Dear Friends,

Much has happened since I last wrote in February of this year.

After watching *The Wolf of Wall Street*, I <u>felt uneasy</u> because I was taking enjoyment out of something that indirectly derived from harming others. In response, Colson Lin and I launched the website <u>http://belfortvictimsfund.org</u> which helps movie-goers contributed to the court-administered Belfort victims restitution fund.

In April, India Unger-Harquail and I created <u>www.acadiumscholar.org</u>, which allows high school students to qualify for an academic distinction based on a single, nationwide standard for PSAT scores. As I've discussed in <u>this Freakonomics post</u>, the National Merit Scholarship Corporation isn't really a measure of national merit because it uses state-specific qualifying standards, with different cutoffs for each state. A 17-state Acadium Scholar can communicate to a school that she is someone who would have qualified as a National Merit Semi-Finalist in 17 states (even if she doesn't belong to any of those states).

Most recently, I've advised Sexual Health Innovations on their website <u>www.projectcallisto.org</u>, a college sexual assault reporting system similar to what I wrote about in 2012 with Cait Unkovic, <u>Information Escrows</u>, 111 MICHIGAN LAW REVIEW 145. The initiative was presented at the <u>White House Data Jam on Protecting</u> <u>Students from Sexual Assault</u>. The site recently completed a fundraiser on the platform <u>crowdrise.com</u> that has raised more than \$25,000. And The New York Times' <u>The</u> <u>Upshot Blog</u> recently discussed the project, with a nice shout out to law review article with Cait.

# Scholarship

1. My most unusual article was just published in the Journal of General Internal Medicine. I came up with a new way of going to the bathroom. It turns out that your perineum is a magic button that can make it easier to defecate. Ryan Abbott and I along with two other coauthors (Ed Hui and Ka-Kit Hu), went out and conducted a randomized control trial at UCLA Med School with 100 subjects - 50 randomized to treatment and 50 The technique is remarkably effective with statistically significant and to control. clinically meaningful improvement in bowel function. What's more, "Eighty-two percent of the treatment group patients indicated that they would continue to use the technique, and seventy-two percent indicated that they would recommend the technique to family and friends." This project is a prime example of me turning my annoyances into publications. When I turned fifty, I had my first colonoscopy (an annoyance of the highest order). As I was coming out of the anesthetic, I pitched my doctor on the idea of conducting a randomized, controlled medical trial of the effect of perineal selfacupressure. Five years later, there is this JGIM article: Effect of Perineal Self-Acupressure on Constipation: The PSAC Randomized, Controlled Trial (JOURNAL OF GENERAL INTERNAL MEDICINE) (with Ryan Abbott, Ed Hui and Ka-Kit Hu). In researching the article, one of the coolest things to learn was that dozens of other people had independently discovered this technique or versions of it, but that the medical literature has categorized this behavior as a symptom to be noted as part of a patient's history and not as a palliative treatment to be taught as part of standard care. I've recently written a blog post at Forbes, "The Amateur Maneuver," which provides more detail on how this came to pass. The study has received an encouraging amount of news coverage in the WashPo, SFExaminer, UCLA, Medscape, and RedOrbit (with more than 250,000 page views). From the abstract:

#### **INTERVENTION**

The control group received information about standard constipation treatment options, while the treatment group received training in perineal self-acupressure plus standard treatment options.

#### **MEASUREMENTS**

Primary outcome was the Patient Assessment of Constipation <u>Quality of Life</u> (PAC-QOL). Secondary outcomes included patient assessments of bowel function (as measured by a modified Bowel Function Index (BFI)), and health and wellbeing (as measured by the SF-12v2).

#### RESULTS

The mean PAC-QOL was improved by 0.76 in the treatment group and by 0.17 in the control group (treatment-effect difference, 0.59 [95 % CI, 0.37 to 0.81]; p < 0.01). The mean modified BFI was improved by 18.1 in the treatment group and by 4.2 in the control group (treatment-effect difference, 13.8 [95 % CI, 5.1 to 22.5]; p < 0.01). The mean SF-12v2 Physical Component Score was improved by 2.69 in the treatment group and reduced by 0.36 in the control group (treatment-effect difference, 3.05, [95 % CI, 0.85 to 5.25]; p < 0.01); and the mean SF-12v2 Mental Component Score was improved by 3.12 in the treatment group and improved by 0.30 in the control group (treatment-effect difference, 2.82, [95 % CI, -0.10 to 5.74]; p < 0.07).

