

THE CALL

FOR CORPORATE ACTION

NYU STERN STUDENT VOICES
VOL. 4 / SPRING 2017

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A high-angle, aerial photograph of a modern urban plaza during dusk or night. The plaza features a large, light-colored paved area with a distinct geometric pattern of grey and brown tiles. Scattered across this surface are approximately 20 wooden benches with black metal frames, arranged in a loose, non-uniform fashion. Several dark, cylindrical trash cans are placed at various points. In the upper right corner, a large, multi-story building with a reddish-brown facade and numerous windows is visible. Two prominent white panels are attached to the building's exterior; the one on the right clearly displays the text "TISCH HALL". To the left of the main building, a smaller structure with a dark, textured facade and several potted plants is partially visible. The overall atmosphere is quiet and minimalist.

TISCH HALL

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LETTER FROM THE DEAN



GEETA MENON

Dean of the Undergraduate College

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IT IS AN ABSOLUTE PLEASURE TO write the foreword for *The Call for Corporate Action*. Each year, I feel pride and hope reading essays from Stern undergraduates that speak to both the complex realities and the opportunities for innovation and positive societal impact facing the world of business today. The fourth edition of *The Call* continues to impress upon me the critical need for undergraduate business students to grapple with the issues facing business and society, as they do in our *Business and Its Publics* course. The resulting essays are a glimpse of the incredible potential of our students and the next generation at large to transform the global marketplace for the better.

I invite you to read the range of topics showcased in this edition of *The Call*. From analyzing predatory lending

in Thailand to critically thinking about NFL football player safety in the United States to making a case for “green burials”, these diverse essays are informative, innovative, and demonstrate the linkages between business and society in an increasingly globalized economy.

It is truly exciting to read these students’ perspectives and understand the world we live in through their eyes. I hope *The Call for Corporate Action* continues to inspire further discourse and generate even more ideas about the social, corporate, governmental, environmental, and international issues that are embedded in the current business world.

Please enjoy.

Warm regards,
Geeta Menon

INTRODUCTION TO BUSINESS AND ITS PUBLICS

BUSINESS IS A PRIMARY SOURCE of all value created in our economy. Business innovates more effectively than organizations in any other sector. Then, it leverages those innovations to bring new and better products and services to market to make people's lives better, while at the same time creating rewarding jobs and profit for owners and shareholders. Businesses partner more today than in the past, not only with one another but also with government and non-profits, developing solutions to social problems that seem impossible to fix.

The most successful businesses have an important feature in common – they have a clear sense of purpose guiding them. Purpose-driven organizations shape their own environment proactively rather than having to react to others. Leaders and members of such organizations share clear common goals, and those goals help them to coordinate, accomplish a great deal, and avoid ethical lapses.

The essays in this volume are great examples of how prepared Stern students are to change the world using the strengths of business. In each one, the author seizes upon a serious social ill – a problem they feel passionate about and wish to solve – and outlines a path for corporate action. The problems are diverse, ranging from cancer to our need to protect the environment,

and the solutions are both creative and implementable.

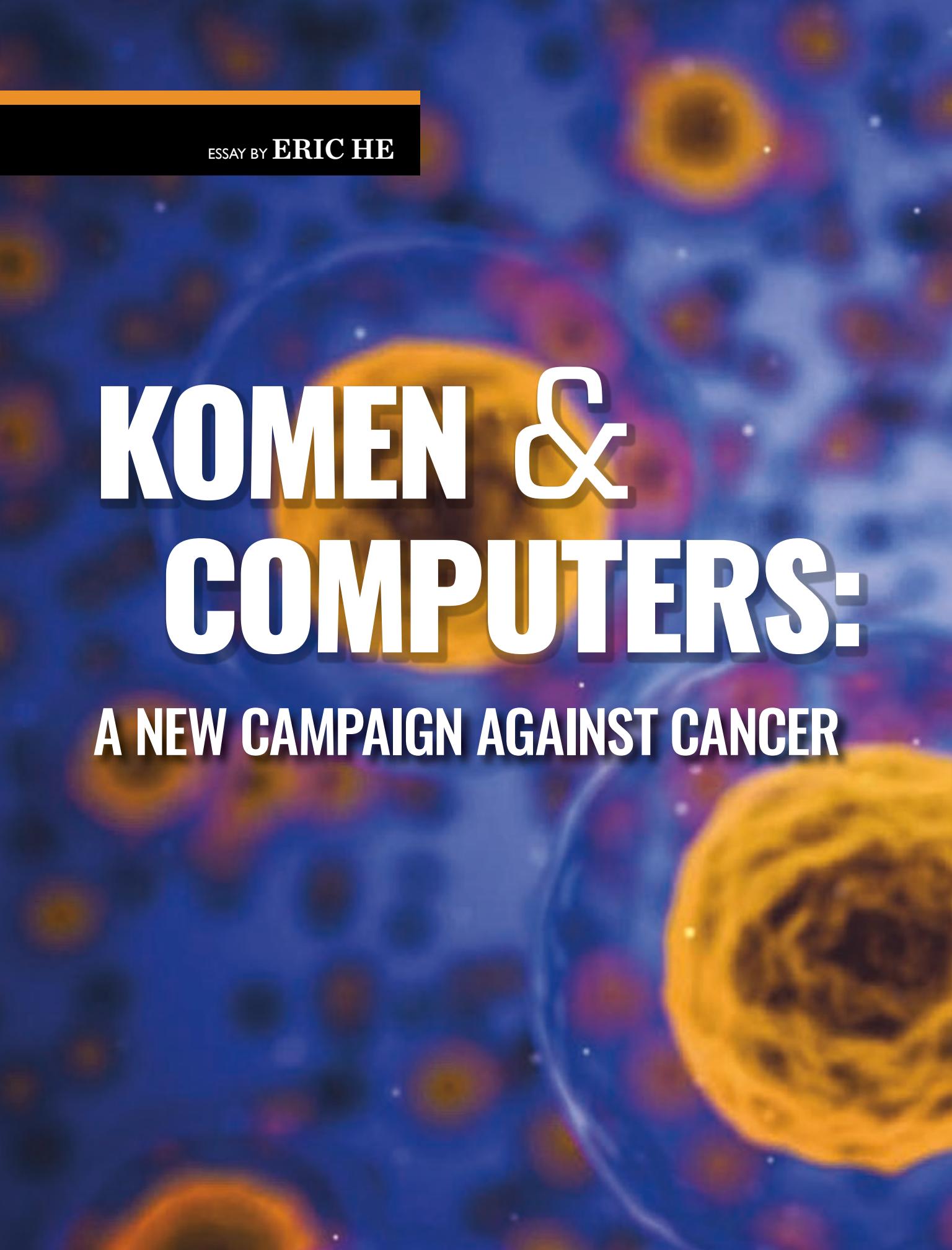
New businesses may emerge from the solutions in these essays. And while they might ultimately seek to capture some portion of the value created and distribute it to those who have invested in creating solutions, they recognize that value must be created before it can be captured and distributed.

In this way, these essays reflect the philosophy behind the *Business and Its Publics* course. *Business and Its Publics* introduces students to the role of business in the broader society as well as the relationships between business and other important societal institutions. Students explore the novel partnerships that are developed between business and other institutions to address society's most pressing needs. The course prepares students to offer novel, value-creating solutions to these problems by developing the critical thinking skills that enable students to analyze issues, evaluate arguments, and become aware of (indeed, embrace) multiple perspectives. As evidenced by this collection of essays, this approach is one that will continue to leverage the strength of business to advance our society, and make the world a better place.



