it's one of the things that I wanted to do to give back was to say, hey, look, here's this thing, here's this course, Data Literacy and Data Visualization, you can take it for free. I hesitate to urge people to email me with questions, but I will say that people do occasionally email me with questions, and I'm happy to answer them, and it's out there for you to help, to be available for people who need it.

D

David Staley 20:57

That's what it means to be at a land grant institution, to live the land grant mission.

B

Bear Braumoeller 21:01

Right, right, precisely. Exactly. And I'm well aware that the state legislature approves funds for Ohio State every year and that those funds come from Ohio taxpayers, and I think it's incumbent upon all of us to think about ways we can give back.

D

David Staley 21:16

I'd mentioned in the introduction that you are the head of the Complexity Community of Practice under the Translational Data Analytics Institute.

B

Bear Braumoeller 21:24

It's a mouthful, isn't it?

D

David Staley 21:25

Well, tell us first of all, what is the Complexity Community of Practice, who's in the community?

B

Bear Braumoeller 21:29

A community of practice is a bunch of people who do a similar thing and learn from one another in the process. And the Complexity Community of Practice is currently... we're working on defining the scope of it. Last year, when we got started, it included people from all over the university, people in physical sciences, biological sciences, and there was some challenges in kind of cross disciplinary understanding. So, we ended up scaling it back to complexity and human behavior, so that we'll have people who are sort of more on the same page in terms of the subject matter. We added Dave Malamed in the Sociology Department, he's a professor there and he knows a lot about networks, and networks and complexity are closely tied together, so.

D

David Staley 22:15

So we say complexity, what do you mean by, what do you mean by complexity?

B

Bear Braumoeller 22:19

So, it's difficult to say this as an academic, but there is no commonly accepted definition of complexity, and this is something that the complexity people themselves kind of laugh about a little bit. But the gist is that you're looking at situations in which the whole of something is greater than the sum of the parts. And very often, you get what's called emergence, which is something coming out of a system that you didn't expect, given what went into it. Now give you one of the most famous examples, and you can look this up on the Internet and play around with it yourself, it's really cool, is Thomas Schelling's model of neighborhood segregation.

D

David Staley 22:19

Okay.

B

Bear Braumoeller 22:19

And Schelling was the economist, he wrote a lot about nuclear strategy in the 1960s, but he also wrote this interesting little book called *Micromotives and Macrobehavior*. And in that book, he gives the example of people living in a neighborhood. And for the purposes of simplification, he said, let's say there are two types of people, and they have some preference for living near their own type, but that preference is very mild, right? Let's say that you're going to be satisfied if anything more than, you know, 25% of your neighbors are the same type as you are. What you get if you - and he actually used a chessboard and pennies and dimes to work this out, this is the level of technology that we're talking about here - what he found just noodling around like that was that you get dramatic patterns of segregation, where you'll get huge clusters of only pennies and only dimes based on only that very mild sort of individual level preference. So he said, you know, I think there's something to this, of modeling the collective behavior of individuals in such a way that you can see the large scale patterns that emerge. And that's basically in, in the study of human behavior, that's really what complexity is all about, trying to take micro-motives, and see how they translate into macro-behavior, and very often they do so in very surprising and unexpected ways.

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David Staley 24:24

So as a practical example, in your own work, how would complexity play out in say, political science?

B

Bear Braumoeller 24:30

Well, in my own work, it gets fairly detailed, and we're still sort of at preliminary stages. But I

well, in my own work, it gets fairly detailed, and we're still sort of at preliminary stages. But, I can give you examples that are kind of more broadly understandable, and better worked out frankly, than what I have at the moment.

D David Staley 24:43

Okay.

B Bear Braumoeller 24:45

There's a book by Chris Achen and Larry Bartels called *Democracy for Realists*. And one of the things that they point out is that individual preferences about tax policy can produce outcomes that no one anticipates or desires, and an example that they give is, you know, if you ask people do you want to pay for, you know, fire services, right, a lot of times, if they have the option, they'll say no. Or they'll say, you know, let's pass, let's engage in some tax policy that reduces the amount that goes to the fire department, right? Well, one of the things that can happen is that, because your fire department no longer works as well as it used to, people always believe in sort of, there's always bureaucratic fat that can be cut. But often, that's not the case. And there are real world examples of cases in which the performance of the fire department has been so degraded, that people's home insurance costs go up, and they go up to a greater degree than the tax money that they're saving on the fire department. So, perverse outcomes like that are sort of the hallmark of complexity in politics.

D David Staley 25:56

Perverse outcomes, unexpected, unanticipated outcomes - does that imply that these kinds of complex systems are unpredictable?

B Bear Braumoeller 26:05

Well, they're unpredictable to a point. Really, the goal of research and complex systems is to narrow down the degree of unpredictability. You're never going to make it go away completely because, you know, you're dealing with human beings and human behavior is inherently difficult to predict. But very often, people's understanding of the world is very linear, and they think, you know, if I spend less money on the fire department, that only means that I'm spending less money on the fire department, they don't understand the systemic consequences of those actions. And helping to understand the systemic consequences is a big part of what complexity research is about.

D David Staley 26:47

Bear Braumoeller, thank you.

B Bear Braumoeller 26:49



Alright, thanks very much for having me.



Eva Dale 26:51

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