2. Ryan and I also have an article forthcoming in the Duke Law Journal: <u>Evidence and Extrapolation: Mechanisms for Regulating Off-Label Uses of Drugs and Devices</u> (with Ryan Abbott). This article argues for an evolutionary, evidence-based approach to the regulation of off-label drug uses. As we say in the conclusion, "At a theoretical level, 'we are all Bayesians now.' This article is a movement to putting Bayesianism into regulatory practice."

3. Barry Nalebuff and I also have a forthcoming article applying Bayes rule to DNA testing, The Law of Probability (forthcoming Stanford Law Review, 2015):

Bayes rule is not being used to guide jury decision making in the vast majority of criminal cases introducing evidence of DNA testing. Instead of telling juries the

"source probability," the probability that the individual whose DNA matches was the source of the forensic evidence found at the crime scene, experts only present the probability that a randomly selected innocent person would have such a match. In some cases, the random match probability will be so low (one in a quadrillion) that the intuitive source probability is practically one hundred percent. But, in other cases, where the random match probability is close to one in a million, jurors will have no ability to convert the random match probability into relevant data that will help them address question of guilt. This article shows that a correct application of Bayes should lead fact-finders and litigants to focus on the size of two variables that influence the source probability: the probability that a non-source in the DNA database would have an alibi, and the probability that the source of the DNA is included in the database. This article suggests practical means of estimating these two variables and argues that as a legal matter these parameters as well as the Bayesian posterior source probability are admissible in court. In particular, focusing on the prior probability that the "database is guilty," i.e. the probability that someone in the database is the source of the forensic evidence, is not just analytically and empirically tractable, but avoids the evidentiary limitations concerning a particular defendant's prior bad acts. Appropriate application of Bayes rule far from preempting the fact-finding and adversarial process can guide advocates to engage the important aspects of the evidence that are still likely to be open to contestation. Perhaps most important, appropriate application of Bayes rule will also allow jurors to reach verdicts via a coherent path that employs sound logic and reasoning.

My co-author both in <u>song</u> and <u>scholarship</u>, Anna Ayres-Brown, and I have continued to coauthor articles – since I last wrote, we've had one paper accepted with another article currently under submission.

4. <u>Unhappy Meals: Sex Discrimination in Toy Choice at Mcdonald's</u> WILLIAM & MARY JOURNAL OF WOMEN AND THE LAW (forthcoming 2014). Anna and I worked on this article for more than five years, including our unsuccessful suit against McDonalds before the Connecticut Human Rights Commission. You can read about our apparent progress in Anna's <u>Slate's article</u> and you can watch <u>this video</u> of us presenting the article in seminar. Or if you prefer, you can listen to Anna outshining her dad's meager ability to sing in this rendition of "<u>If I Loved You</u>."

5. <u>A Randomized Test of the Effect of Apparent BMI on Assessments of Attractiveness</u> and Likeability (Working Paper 2014). In this article, coauthored with both Anna and a cool computer science prof at West Virginia University, Guodong Guo, we examine the impact of apparent facial adiposity on assessments of attractiveness and likeability. We asked participants on Amazon Mechanical Turk to make more than 20,000 assessments of attractiveness and likeability of facial photographs, and use the responses to draw conclusions on how assessments of attractiveness and likability vary among demographic subgroups. The effort grows out of a hypothesis that Anna pitched to me over breakfast a year and a half ago. Quinn Curtis and I have continued to speak up against costly fees that affect thousands of 401(k) plans nationally. The website <u>www.beyonddiversification.yale.edu</u> has been created to organize the research in a coherent, convenient way.

6. <u>Beyond Diversification: The Pervasive Problem of Excessive Fees and "Dominated Funds" in 401(k) Plans</u> (forthcoming, YALE LAW JOURNAL) (with Quinn Curtis). The paper (and the companion journal article, <u>Measuring Fiduciary and Investor Losses in 401(k) Plans</u>) provides evidence that investors suffer greatly from 401(k) plans with inefficient menus of funds and default funds with high costs.

7. <u>Protecting Consumer Investors by Facilitating "Improved Performance" Competition</u>, (forthcoming, University of ILLINOIS LAW REVIEW) (with Quinn Curtis). This article proposes legal reform to our system of mutual fund regulation that responds to the problem of high-cost funds by providing the investors who are making the most substantial mistakes with salient and transparent market information about the existence of superior investment alternatives.