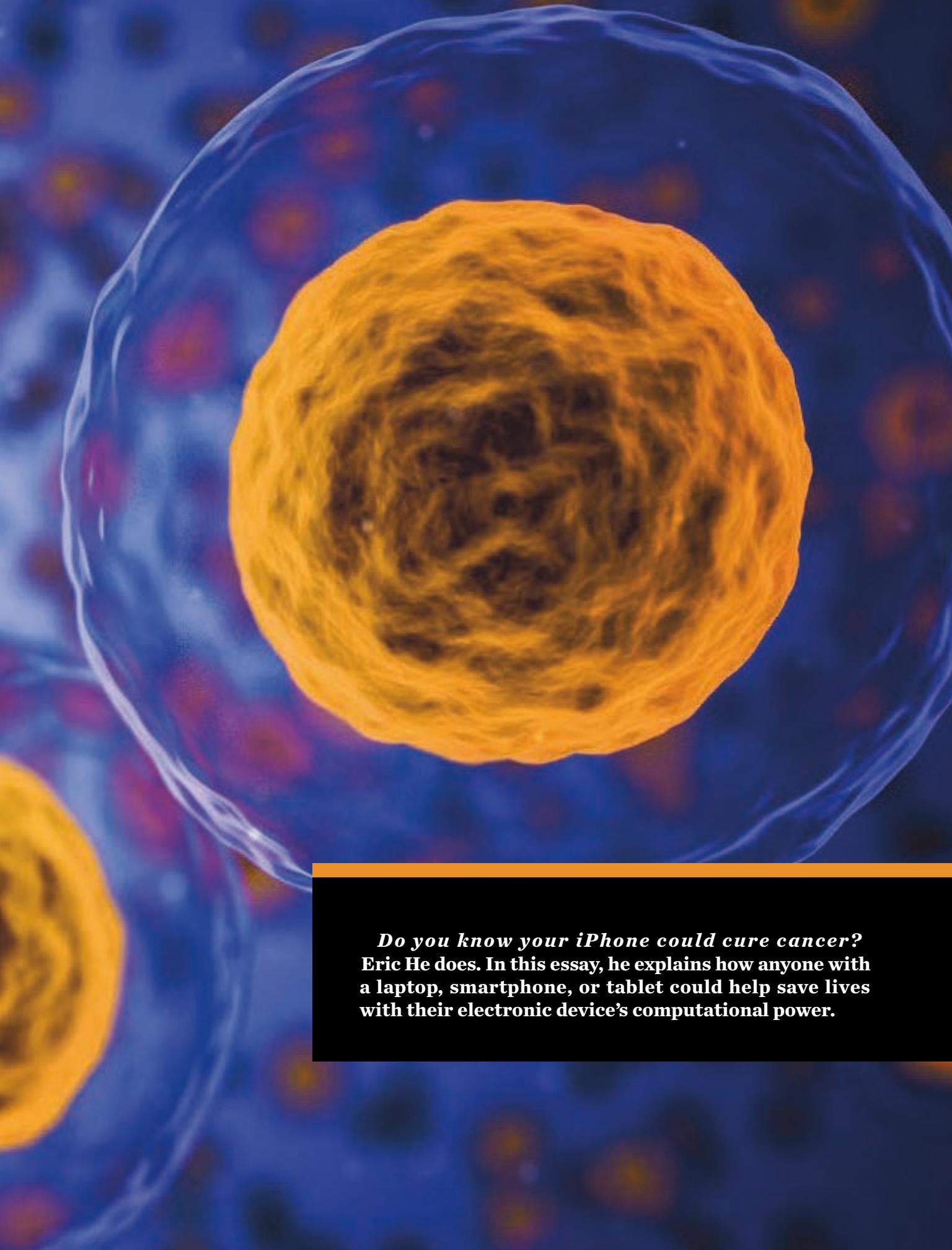
BATIA WIESENFELD

*Andre J.L. Koo Professor of Management
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ESSAY BY ERIC HE

KOMEN & COMPUTERS: A NEW CAMPAIGN AGAINST CANCER



Do you know your iPhone could cure cancer?
Eric He does. In this essay, he explains how anyone with
a laptop, smartphone, or tablet could help save lives
with their electronic device's computational power.

THIS ESSAY WILL EXPLORE how Susan G. Komen, one of the largest breast cancer awareness foundations in America, can assist in treating the most intractable and prominent diseases humanity faces today – by encouraging citizens to download and run the Berkeley Open Infrastructure for Network Computing (BOINC), a software which allows scientists to distribute massive computational problems to individual computers for solving. The essay will explain the benefits for BOINC, Komen, and humanity, and detail two major problems with the undertaking.

Cancer is a set of diseases commonly characterized by “the rapid creation of abnormal cells that grow beyond their usual boundaries, and which can then invade adjoining parts of the body and spread to other organs.”¹ The chances of obtaining cancer increases as mutations in the cells’ DNA stack up over time; so the disease remains the primary enemy of old age. This makes curing cancer one of the top priorities for Americans who now have life expectancies of about eighty years.²

Despite the sheer amount of effort and money poured into cancer research, there

has been very little progress made. As of 2009, the National Cancer Institute “has alone spent \$105 billion,” since President Richard Nixon declared a War on Cancer in 1971. “Yet the death rate for cancer... dropped only 5 percent from 1950 to 2005.”³ In comparison with smallpox, the flu, and heart disease, the fight against cancer has returned dismal results.

A major reason for this failure is that so little is known about the fundamental forces driving cancer. One of the biggest breakthroughs in cancer research was the link between smoking and cancer. However, even today, the “mechanics and molecular causes” relating smoking to cancer are still unknown; though we know what can cause cancer, we do not know how cancer is caused.⁴

In trying to understand these mechanics, scientists have come up against a host of gargantuan computational problems, such as in the study of proteins. Proteins are the “nanoscale machinery of all the known cellular life...[with] functions includ[ing] metabolism, photosynthesis, signal processing in the brain, immuneresponse, and many others.”⁵ A protein, which begins as a chain of amino acids, will

settle into a natural three-dimensional shape in a process called “folding.” This process usually takes milliseconds within the body, but simulating folding requires so much computing power that a specially designed supercomputer for that specific task, *Anton*, took “about 100 days” to complete a single millisecond of the folding process for a single protein.⁶

Predicting a protein’s final shape and simulating how a protein might interact with a cell wall are two other massive computational problems. Thus, if a group of scientists wanted to see if a single protein could attach to and destroy a cancer cell, they would immediately face three huge obstacles, each of which would take modern supercomputers months or even years to calculate. To complicate matters further, there would be a nearly infinite number of proteins to test.

The supercomputers required to solve these computations are few in supply and high in demand, forcing many scientists to crowdsource work using citizen-computing power. BOINC is a citizen computing software which allows scientists to chop up a massive computation into tiny pieces that can be sent out to individual devices (computers or phones) to evaluate. Citizens from all over the world can allow programs hosted by BOINC to run on their computers, choosing from a vast array of scientific and mathematical projects such as MilkyWay@home, which maps stellar streams in our galaxy (so named because you can run it *at home*), or Enigma@home, which tries to solve uncracked Enigma codes from World War II.⁷

Those interested in biotechnology projects can pick from Rosetta@home, POEM@home, and GPUGRID, which seek to solve the aforementioned problems pertaining to proteins.⁸ Additionally, citizens can help the World Community Grid, an umbrella project funded by IBM which is currently conducting five studies on tuberculosis, AIDS, Ebola, cancer, and the human genome. Its sixth is devoted to finding better materials for solar panel construction.⁹

Hundreds of papers have been

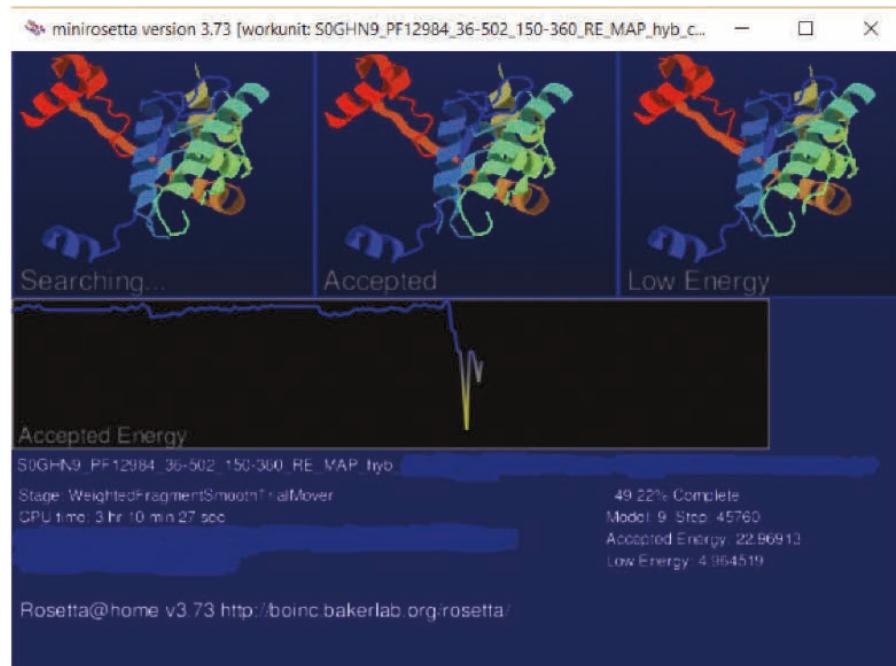


FIGURE I: A screencap of a protein folding simulation. My identification has been blotted out.

published using BOINC, all of which are freely available online. From 2006 to 2011, Rosetta@home alone published 17 papers on protein structures.¹⁰ This work was done by 500,000 active volunteers contributing 1,000,000 computers and phones, which adds up to a shocking computation speed of 11.4 petaflops, a metric which would place BOINC as the fourth most powerful supercomputer in the world.^{11 12} But BOINC has the potential to become the most powerful supercomputer in the world.

Of the world population, approximately 3.5 billion people have access to a device that can access the Internet, and in the United States a single person may own multiple devices, such as smartphones, laptops, tablets, and gaming consoles.¹³ Of these 3.5 billion active devices in the world 0.02 percent are contributing to BOINC. It does not seem as if only 0.02 percent of the people in the world care about cures for cancer or next-generation materials for solar panels, so why does BOINC get such a lukewarm reception when it is possibly the easiest and most helpful way a person can contribute?

Primarily, nobody knows about it. Articles about papers and projects that used BOINC do not often mention it, and according to David Anderson, project director of BOINC, the group has “never advertised; [they] have no budget for doing so.”¹⁴ Another issue is BOINC’s obscure and inactive forums, which is where many prospective volunteers might visit to learn more about the movement. The posts are filled with computer jargon, beginning with the relatively benign CPU (computer processing unit) and GPU (graphics processing unit) but quickly diving into terminology such as petaflops, the LINPACK benchmark, RAC, cuda55 or sse2 architecture, and scalable parallel

computational geometry for coarse-grained multicompilers.¹⁵

In practice, the message boards have become places to troubleshoot the software, so it is inevitable that they get technical. However, this does not mean that the public face of BOINC has to look so complex. With a serious marketing effort, BOINC could become immensely more powerful, which could lead to revolutionary breakthroughs in research. Susan G. Komen, the nation’s most well-funded breast cancer awareness charity, has both the proper resources and motivations to do just that.

Komen’s strength is its outreach, as shown by its financials. Its report for the fiscal year of 2014-2015 claims total expenses of \$268 million of which the largest portion, 37 percent, is spent on “education.”¹⁶ This task essentially means reaching out to the population to inform them of the existence and danger of breast cancer and to encourage women to get mammograms. Komen has been wildly successful. At the time of its foundation, women were ashamed to admit they had breast cancer due to the intimate sexual nature of breasts. Yet now, October is breast cancer awareness month –and not any other kind of cancer. The pink ribbon and the color pink as a whole have been made synonymous with breast cancer and sponsors of Komen sell pink water bottles, football jerseys, KFC buckets, and more to show their support for the fight against breast cancer. Annual “Races for the Cure” attract more than 1.5 million participants globally.¹⁷ Because of Komen, much of America is aware of breast cancer to the point where many do not think funding for awareness is useful anymore.

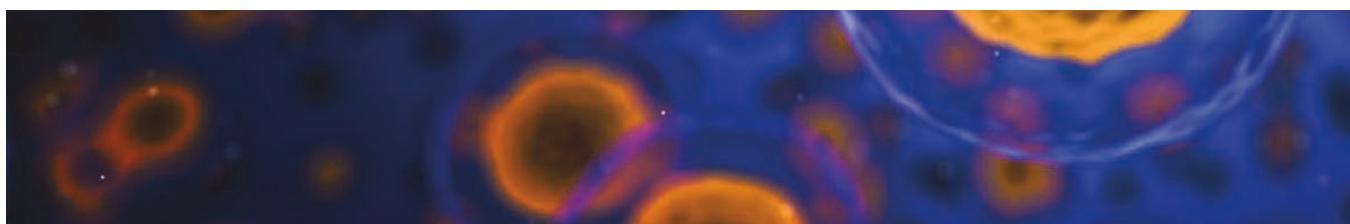
For a rough lower bound of the effect that Komen could achieve using BOINC, one can again look at the charity’s budget:

\$268 million for the fiscal year of 2014-2015. The annual maintenance cost of Titan, the number 2 supercomputer in the world (at 27.11 petaflops, twice that of BOINC’s), is \$9 million per year. Komen’s annual finances would be enough to sustain 30 Titans, or 60 BOINCs.¹⁸

We would expect money spent on promoting BOINC to have a greater impact on cancer research than a contribution to Komen directly – especially with awareness of BOINC so low. Yet a minimum of funding would be a dream come true for BOINC. Komen shifting some resources to promote BOINC would cost little money; its outreach programs with corporations, schools, and communities already exist. All the foundation has to do is design a new message, something it already needs.

In recent years, Komen has faced intense criticism over its finances and practices. In 2012, Komen faced a huge backlash for the decision to cut funding for Planned Parenthood. The controversy opened up several other cans of worms. Despite being a breast cancer *awareness* foundation which allocates only 20 percent of its budget to research grants, it has trademarked the phrase “for the cure” and has sued other nonprofits to protect it.¹⁹ Further, some of the aforementioned pink products sold by firms in partnership with Komen were known to be carcinogenic, such as plastic water bottles and fried KFC food.²⁰ In light of these issues, Charity Navigator dropped Komen’s rating from the full 4 stars to 3 in 2013, and then to 2 in 2015. In that time, so many supporters left Komen that its net donations dropped from \$438 million in 2011²¹ to \$250 million in 2015.²²

Of most relevance, Komen spends the bulk of its “education” money encouraging women to get annual mammograms starting at the age of 40,²³



and another 16 percent of its budget funding them.²⁴ In contrast, the U.S. Preventative Services Task Force, “an expert group that reviews the latest research findings,” recommends one mammogram every two years starting at age 50; any more would lead to “unnecessary tests, anxiety, and... surgeries.”²⁵ So not only has Komen’s mission of spreading awareness approached its saturation point in America, and not only does Komen need to rebuild its public image, but Komen’s current activities are also arguably detrimental to public health. Yet if Komen did not promote mammograms so zealously, it would be unable to justify its current size. Komen is stuck, but BOINC offers a possible way out.

Advertising BOINC would use Komen’s strength: outreach, to address its weakness: research. It would quash complaints of Komen’s outreach programs being unneeded or even harmful and counter claims suggesting that monies would be better spent funding research. Komen would instead encourage the public to take part in direct research. It would reshape the foundation’s image into a major supporter of cutting-edge research. The catch: promoting BOINC may not be as easy as previously claimed.

The first of two fundamental problems with advertising BOINC is its paradoxical message. The biotechnology projects on BOINC, and indeed this essay, introduce themselves as grand quests to cure all diseases known to man, and they are. But they are so boring.

Running BOINC consists of taking two minutes to download a program and then staring at progress bars for a seeming perpetuity. There are graphics such as Figure 1, but their endless repetition only makes the demoralizing state of the war against cancer more tangible. The only “solution” to BOINC’s banality has been to make it run in the background, so people can forget it exists. This disconnect between BOINC’s mission and the user experience has confounded a decade of attempts at marketing and might be the prime cause of both the high

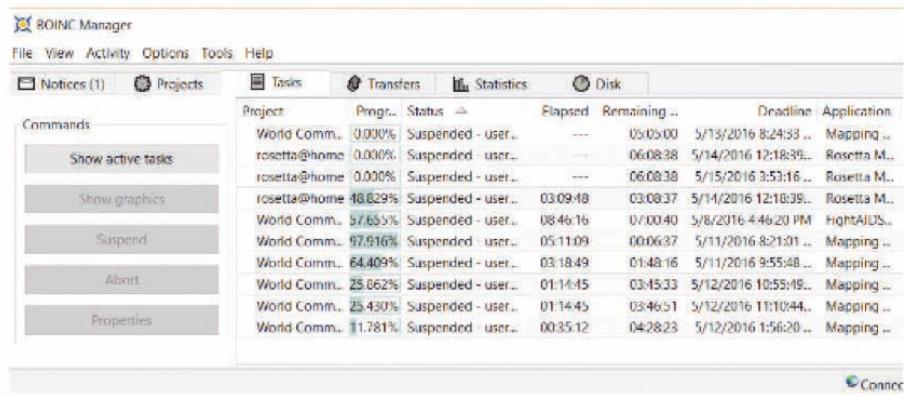


FIGURE 2: A screencap of my BOINC client.

churn rate among BOINC participants and BOINC’s failure to gain traction in the public consciousness. Surprisingly enough, a remedy exists which again, Komen is in an exceptionally favorable position to employ.

Charity Engine is a private organization which sells citizen computing power to private companies. Most of the money generated is donated to charity, while some is reserved for the volunteers themselves. Charity Engine sets up a lottery where volunteers may receive awards based on how much computing work they have done.²⁶ Charity Engine runs the lottery in order to popularize citizen computing.

Komen volunteers would do best to stay separate from Charity Engine since performing computations for the private sector would only invite more criticism of the organization. However, Komen should devote some funding to a similar lottery system. Participants may then associate BOINC with the lottery and disregard BOINC’s inherent passivity. Since the lottery scales with contribution, it naturally disqualifies inactive participants. Volunteers would stay conscious of BOINC, and re-download the program with each new device. This lottery system would be easy to construct because every BOINC project puts a tremendous amount of effort into designing a fair credit system to reward work done by contributors.²⁷

The second fundamental problem is that the credit rewarded to volunteers to quantify completed work can be difficult to translate into tangible results.

A million computers may spend several months evaluating molecules for use in solar panels, but only one device will find the one perfect molecule. The tremendous amount of work done by the other computers were only useful for declaring what molecules were *not* useful. Many BOINC computations are similar in nature, so Komen must find a way to fairly measure and reward the work done by volunteers.