Joshua Mitts continues to blow me away with both his abilities and energy. Among our collaborations we have coauthored these two related articles on the unheralded benefits of separating equilibria:

8. <u>Three Proposals for Regulating the Distribution of Home Equity</u>, 31 YALE JOURNAL ON REGULATION 77 (2014) (with Joshua Mitts). This article argues that "leverage bunching" exacerbated the home mortgage crisis and shows how recent Qualified Mortgage regulation could be improved to respond to the problem.

9. <u>Anti-Herding Regulation</u> 4 HARVARD BUSINESS LAW REVIEW (forthcoming 2014) (with Joshua Mitts). In this companion article, we argue that private parties at times have insufficient incentives to adopt separating behaviors to mitigate systemic risks and that regulators accordingly should at times adopt new regulatory approaches deter "herding."

10. <u>Innovation Sticks: The Limited Case for Penalizing Failures to Innovate</u> (orthcoming 2015, University of Chicago Law Review) (with Amy Kapczynski) <u>Online Appendix</u>. In this article, Amy and I show that under specific circumstances innovation sticks – potential penalties for failure to innovate – can play a valuable role in our innovation policy, either alone or in conjunction with innovation carrots. What's more, we provide examples of several innovation sticks that already have been used with apparent success, including the Federal Corporate Average Fuel Economy (CAFE) standards. Finally, we apply our approach to a new area to which we think innovation sticks may be well-suited: the problem of car fatalities. I'm hoping to launch no less than three new memes with this article: (i) a new meaning of the light bulb: instead of the lightbulb *turning on* as a signifier of creativity, we can now think of the regulation *turning off* traditional lightbulbs as a spur to invention; (ii) a new meaning of the word, Dodge: We estimate for every life Dodge saves inside its vehicles (relative to the median), Dodge cars produce 2.2 'above

median' external fatalities – pedestrians and the occupants of other vehicles disproportionately have to "dodge" Dodges or pay the ultimately price; and, (iii) a new appreciation of the aphorism, "Necessity is the mother of invention": we want want IP scholars to remember that invention is not reward's child, or prize's child, but we are taught from the time we are young that invention is necessity's child. It is the spur of extreme adverse consequences that often breeds creativity.

11. <u>Extreme Time Discounters and Health, Insurance, and Investment Choices</u> (Working Paper 2014) (with Greg Conyers and Darren Segal) Utilizing a new dataset of insurer-collected data, we find that, controlling for demographic variables, those with higher discount rates are more likely to smoke, are more likely to never exercise, are less involved in Discovery's health promotion program, and purchase less healthy food. We conclude that asking a single question to deduce if an individual is an extreme discounter can provide valuable consumer behavior.

12. <u>Book Review of The Behavior of Federal Judges: A Theoretical and Empirical Study</u> of Rational Choice. By Lee Epstein, William M. Landes, and Richard A. Posner. Harvard <u>University Press, 2013.</u> 52 JOURNAL OF ECONOMIC LITERATURE (September 2014).

13. <u>The Chastain Effect: Using Title IX to Measure the Causal Effect of Participating in</u> <u>High School Sports on Adult Women's Social Lives</u>, 48 JOURNAL OF SOCIO-ECONOMICS (February 2014) (with Phoebe Clarke). This co-authorship started in my seminar on empirical law and economics. Phoebe and I got a nice shout out in <u>David</u> <u>Brook's July 3<sup>rd</sup> column</u>: *Title IX has produced some unintended consequences*. Phoebe Clarke and Ian Ayres studied the effect of sports on social outcomes. They found that a 10 percentage point increase in state level female sports participation generated a 5 or 6 percentage point rise in the rate of female secularism, a 5 point rise in the proportion of women who are mothers and a 6 point rise in the percentage who are single mothers. It could be that sports participation is correlated with greater independence from traditional institutions, with good and bad effects.