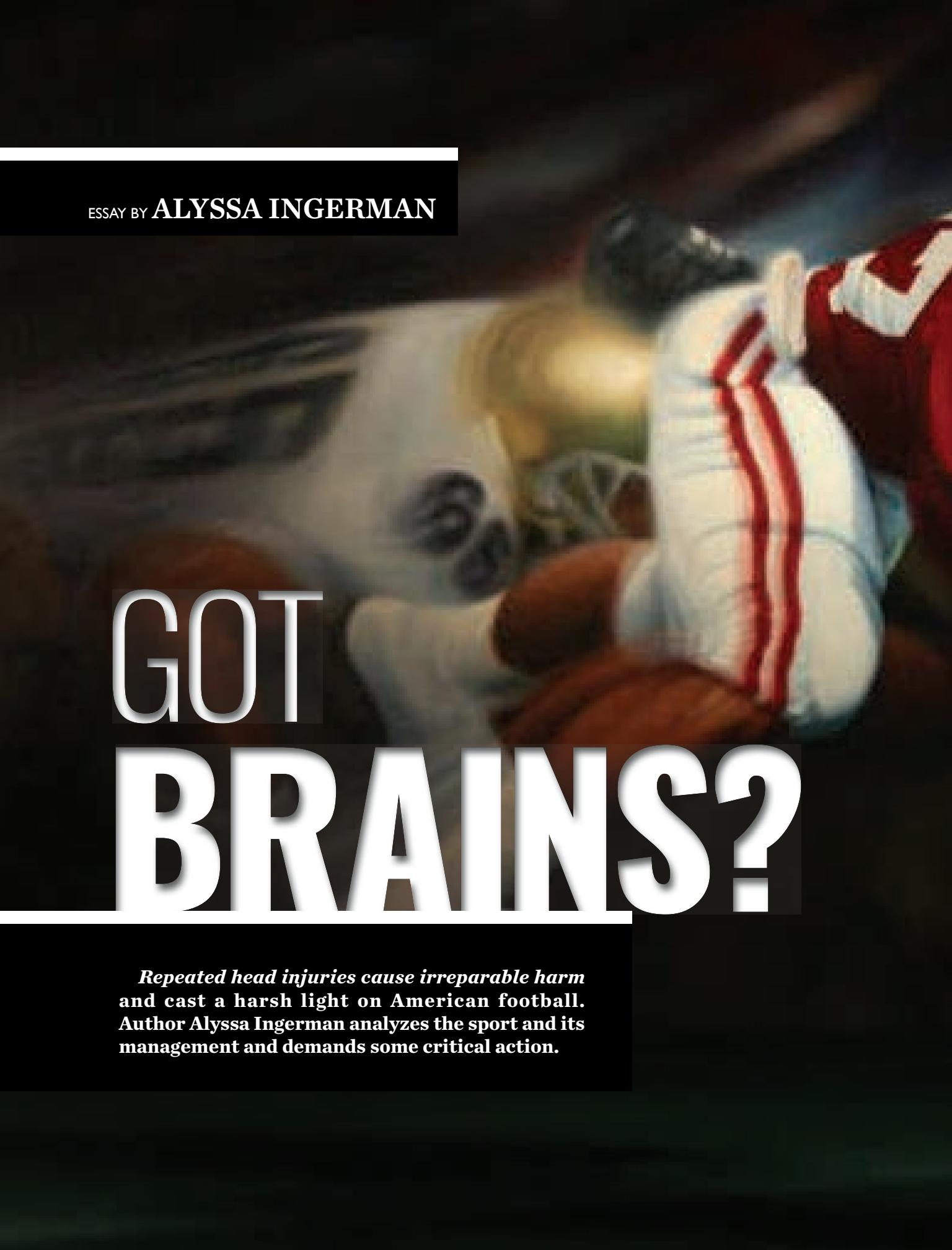
Komen’s promotion of BOINC has benefits even outside the ones already listed. Teaching about BOINC software would naturally lead to relationships with technology companies. Examples are NVIDIA, which makes graphics cards vital to citizen computing, and IBM, which runs many corporate social responsibility programs. IBM also has numerous corporate citizenship awards of which it would like the public to be aware.²⁸ Uniting the cancer movement with citizen computing would foster public interest in computer science, mathematics, cryptography, and physics – another win for society.

The financial power of Komen and other disease-focused charities makes it very clear that people care about cures. Running a background program to study cancer pales in effort compared to running a 5K, and there is little doubt that millions would do the former if everyone else was too. Komen is incredibly well-positioned to take on this task, and so are you. Consider running BOINC - it supports desktops, laptops, tablets, and even Android phones. ■

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- *Opening photo by pixabay.com/qimono*
- *Screenshot photos by Eric He, courtesy of BOINC*



Eric He, class of 2019, is majoring in Mathematics and Data Science.



ESSAY BY ALYSSA INGERMAN

GOT BRAINS?

Repeated head injuries cause irreparable harm and cast a harsh light on American football. Author Alyssa Ingerman analyzes the sport and its management and demands some critical action.



Professional football players suffer greatly for their trade. They take part in a multi-billion dollar industry – one with a significant social and economic impact on American society. Yet the continued financial success of the National Football League (NFL), its players, associated merchants, sponsors, municipalities, and media has kept the worker safety issue from the focus of public attention.

Throughout the past decade, concerns have mounted regarding the effects of players' repeated head trauma and concussion. Discussions have played out in broadcast booths, courtrooms, and popular media. The league has begun to regulate the violence of football, hoping to reduce the risk of serious brain damage and avoid a potential threat to revenue. As the entity with the greatest financial interest in preserving the game's popularity, the NFL needs to champion efforts to reduce head injuries among the players.

However, part of the appeal of the game lies in its intrinsic violence. It is not in the NFL's interests to alienate the fan base regardless of player safety issues. In a famous article, "How the NFL Reflects American Culture," author and football fan Rich Cohen states that Football is "nothing but violence...controlled fury," and it simply represents "a tough country, made by violence, which the game compresses and presents in the course of an afternoon."¹ Some speculate that the level of violence increased as the sport expanded across the United States. *The*

New York Times suggests that the “art of tackling” has transitioned from a player aiming at the lower body to take down the opponent, to aiming higher to dislodge the football. While “this is not always an effective way of bringing a man down... it’s a highlight-reel play” and aids the NFL in marketing the ever growing sport.²

Damaged knees or hips are an accepted risk in football. However, the impact on the upper body, especially blows to the head resulting in concussions, may be the most detrimental to a player’s long-term well-being. A concussion, or temporary loss of brain function, results from blunt force trauma to the head. In 2005, Dr. Omalu published findings in *Neurology*, documenting a condition called Chronic Traumatic Encephalopathy (CTE), caused by repeated high-level impact to the head. Symptoms of CTE include early onset dementia (Alzheimer’s disease), which slowly causes neuropsychiatric dysfunction. This untreatable condition presents what should be an unacceptable risk to the employee.

In 1970, The United States Department of Labor enacted the Occupational Safety and Health Act (OSHA), which requires employers “to provide their employees with work and a workplace free from recognized, serious hazards.”³ OSHA gives employees security in knowing they will be functioning in a safe work environment. According to OSHA, the football field qualifies as a work environment and the act’s rules apply in the same way they would at a chemical plant, assembly line, or any other

workplace. Besides a moral obligation, the NFL has the legal responsibility as an employer to protect the players from “recognized, serious hazards” that the game may cause.⁴ Although some injuries are unavoidable and recognized as part of the game, the risks associated with head trauma, including its long-term psycho-cognitive consequences, have been largely overlooked. The consequences of head trauma, once under-appreciated, are now recognized as unacceptable, and the issue is affecting the NFL.

As a result of negative publicity and significant pressure, the NFL has started to address the issue by adjusting the rules of the game. The “Unnecessary Roughness” call protects players from more high impact than is required to end the play; this foul was first introduced in 1995, but has been recently amended to encompass different scenarios. Another rule prohibits any player from leading a tackle with his head or shoulders, or striking another player in the head, neck or shoulders. A violation of this rule results in an immediate ejection from the game.⁵ Other sports have incorporated similar penalties during the game: in hockey, “high-sticking” prevents players from whipping their opponents in the head with sticks, and in soccer, the “risky play” call prevents players from challenging with their feet while their opponent attempts a header.

Rules limiting aggressive tackles that result in head trauma may be a start, but testing procedures during the game remain unregulated. Players

seen stumbling off the field may reenter the game as long as they are cleared by medical personnel. However, both the player and the team’s medical staff are frequently reluctant to have the player “sit out.” Team doctors, whose allegiance lies with their employer, have little incentive to bench a player. Players, unwilling to admit symptoms for fear of losing their livelihood, may also be kept in the dark regarding any long-term consequences of their symptoms. For years, Dr. Elliot Pellman, a rheumatologist who earned his MD in Guadalajara, Mexico, was the chair of the NFL’s Mild Traumatic Brain Injury Committee, yet Dr. Pellman had no expertise in the neurosciences.¹¹ Currently, once a “qualified” medical professional clears a player, the player can return to the game. Frequently, players shop around for second, third, and fourth opinions in order to find a physician to medically clear them.⁷

There needs to be a clear set of regulations regarding player assessment and return to play, and an independent medical examiner should be present at all practices and games. Any player seen struggling to stand up from a tackle should be immediately tested for symptoms, as players may still have a concussion without showing immediate warning signs. Players requiring assistance to leave the field should be banned from returning to the game as well as any future practices or games for at least a week following the incident. Players should also not be allowed to return until a week after the last symptom subsides. Because



the NFL and players may object to these recommendations, there needs to be an independent organization that monitors compliance. These limitations may be objectionable to both the league and the players but are likely to result in fewer injuries of all varieties. The NFL remains concerned with the effect of current and potential rules on the integrity of the game.

Simply changing the rules of the game doesn't solve the inherent problem. At

make it to the NFL; organized football starts as young as Tiny Mite, or ages 5-7. While the NFL is only legally accountable for its own employees, it has a moral and ethical responsibility to protect all aspiring players. Addressing the risks in pre-professional players will ease the concerns of parents who may be reluctant to allow their children to participate in an egregiously dangerous sport. Further, reviewing effects of trauma early will help insure an ongoing supply of healthy

child starts to play football, throughout his football career and beyond. Under this proposal, players would be entered into the database when they join Pop Warner or any other youth football program. All players would be required to complete a baseline concussion test every two years. Studies have shown that post-concussion testing has a high error rate if not compared to a baseline, pre-concussion test.

With any suspected head trauma, the

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Symptoms of CTE include early onset dementia (Alzheimer's disease), which slowly causes neuropsychiatric dysfunction

present, there is no consensus of how many concussions are too many.⁶ Because CTE develops over a long period, there is no real-time test to determine whether a player will develop it. The NFL needs to employ a systematic approach to minimizing head trauma and its long-term effects. To start, we must acknowledge that the risks associated with repeated head trauma are not limited to those playing football professionally. The threat of CTE existed long before a player could

future football players for the draft. The significant costs associated with each player go beyond salaries and signing bonuses. It is in the NFL's best financial interest to proactively determine a player's risk for traumatic brain injury and inability to play. Therefore, testing for concussions should start long before a player reaches the professional level.

The NFL should help fund the creation of a comprehensive database that tracks neurobehavioral health from the time a

concussion test should be repeated and compared. The NFL could implement standards for allowing a player to participate as a function of pre- and post-concussion testing, rather than the arbitrary release that exists today.

When players are recruited to play college football or enter the NFL draft, multiple statistics are analyzed. The number of concussions that the player has sustained should be included in this analysis. If a player has had multiple head





injuries, the player should be considered less valuable than one with no previous history. The NCAA could require all Division I athletes to provide access to their neurobehavioral health history from the database. It would allow college coaches to assess the cognitive health of a prospective player. Similarly, the NFL could require access to the same information for a player to enter the draft or sign an employment contract. Many employers require a pre-employment physical in order to determine whether an employee is physically capable of performing the job. In this case, neurobehavioral health would offer a core prerequisite for the ability to perform the job of a football player. The database would allow both the NFL and the player to make informed decisions regarding the player's neuropsychiatric durability and ability to play for an extended period. Players with a history of multiple concussions would be barred from playing. Such an approach would permit the NFL to maintain the excitement of the game and the public's interest without compromising players who are especially vulnerable to injury. Additionally, after review of cumulative concussion histories, money would not be spent on unsuitable candidates, a move that benefits both the league and the individual.

The NFL has outlined a practice of administering baseline concussion testing for current players. However, the frequency of these tests is not mentioned, implying that these tests do not occur on a regular basis.⁸ There needs to be standardization of how often these tests are administered. Professional football players should be tested on a monthly or even weekly basis. Additionally, neurobehavioral testing must continue after the player retires, perhaps on a yearly basis. Given the chronicity of CTE, it may take a long time to note neurobehavioral changes. Similarly, any response to intervention will be difficult to assess in the short term.

Another step that can be taken to address the issue of head trauma is the monitoring of pain medication consumption.

In a study commissioned by ESPN and funded, in part, by the National Institute on Drug Abuse, NFL players were shown to have a markedly higher rate of pain medication abuse than the general population. Survey comments from the study reveal that players frequently utilized opioids to treat undisclosed concussion symptoms alongside a myriad of other injuries.⁹ Aggressive drug testing for opiates may provide data to identify players with post-concussive symptoms and neurobehavioral impairment.

The establishment of a database would enable further research as well. If, beginning at an early age, players take baseline tests once a year, an average of fifteen points of reference in the development of a professional football player's cognitive ability could be accumulated.¹⁰ While there will be some variability based on position on the field and the individual, the data would

help identify trends in the cognitive patterns of players. The data may be used to recognize the extent of brain damage as well as the rate of deterioration of healthy brain function. Additionally, the database will provide a large sample size for the evaluation of diagnostic studies and treatment modalities.

To date, the NFL has attempted to hide the result of repeated head trauma and CTE, thereby eroding its credibility. Yet the NFL, with its \$9.5 billion recorded annual revenue in 2011, has sufficient funds to allocate money for the development of a database as well as ongoing neurobehavioral research.¹² It can begin to rectify the apparent lack of transparency by bringing in recognized, non-controversial experts to conduct research.

Several interventions can be implemented now to address the head trauma crisis confronting professional

football today. These include standardized pre- and post-concussion testing, evaluation by independent medical examiners rather than team doctors, and standardized protocols for returning to play. A database, while of paramount importance, will take time to implement and more time to collect sufficient information to draw meaningful conclusions. Therefore, it may be many years before a true assessment of the success of these interventions can be determined. However, the time to start is now. Not only will the implementation of these recommendations address the NFL's compliance with worker safety law and improve public opinion, but it will also save lives. ■

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■ *Opening photo by flickr.com/diamonddduste*

■ *Secondary photo by flickr.com/chubbysphotography*

■ *Closing photo by flickr.com/watts_photos*

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ESSAY BY PAUL YOON

HOW

ROTTEN TOMATOES

IS THE FUTURE FOR RACIAL AND
GENDER EQUALITY IN THE

FILM INDUSTRY



An activist hashtag #OscarsSoWhite emerged due to the racial and gender discrimination surrounding Hollywood. Paul Yoon explores a way that the popular movie rating site, “Rotten Tomatoes,” can make a small change to address a huge social problem.

IN JANUARY OF 2016, THE Oscar nominations for the previous year were announced and, for the second year in a row, every single acting nominee for the prestigious awards was white. This sparked a media uproar as many accused the Academy of Motion Pictures Arts and Sciences of overlooking the skillful works of actors and actresses in movies such as “Creed” or “Straight Outta Compton” due to discriminatory bias.¹ This incident brought to attention one of the problems America’s film industry faces but fails to address: racial inequality. Research shows that women are extremely underrepresented as well. In a study performed by the New York Film Academy that looked at the top 500 films from 2007-2012, only 31 percent of all speaking roles were given to women. It is difficult for women and people of color to attain successful careers in film given this evident bias.

Although the Academy is just one part of the vast film industry, it is integral to understanding the root of this problem. The Oscar Awards are some of the highest honors a worker in the film industry can achieve, so film production companies have the incentive to hire people they think will appeal to Academy members. Incidentally, the 5,765 voting members of the Academy are about 94 percent white and 77 percent male.² The racial and gender distribution has not changed much since the original 36 founders of the Academy who were all white and included only three women.³



It seems that much of the blame falls on film studios. They are the ones that hire actors, actresses, and any behind-the-scenes roles such as directors or screenwriters. They also determine pay for the workers. Take Sony Pictures Entertainment for example. In 2014, the film studio was hacked by a group called “Guardians of Peace,” unwillingly revealing major pay discrepancies. Jennifer Lawrence was compensated considerably less than each of her male co-stars in the movie *American Hustle*. In addition, there is a male co-president and a female co-president of production at Columbia Pictures, a major film studio owned by Sony, who both have the same exact job. The male, Michael De Luca,

studios did not respond when *USA Today* followed up after the surveys were taken. Very recently, however, Warner Bros. Entertainment has begun an initiative to improve gender equality. The film studio historically has had a significant disparity between male and female involvement. Between the years 2009 and 2014, only 2.3 percent of Warner Bros.’ movies were directed by women.⁶ One month after *USA Today*’s report, Warner Bros. Entertainment announced a new program called the Warner Bros. Emerging Film Directors Workshop, which will help underrepresented groups enter the industry.