## **Popular Press**

# All Eyes on Obama: Obama needs to put his money where his mouth is on campaign finance reform. Slate (with Bruce Ackerman), April 4, 2014

State (with Bruce Ackerman), April 4, 2014

The Supreme Court's latest assault on campaign finance reform in this week's <u>*McCutcheon*</u> decision paradoxically provides President Obama with a roadmap for serious reform. With Chief Justice John Roberts authorizing regulation to eliminate the appearance of corruption, the president should now call for a ban on contributions from high earners who reward senators and representatives for their votes in favor of tax loopholes for the super rich. Although the president has speechified against the court's

decisions in the past, his actions tell a different story. In 2008, then-GOP presidential candidate John McCain relied on public financing, but Barack Obama chose to rely exclusively on private funding to outspend his rival by a 4-to-1 margin during the general election. The president then followed up on his re-election victory by enthusiastically embracing super PACs in mobilizing Democrats for 2014. Read More

#### **Exploitation-Neutral Consumption**

Freakonomics, February 28, 2014

Watching *The Wolf of Wall Street* was a guilty pleasure for me. It wasn't that the movie valorizes **Jordan Belfort**'s crimes, which defrauded victims of more than a hundred million dollars, but I felt uneasy about being entertained by a work of art indirectly derived from the pain of others – especially since it wasn't clear that the injured parties were participating in the movie's profits.

The movie literally and figuratively kept the victims of Belfort's fraud outside the frame. In only a few scenes do we hear even the disembodied voices of the defrauded investors. But imagine what it would be like to watch the movie in the presence of one of Belfort's 1,500 real-life victims, whose ranks included architects, engineers, insurance agents, real estate appraisers, and other middle-class professionals.

The movie repeats Belfort's claim that his firm only targeted the super-rich. The idea is that we needn't worry so much about who was hurt by these crimes, because these investors were so wealthy that they wouldn't be as impacted by the loss of a few dollars. But some of his victims' families tell a very different story: "My father lost practically a quarter-million dollars," said one man, whose father, an engineer, was cold-called at home by a Stratton broker. His father suffered a stroke under the stress of his losses. As another investor puts it: "I'm not a rich guy, and I've been paying for it ever since." Read More »

#### If You Care About Costs . . .

Freakonomics, March 5, 2014

This is the first in a series of posts about the problem of excess fees charged to defined contribution retirement plans, a subject I've been researching with **Quinn Curtis**. Our findings about the pervasiveness of excess fees spurred me to reassess my own retirement investments. I was embarrassed to find that, among other things, my old Stanford University 401k was invested in "CREF Stock Account," which uses a combination of "active management, enhanced indexing and pure indexing" and charges 49 basis points (.49%) as its "Estimated Expense Charge." Now 49 basis points is not an outrageously high fee, but it is substantially higher than the fees charged by a low-cost index.

So I called TIAA-CREF and asked for help in rolling over my Stanford account to a Fidelity IRA. The TIAA CREF rollover specialist asked why I wanted a rollover, we had the follow brief exchange: Read More »

### Making It

Freakonomics, March 10, 2014

In 2009, I published a post on this blog about **Sarah Dooley**, which ended with the words:

I predict she is going to make it big. I'm not sure how, but remember you heard it here first.

A couple of months later, I received a letter out of the blue from a legit movie producer who said he was writing to thank me for that post because from it he learned how talented Sarah is. He wrote that he had just signed a contract with her to develop a screenplay. Fast forward to the present, and while I can't find any movies made with Sarah's scripts, I was happy to hear this NPR interview with her about an album she just released. The album is called "Stupid Things." My favorite song, "Gym Looks Nice," is a school dance tone poem that is characteristically moving. My daughter tells me that at one point, it made it into the top twenty downloads on iTunes. Sarah's also released a music video of her song "Peonies." Read More »

#### The Problem of Dominated Funds

Freakonomics, March 13, 2014

This is the second in a series of posts about the problem of excess fees charged to defined contribution retirement plans.

Retirement regulations have largely been successful in giving worker/participant defined contribution plans the opportunity to diversify. Most plans nowadays give participants a sufficient variety of investment options that it is possible to allocate investments so as to diversify away most idiosyncratic risks.

However, the 1974 Employment Retirement Income Security Act's (ERISA) emphasis on diversification has diverted attention from the problem of excess costs. Courts evaluating whether plan fiduciaries have acted prudently have tended to just ask whether the plan offered a sufficient number of reasonably-priced investment opportunities. For example, in **Hecker vs.** Deer & Co. (7th Cir. 2009), the 7th Circuit found it was "untenable to suggest that all of the more than 2500 publicly available investment options had excessive expense ratios." Read More »