Perhaps Warner Bros. Entertainment will lead the charge for big film studios

were published in April of 2015, garnering some media attention.⁷ The data was used by the American Civil Liberties Union of Southern California who reached out to numerous civil rights agencies in hopes of initiating investigations on the film industry’s evident gender discrimination.⁸

The problem is that film studios are unresponsive, as seen with *USA Today*’s findings, and are unwilling to admit the glaring issue of diversity. Additionally, there is a common trend where the general public’s passion for an issue ebbs and flows. For example, when the 2015 Oscar Awards announced the all-white nominee pool for acting, April Reign, a writer who has a considerable presence on Twitter, created the hashtag

In order for a movie to pass, “it has to have at least two women in it who talk to each other about something besides a man.”

makes nearly one million dollars more than his co-president Hannah Minghella.⁴

Despite this, film studios are failing to address the issue of diversity. *USA Today* analyzed 184 movies planned for the year 2016 by 14 major film studios, such as Lionsgate and 20th Century Fox, and assigned each studio a letter grade reflecting diversity. The methodology included “the casting of major acting roles and directors hired, as well as the male/female ratio for major roles,” taking into account race and gender.⁵ Twelve of the 14

making an impact on the issue of diversity, but there are other programs that have been active for several years. The Sundance Institute has been attempting to increase diversity by partnering up with a collective called Women in Film and creating the Female Filmmakers Initiative. The Female Filmmakers Initiative spent several years researching the root causes for gender discrimination and what kinds of opportunities are available for women. Their findings on the gender disparity among movie directors

“#OscarsSoWhite” which triggered many people to advocate for change. After a few weeks of buzzing activity, the movement died down until history was repeated in 2016 with yet another all-white nominee pool for acting roles.

There needs to be another approach to solving this problem that maintains public attention while also effectively pressuring movie studios to increase diversity. There are two tests called the Bechdel test and the DuVernay test that can lead to a solution. The Bechdel



test, which was created by comic-writer Alison Bechdel, has very simple criteria. In order for a movie to pass, “it has to have at least two women in it who talk to each other about something besides a man.”⁹ It may seem easy to pass, but there are a surprising number of big-hit movies that fail. According to Asher Cantrell, a writer for the “Film School Rejects” blog, the final installment of the *Harry Potter* series fails to have a single scene where two women have a dialogue.¹⁰ She also found that *Avatar*, the original *Star Wars* trilogy, and the entire *Lord of the Rings* trilogy all fail to contain any dialogue between two female characters. Failing the simple criteria of the Bechdel test indicates that a movie fails to portray well-rounded women roles that accurately represent real life.

The DuVernay test is very similar. New York Times writer Manohla Dargis coined it in January of 2016, stating that the test would indicate if “African-Americans and other minorities have fully realized lives rather than serve as scenery in white stories.”¹¹ Dargis named the test in honor of Ava DuVernay, director and co-writer of the acclaimed movie *Selma* and the first black female director to be nominated for the Academy Award for Best Picture.

These two tests, although not perfect, are rough guides to determining if a movie fairly represents women and minorities. If the results of these tests were displayed on a popular website, such as Rottentomatoes.com (RT), the impact of wide public attention could be substantial. RT became widely accepted as a credible source for movie reviews by aggregating the opinions of critics and casual audience members into ratings. For every movie listed on the website, RT displays a “Tomatometer,” which is “the percentage of approved Tomatometer critics who have given [the] movie a

positive review” and an “Audience Score,” which is “the percentage of users who have rated [the] movie 3.5 stars or higher.”¹² These ratings are highly influential. RT is the most popular website for movie ratings with 17 million unique monthly visitors as of March 31, 2016.¹³ A study done in 2007 by the magazine *Slate* found that movies with higher than a 60 percent approval rating on RT tended to make \$1000 more per movie theater screen than movies with a score of less than 60 percent.¹⁴ Companies such as Apple, Google, and Ask.com have recognized the popularity of the website and have data-licensing deals with RT to incorporate its data into their products.¹⁵

Next to the “Tomatometer” and “Audience Score,” RT could display whether or not the film passes the Bechdel and the DuVernay tests. Since the results would be shown every time someone visited a movie’s page, this would eliminate the aforementioned problem of the “ebb and flow” of public interest sparked by occasional events. Something to keep in mind, however, is that these tests are not necessarily indicative of a movie portraying women or minorities in a poor light. For example, the movie, *Saving Private Ryan* fails the Bechdel test, but understandably so. The entire movie depicts a troop of men on a mission to rescue Private Ryan and bring him back to the United States. The movie does correctly represent an era where women had very limited roles in the frontlines. Despite the misleading potential of the Bechdel and DuVernay tests, they serve to raise awareness of the representation of women and minorities in film, which is the ultimate goal. As Megan Logan of slate.com states, “though the Bechdel test is, of course, an over-simplified yardstick for feminism in film, it remains a simple, straightforward way to begin the

conversation about how any given movie humanizes its female characters.”¹⁶ The same applies for the DuVernay test. The tests will enable conversations of racial and gender equality to extend beyond the typical few-week time frames of public interest occurring after significant events such as the 2016 Oscars scandal, putting pressure on movie studios and the Academy to increase diversity.

RT should also include a section for reviews concerning gender and racial representation in movies. Currently the website has a section for reviews from critics and a section for regular user reviews. A new section would allow people to have a discussion about how well a movie represents women and minorities. This will help spread awareness through people’s ideas. Without awareness, change cannot occur. Just a month after the Academy was plagued with controversy concerning the 2016 acting nominees, Warner Bros. Entertainment announced their initiative to encourage and aid women and minorities to pursue filmmaking. That was hardly a coincidence.

In terms of financial feasibility, RT should see this move as an opportunity to increase net income. At the core of RT’s business model, a considerable portion of their revenue comes from licensing their data out to other companies, as mentioned earlier. Magazines, such as *Variety* and *The Hollywood Reporter*, also pay RT to include their film ratings in their movie sections. Since RT holds such powerful influence in the movie review space, RT will be able to include the data from the Bechdel and DuVernay tests in their licensing deals for a higher price. Although RT is a private company and its revenue from its clients is unknown, we can estimate based on Twitter’s data licensing earnings how much

RT currently makes. In 2013, Twitter earned \$147 million in data licensing and was estimated to be worth \$23 billion as a company according to market capitalization.¹⁷ RT is estimated to be worth \$490 million, so we can roughly estimate that it earns \$3.13 million from data licensing.¹⁸ As a disclaimer, this measure is unlikely to be a very accurate estimation, but it is acceptable, at least. RT can reasonably charge its clients ten percent more for the additional data. Although they will be including two more sets of data, the collection of the data will require less effort than the “Tomatometer” and “Audience Score” since each movie either passes or fails the tests, explaining why RT should not charge much more. This change alone will rake in around \$300,000 more each year. RT will either need to hire somebody or give somebody more work to aggregate and distribute this data, incurring an additional cost of salary which will be a fraction of what they gain.

There are other incentives of RT's to consider. For one, RT's primary source of revenue, advertising, is in danger of decreasing. According to statista.com, the number of internet users applying ad-blocking programs to their web browsers have increased from 21 million to 198 million.¹⁹ RT needs to find other sources of revenue since it cannot continue to rely so heavily on advertisements. It is also apparent, although not explicitly, that RT

will have the incentive to make a positive social impact by displaying the Bechdel and DuVernay tests. As mentioned earlier, Warner Bros. announced their initiative Warner Bros. Emerging Film Directors Workshop in early 2016, indicating their interest in increasing gender and racial equality in the film industry. Warner Bros. Entertainment, up until February of 2016, owned RT. Fandango, a movie ticket retailer, acquired Flixster and RT from Warner Bros., but according to Anthony D'Alessandro of Deadline.com, “Warner Bros Entertainment [is] taking a minority stake in Fandango as part of the deal and will serve as an ongoing strategic partner.”²⁰ It is in the interest of RT's old parent company and current leadership to pursue programs that foster gender and racial parity in Hollywood.

This business proposal will create what Michael Porter, professor at the Harvard Business School, and Mark Kramer, the managing director of the advisory firm FSG, call “shared value.” The concept of shared value involves companies centering their business around social or environmental impact instead of viewing social and environmental issues as mere “corporate responsibility.”²¹ RT can simultaneously improve their revenue while imposing an influential pressure on the film industry, particularly the Academy and major film studios, to increase diversity. Porter & Kramer state that there are three ways to create shared

value, one of them being “reconceiving products and markets”²² which is what RT will be doing.

The social benefit, a crucial aspect in creating shared value, can be measured in a couple ways. Statisticians can observe any increases or decreases in the proportion of movies that pass the Bechdel and DuVernay tests in the years after the initiative begins. Currently, out of the 6,491 movies in bechdeltest.com's database, 58 percent of movies pass the test.²³ Now that Fandango owns both Flixster and RT, the company expects 63 million monthly users, ensuring widespread exposure to test outcomes.²⁴

The film industry is just the tip of the iceberg. Gender and racial equality penetrate many other aspects of American culture. Institutional sexism and racism is a glaring problem in the corporate world in terms of hiring and income. Affirmative action has caused enormous amounts of controversy in regard to higher education. However, the film industry has an incredible influence on culture. Humans are naturally impressionable, and movies have considerable psychological impacts on society. If this business venture were to succeed and Hollywood did indeed become a more equal environment, it could potentially set an example for the rest of society. If income disparity among filmmakers and actors and actresses became a thing of past, how long would it



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be until the corporate world followed suit? As it stands currently, people of color and females grow up in this society watching movies that often grossly misrepresent reality. Imagine how discouraging that could be to someone belonging to one of those categories who dreams of becoming a Hollywood star. The film industry could very well set a major precedent in the professional world.

At the fundamental level, corporations are made of people who, regardless of any selfish desires, are key components of society. The Academy and all the film studios being accused of discrimination have a moral and financial obligation to

address the criticism. The general public will not give up in pursuing justice, and a business venture such as the one that has been proposed in this essay will ensure that. Although film studios have the liberty to hire who they want and still make lots of money for now, they cannot perpetually drown out the angry voices calling for change that will only increase with this proposal. Improving social – not to mention environmental – issues should no longer be seen as optional.

Porter & Kramer state that modern companies are narrow-minded in that they only focus on short-term gratification while “missing the most

important customer needs and ignoring the broader influences that determine their longer-term success.”²⁵ There is an anonymous Greek proverb that states, “Society grows great when old men plant trees whose shade they know they shall never sit in.” Hopefully this same spirit can be integrated into businesses around the world. ■

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■ Secondary photo by flickr.com/prayitnophotography

THE STEAKS HAVE BEEN RAISED:

ESSAY BY BENJAMIN GELMAN

It all begins with what we eat; and this is especially true with the burger you ate last weekend. Benjamin Gelman introduces us to agribusiness' effect on American consumer health and a potential solution: grass silage processing from BioPac'r.

MAKING THE MOO-VE TO A GREENER FUTURE



IN THE SUMMER OF 2001, TWO weeks after driving up the East Coast of the United States on perhaps the “best family vacation we had ever been on,” two-year-old Kevin Kowalczyk woke with diarrhea and a mild fever. The next day Kevin was hospitalized for bloody stool and dehydration. Within the week, his kidneys failed and before a month went by, he passed away. Kevin had eaten meat infested with *E. coli* produced by one of the largest agribusinesses in the country.¹

While many Americans associate cows with sprawling green pastures, the reality is much bleaker. The modern animal farm operates closer to an industrialized factory than it does to the free range farm that kids imagine. This farming system is the default in America. Yet its constraints tax animal health and thus affect the health of hundreds of millions of consumers who eat those animals. In 2007 alone, 22 million pounds of frozen hamburger meat, enough to make a burger for every adult in America, were recalled from stores because of an *E. coli* contamination.² In the coming years, the number of animals raised on factory farms is expected to spike. These “factory farms” account for about 78 percent of all cattle and 99 percent of all chickens sold in the United States –totaling 40 million and 8.5 billion “units” respectively.³

In America, as a household’s income increases, the family typically consumes more meat. At the advent of the 21st century, the average American was consuming nearly 200 pounds of meat annually, up 50 pounds from 1950.⁴ Emerging economies like Brazil, Russia, and South Africa, mirror this trend, but instead of increasing in sporadic communities within the country, meat consumption is expected to rise

across entire nations. By 2050, world agribusiness is expected to produce over 50 percent more meat than it did in 2010.⁵ Yet if the means of meat production remain unchanged, this rise in meat consumption will simply put the health of additional lives at risk.

The Health Externalities of Factory Farming

Factory farming is modeled to produce the most meat at the lowest cost, translating into the greatest number of animals in the smallest possible area. A grass-fed cow is usually allotted 1.5 acres of pasture, terribly inefficient in the eyes of meat producers.⁶ But with the creation of corn- and soy-derivative cow feed, farmers were given the ability to keep cattle on feedlots. The feedlots essentially neutralize the need for ample grazing areas. A feedlot is where cows arrive to be “finished” after a mere six months on a “pasture”, a euphemism for fattening the cow on a grain and corn intensive diet.⁷ The Harris Ranch Beef Company, a feedlot, crowds up to 100,000 cows within one square mile.⁸

Not only does a corn-based diet facilitate the concentration of livestock, it also shortens the slaughter cycle, allowing even more livestock to pass through factory farms.⁹ Although the corn-based feed allows for a substantial increase in meat production and a decrease in cost, it comes at the expense of the meat’s quality.

Cows do not naturally eat corn. They evolved eating grass. Grain-based diets lead to a shortened rumination cycle which is the animal’s first stage of chewing its cud.¹⁰ Without an adequate rumination cycle, cows fail to produce enough

acid-neutralizing saliva, causing a disease known as acidosis.¹¹ Acidosis lowers pH levels in the cows’ four stomachs from the natural level of 7, causing a host of effects. The concentration of healthy omega 3-fatty acids decreases; unhealthy omega 6-fatty acids increase; and the imbalance of fatty acids creates a hospitable environment for dangerous strands of *E. coli*.¹²

Additionally, there is no efficient means of removing waste because of the extreme concentration of cows in a single area. Cows are left to “stand ankle deep in their manure all day long.”¹³ The accumulated manure efficiently transmits disease from a single cow to a large percentage of the feedlot.¹⁴

To preempt disease within the herd, farmers routinely administer antibiotics. By 2011, 80 percent of all antibiotics in America were administered to animals.¹⁵ The widespread use of antibiotics for livestock is linked to the rise of antibiotic-resistant microbes, placing human health in danger.

According to reported cases, these “superbugs” include diseases like salmonella which infect over 100,000 and kill 26 people annually.¹⁶ Many cases go unreported. While Kevin was hospitalized because of a superbug, his sister and father were also infected. Yet, their infection went unreported since they were not hospitalized for their symptoms.¹⁷ In short, antibiotics used to preempt animal disease can foster human disease.

Perpetrators

Historically, the government has been both at the center of and conspicuously

absent from the development of factory farms. Responding to a food shortage in the 1970’s, the Nixon administration started subsidizing commodity crops, like wheat, corn, and soy. The markets capitalized on the low prices, finding surprising new uses for corn and soy. The crops quickly found their way into diverse products – from toothpaste to baby diapers, and, of course, to animal feed.¹⁸

With the help of low production costs, agribusinesses grew into one of largest and most consolidated sectors in the economy. There are competing fast food chains on nearly every block in New York City, but many of them share meat suppliers. In 1970, the top five beef-packers supplied 25 percent of the beef on the market; by 2008, the top four controlled 80 percent.¹⁹ Thus, whenever there is threat to agribusiness, the sector regularly aligns its interests and pools its resources to mitigate the risk.

According to the Center for Responsive Politics, agribusiness is one of the biggest lobbying groups, contributing more than \$381 million between 1990 and 2006. This number tops the transportation lobby at \$330 million and comes close to the natural resource lobby at \$384 million.²⁰ Therefore, the fact that there was no investigation following Kevin’s death and the fact that the food safety bill inspired by his passing repeatedly failed to reach the Congress floor for years, did not shock anyone.²¹

Perhaps the government is only so susceptible to the lobbyists’ sway because the government also has a vested interest in industrialized farming. The American population is rising exponentially, and the food supply must keep up. For all the

In 2007 alone, 22 million pounds of frozen hamburger meat, enough to make a burger for every adult in America, were recalled from stores because of an *E. coli* contamination.

negative externalities the factory farms facilitate, they undoubtedly help lower the cost of key foods and increase their accessibility. Is it even possible to raise the quality of meat without substantially raising its cost and inhibiting its accessibility?

Enter Biopac'r

Fortunately, Yellowstone Compact & Commodities Corp, a small, socially conscious company located in Jackson Hole, Wyoming, has recently begun manufacturing the BioPac'r machine. BioPac'r takes grass clippings and turns them into grass silage, a type of animal feed. This addresses many of the issues involved in factory farming and holds the potential to shift the trajectory of the industry.

When compared to the grain-feed alternative, not only is grass silage a way for farmers to save money during hard

times, but it is also healthier for the cattle. Unlike corn-feed which causes acidosis and hinders rumination, grass silage has been linked to improving the quality of rumination because of its easily digested fiber.²² Furthermore, cows that feed on grass silage have less total fat but more healthy, polyunsaturated fats.²³ Besides the health benefits, cows independently gravitate towards grass silage over grain-based feeds.²⁴

Grass silage is conventionally used as food reserve for cattle when pasture grass is poor, such as during a dry season.²⁵ Making grass silage has long been recommended to small farmers who would collect any uneaten pasture. After collection, the grass is cut into even smaller pieces and compacted to expel as much oxygen as possible, creating a hospitable environment for the bacteria responsible for the fermentation process.²⁶

However, factory farms have no pasture to begin with. By making the ensilaging process as simple as loading grass clippings into a machine and waiting 30 days, BioPac'r represents the first opportunity to make this practice available on a large scale. BioPac'r allows companies that otherwise have nothing to do with farming to create silage, and then provides a network to connect these companies with farmers who otherwise lack access to grass.