## A Good Instrument Is Hard to Find

Freakonomics, March 28, 2014

**Phoebe Clarke** recently posted a *Deadspin* article about an article that we just published in *The Journal of Socio-Economics*. The article, "The Chastain Effect: Using Title IX to Measure the Causal Effect of Participating in High School Sports on Adult Women's Social Lives," adopts an ingenious methodology pioneered by **Betsey Stevenson** (whose research is frequently featured here) in her 2010 study "Beyond the Classroom: Using Title IX to Measure the Return to High School Sports." Stevenson estimates the effects of participating in high school sports on women's economic lives, and finds that sports participation leads women to attain higher levels of education and earn more. I apply the same methodology to social outcomes, and find that sports participation causes women to be less religious, more likely to have children, and, if they do have children, more likely to be single mothers. Read More »

#### Not-So-National Merit

Freakonomics, April 4, 2014

Last December, thousands of high school sophomores and juniors learned the results of the 2013 Preliminary SAT (PSAT) test. The juniors' test scores will be used to determine whether they qualify as semifinalists for the prestigious National Merit Scholarship, which in turn makes them eligible for a host of automatic college scholarships. (Sophomores take the test just as practice.)

The juniors will have to wait to find out for sure if they qualify until September, just before they begin submitting applications to colleges across the country. But it is fairly straightforward to predict, based on their scores and last year's cutoffs, whether they will qualify as semifinalists.

Many students would be surprised to learn that qualification depends not only on how high they score, but also on where they go to school. The National Merit Scholarship Corporation (NMSC) sets different qualifying cutoffs for each state to "ensure that academically talented young people from all parts of the United States are included in this talent pool." They have not disclosed any specific criteria for setting the state cutoffs. Read More »

#### Print, Persuade and Post

Freakonomics, April 22, 2014

My coauthor (and 16-year-old daughter) **Antonia Ayres-Brown** just published a piece in *Slate* about a project that started 5 years ago when we bleg'd Freakonomics readers to tell us about how McDonald's refers to Happy Meal toys. Antonia was disturbed by the kinds of questions we encountered when we ordered Happy Meals at the drive-thru. We'd be asked things like "Is it for a boy or girl?" or "Do you want a girl's toy or a boy's toy?"

I asked readers whether they encountered similar questions. According to seventy nine reader responses, approximately one-fifth of the time McDonald's employees did not ask a toy-related question. But when employees did ask a toy-related question:

- 47.7% Asked "Is It for a Boy or Girl?"
- 31.8% Asked "Do You Want A Boy's Toy or a Girl's Toy?"
- 15.9% Described the toys in non-gender terms.

I've waited this long to report the results because Antonia have I have been engaged in a long-term project to encourage McDonald's to describe the toys without reference to children's gender. Read More

The Problem Of 401(k) Mapping To Dominated Funds

Forbes, March 29, 2014

In a <u>working paper</u> that was just accepted for publication in the Yale Law Journal (coauthored with Quinn Curtis) and in a recent <u>Freakonomics blog post</u>, I document the problem of "dominated funds." <u>Read More</u>

# Tax-ExpenditureTakersAndConstitutionalCampaignContribution Restrictions

Forbes, April 7, 2014

In a new <u>Slate piece</u>, Bruce Ackerman and I argue that President Obama should move now to re-impose campaign contribution limits on "takers" who cash in on large tax loopholes.

The Supreme Court's <u>McCutcheon decision</u> last week emphasizes that campaign finance restrictions remain constitutional if they target quid-pro-quo corruption—a favor in return for a favor—or its appearance. This anti-corruption rationale justifies the prohibition against contributions from federal contractors. (This provision has stopped me, as a paid, expert witness for the Justice Department from contributing to federal candidates in the past.) But it's not just federal contractors who might benefit from the actions of elected officials. Contributors who are the recipients of government tax-expenditures can also create appearance of quid pro quo corruption. In both circumstances, we have evidence of a "quid" (the contribution to a candidate) and evidence of a "quo" (the government expenditure) and the worrisome appearance of a "pro" (that one was in exchange for the other). <u>Read More</u>

#### How Bad is The 401(k) Excessive Fee Problem?

Forbes, April 14, 2014

In the last post, I wrote about the problem of <u>dominated 401(k) funds</u>, which is almost exclusively a problem of excess fees. A plan that is offering a bond fund with fees of 30 basis points probably shouldn't be offering a bond fund with 90 basis point fees. I discussed that mapping to a dominated fund is a clear fiduciary breach.

But the problem of excessive fees is not just a problem of dominated funds. Some plans only offer high fee funds – so there is no feasible method for plan participants to avoid getting clicked. <u>Read More</u>

#### Taxing Inequality

Forbes, April 22, 2014

Robert Shiller's recent <u>op-ed</u> in the New York Times proposes that we link "inequality indexing" to tax-rate inflation indexing. Currently, as inflation creeps up, the government adjusts the cutoffs where tax brackets start and stop so that higher marginal rates kick in at slightly higher incomes over time. The government loses some revenue by doing this.

Shiller and his co-author, <u>Leonard Burman</u>, suggest that we might adjust the top brackets slightly less than lower brackets if the U.S. experiences increases in income inequality. This would provide a subtle bulwark against increasing inequality. <u>Read</u> <u>More</u>

#### The Limits of Sex-Segregated Marketing

Forbes, April 23, 2014

In a recent <u>Slate article</u>, my daughter describes how in 2009 she and I unsuccessfully sued McDonald's before the Connecticut Human Rights Commission for discriminating on the basis of sex in its sale of Happy Meal toys. When 11-year-old Antonia bought a Happy Meal at the counter, she wasn't asked a question but was just given the "girl's toy." When I ordered a Happy Meal at the drive-thru, an employee would ask me "Is it for a boy or girl?" and gave me a different toy depending on how I answered the question. We alleged that both these behaviors violated Connecticut's civil right statute, because the Happy Meal toy that McDonald's provided was contingent on the customer's sex. <u>Read More</u>

401(k) Anti-Services

Forbes, April 29, 2014

In my <u>last post</u>, I documented the pervasive problem of excessive fees in 401(k) retirement plans. My results make the plan advisor industry (the entities charging the excessive fees) see red. And for good reason. There are billions of dollars at stake. Reforms that reduced industry fees by only ten basis points (.1%) on average would save those with 401(k)s more than \$4.5 billion annually. And that's a lower bound of what's at stake. In our research sample of 3500 plans (with \$120 trillion in assets), we estimated an average Excess Expense Loss of 85 basis points, so a reform-induced reduction of 20 or 30 basis point would constitute very substantial chunk of change. <u>Read</u> <u>More</u>

#### 401(k) Reforms: What Should Be Done

Forbes, May 27, 2014

My prior posts have painted a grim picture of excessive fees and dominated funds. In this

final post in the series, I sketch 5 reforms to make progress on the problems. The reforms are not primarily directed at enhancing fiduciary duty standards. For reasons discussed in our article, Quinn and I are skeptical that increased fiduciary litigation is likely to lead to substantial improvements in plan menu offerings. Indeed, a hallmark of successful reform to our minds would be inducing market change without resort to litigation. Instead, our reforms focus on Department of Labor regulation. <u>Read More</u>

#### Sincerity Tags At Bloomingdales

Forbes, May 30, 2014

I had a great day in New York City on Saturday shopping with my daughter for a prom dress. When we were checking out of Bloomingdales the sales associate explained to us that there was a special 3-inch plastic tag attached to the dress that we could take off whenever we wanted but that the dress couldn't be returned once the tag was removed.

The credit-card swipe machine also had a special warning page which required our acknowledgement of the tag-in-place return policy before we could buy the dress. <u>Read</u> <u>More</u>

## In Push For Gender-Unspecific Language At McDonald's, Credit Where Credit Is Due

Forbes, June 16, 2014

A few weeks ago I posted <u>a piece on the Freakonomics.com blog</u> after my daughter Antonia published <u>a piece in Slate Magazine</u> about her attempts to end McDonald's gendered use of the phrases "boy's toy" and "girl's toy" to describe Happy Meal toys.

Since posting, we've learned that Antonia is neither the first nor the youngest to try to get McDonald's to change its policy. <u>Read More</u>

#### The Beautiful Game Theory

Forbes, June 25, 2014 (with Jake Richardson)

With under a minute to play in the USA-Portugal match, Christiano Ronaldo, Silvestre Varela and the Portuguese national soccer team turned what would have been a mathematical certainty into a game theoretician's playground. The last second tie in the most watched World Cup match in American history upped the ante for Thursday's game between Germany and the United States. The winner of that match is assured a place atop Group G – the Group of Death. But, the loser may find themselves in a tie for second, at which point the question turns to FIFA ordained tiebreakers, the last of which is a "drawing of lots by the FIFA Organising Committee." Read More

#### The Amateur Maneuver

Forbes, December 16, 2014

Imagine there was a magic button you could push that would make it easier to go to the bathroom. More than two decades ago, I discovered just such a button. It turns out that pushing on your perineum makes it substantially easier to defecate. <u>Read More</u>