Doing Well By Doing Good

Grass silage is alluring to factory farms because it increases livestock health while maintaining their financially viable concentration of cows. If a factory farm purchases BioPac'r silage, it does not need sprawling pastures to accrue many of the grass-fed benefits for its cows. Furthermore, the Department of Agriculture's loose definition of



By 2050, the world agribusiness is expected to produce over 50 percent more meat than it did in 2010.

'grass-fed' might allow farmers to be able to label their meat as such.²⁷ It seems a simple business decision, if a farmer can improve product quality without raising production costs.

Meanwhile, as part of its business plan, BioPac'r continues to attract grass-providing partners. The EPA estimates that landfill is comprised of up to 50 percent yard-waste during growing seasons.²⁸ This can be traced to nearly 75 percent of commercial lawn mowing companies that dispose of a combined 23 million acres worth of grass clipping into landfills.²⁹ The dumping runs a substantial financial cost reaching hundreds of dollars per pick-up.³⁰

The social cost of dumping grass clippings is equally high. Landfills across the United States are quickly reaching their maximum capacity. Opting to dump green waste or organic materials that are recyclable is unnecessarily perpetuating the problem.³¹ Furthermore, green waste sitting in landfills releases methane, a notorious culprit of global warming.³² The excess grass inefficiency presents an opportunity for shared value.

In order to help address these financial and social costs, environmental and gardening authorities – ranging from unpaid bloggers to Home Depot to the EPA – all encourage the recycling of grass clippings. Beyond helping the environment, companies that reveal their social consciousness have a business edge. A Nielson study found that 66 percent of consumers prefer to buy products and use services from socially conscious companies, and nearly half of consumers are willing to pay more for such products.³³

Composting has recently been linked to contaminating nearby water sources.³⁴

Keeping clippings on a lawn so the lawn can reabsorb nutrients often leaves the landscape looking unkempt, offsetting a major reason people regularly cut their grass. Creating silage out of excess grass clippings with BioPac'r signifies a new, attractive method of being socially conscious.

BioPac'r also offers companies the ability to increase profits without undergoing a major logistical change. All a company has to do is keep a BioPac'r machine on site to load the grass soon after clipping. Because BioPac'r does scheduled grass clipping pick-ups, the partner company is able to dispose of its grass clippings regularly. While landfills charge for the removal of grass clippings, the BioPac'r provides the same service at no cost and, depending on the size of the client, will often pay for the clippings. By simultaneously addressing two social issues to turn a profit, BioPac'r could quickly become a textbook model of social entrepreneurship.

Opposing Stakeholders

According to Gregory Dees of Duke University, our society has an improper definition of, and poor associations with, the term entrepreneurship. He claims that we loosely apply it to anyone who starts a new business.³⁵ Drawing on Joseph Schumpeter's description, Dees asserts that entrepreneurs do not simply create something that already exists in the current system; rather they find totally "new and better ways of doing things."³⁶ By challenging the status quo of the market and daring to dream of what does not yet exist, entrepreneurs reject the expression: "if it ain't broke, don't fix it."

BioPac'r certainly qualifies as an entrepreneurial company. BioPac'r is envisioning healthier animal products, reducing green waste, and creating a network of shared value. By doing all of this while also turning a sizable profit, BioPac'r is challenging the agriculture industry to rethink and confront many of its inefficient norms.

Not every company within agribusiness is committed to moving the status quo of the industry for the better. Monsanto, the largest corn and seed producer in the world, has all but dictated the change and direction of the agriculture industry over the last three decades.³⁷ David Friedberg of Climate Corp. calls Monsanto "as innovative and as impressive as Google."³⁸ Monsanto has engineered crops to grow quicker, bigger, with less water, and fewer fertilizers.³⁹ However, its innovation is no indication of its corporate benevolence.

As the third most hated company in America, Monsanto has stayed wildly profitable, partly because of its ruthless treatment to anyone standing in opposition.⁴⁰ Organic farmers once accused Monsanto of polluting their crops after Monsanto pollen, blown onto the organic fields from neighboring farms, essentially killed all the existing organic crops and tainted the rich soil associated with organic farming. Monsanto's response: sue the organic farms for infringement of intellectual property.⁴¹

With seemingly endless resources and an army of lawyers, perhaps Monsanto will see to the demise of BioPac'r, even if that is by means of drowning the small company in legal fees. BioPac'r is taking the first step to reduce the emphasis on corn, and thus Monsanto. The company provides a new model of sustainability



for companies in different areas of the industry.

Borrowing a Business Model

Even though BioPac'r lacks the sufficient funds necessary to challenge Monsanto, it does have other resources it can leverage: the media. By virtue of being an exciting, new company, BioPac'r is a cover story waiting to happen. Unfortunately, a revolutionary company is no longer enough to generate media buzz, especially if the company is in its early stages of production and lacks adequate marketing expertise.

In this regard, the small company might actually welcome Monsanto's impending attack as Tom Szaky, CEO and Founder of Teracycle did, when Miracle-Gro launched a lawsuit campaign to end the young, socially responsible fertilizer company. BioPac'r may be able to utilize Monsanto's destructive energy and transform it into a productive force.⁴²

By attacking BioPac'r, Monsanto presents an opportunity for BioPac'r to enlist the best legal help and the most efficient marketing for its brand—at no cost. To capitalize on the opportunity, BioPac'r simply has to alert the media about the hostile situation. This past April, the New York Times ran an article featuring the current cultural obsession with bullies.⁴³ The Goliath (Monsanto) trying to crush the defenseless David (BioPac'r) is an underdog narrative sure to boost any ratings. The story would grab headlines across a myriad of news outlets.

In the extensive coverage, more people, including potential partners, will learn BioPac'r's name, story, and mission. Further, the story would reinforce the consumer image of Monsanto as an evil

brand, pressuring the company to drop charges. Monsanto may launch an assault to protect itself against potential threat, but a decrease in brand popularity will likely lead current clients to search for alternatives. Thus, an attack on BioPac'r might cause a potential problem for Monsanto.

Partnering With Panera

Whether or not free marketing from a Monsanto lawsuit brings BioPac'r into the agricultural conversation, it will have to actively search for an established partner to sell its grass-silage-fed beef. Between its staunch commitment to social responsibility and opportune timing, an ideal company to partner with BioPac'r would be Panera.

Panera already is in the forefront of a movement to bring consumers natural and healthy ingredients. Panera is actively fighting for GMO transparency, cage-free eggs, and free-range animals. In its annual Animal Welfare report, Panera has outlined a plan describing how it will serve only free-range chickens by 2020.⁴⁴ While the 89 percent of grass-fed, free-range beef it serves is impressive, the report lacks any statement regarding a move to increase that number to 100 percent.⁴⁵ One can reasonably assume Panera is struggling with the economic and logistical viability of increasing the 89 percent. However, the remaining 11 percent offers an ideal opportunity to experiment with an innovative solution. Partnering with a farm that uses the grass silage from BioPac'r to feed its cows is a natural outgrowth of Panera's dynamic, socially responsible model.

Not only would the solution be socially responsible, but it would also create value

for its shareholders. Danny Meyer and Union Square Hospitality repeatedly appear in the news, not necessarily because their restaurants provide excellent food, but rather because of their revolutionary industry strategy.⁴⁶ Panera is one of the few companies that already has experience with this approach.

As it did when it created the pay-as-you-wish *Panera Cares*, Panera can make headlines by using meat from BioPac'r-fed cows. The food company may be called, 'leaders,' 'fools,' 'visionaries,' 'risk-takers,' or other names. However, whatever you call the fast-casual chain, Panera will be the subject of discussion. But to capitalize on all the economic benefits BioPac'r could offer, Panera will have to act quickly.

Staying Atop the Market

Chipotle, perhaps Panera's main competition, prides itself on "food with integrity," yet that slogan has recently been called into question. Over the past year, the fast-casual chain received frequent reports of *E. coli* outbreaks. Even though Chipotle is in unwavering pursuit of providing only grass-fed and free-range beef, between the issues with food safety and its accompanying negative media attention, Chipotle is currently portrayed as a company that's misaligned with its mission. For the first time since its inception in 2006, Chipotle reported a quarterly loss.⁴⁷

When one's competition falls, one enjoys a relative increase in status simply by maintaining a current position. Chipotle, though, is working to restore its image and thus the previous balance of power. In hopes of regaining customer loyalty, Chipotle has offered "Free



Burrito Day." Furthermore, it has chosen a day to open its doors late, to thank its workers for the extra time they invested, implementing more extensive food safety regulations.⁴⁸ At this rate, Chipotle may once again be one of America's favorite eateries. Thus, if Panera intends to maintain its elevated status, it must announce its partnership with BioPac'r technology as soon as possible, seeing as this opportune timeframe is limited.

The announcement would likely draw a comparison to Chipotle, and Panera would have a more favorable image by comparison. For example, one reason Chipotle is able to provide such a high percentage of grass-fed, free-range beef is because it heavily imports the beef from Australia.⁴⁹ However, using beef raised with BioPac'r silage allows jobs to stay in the United States. Panera would suddenly become the promoter of a healthier domestic industry. The innovative announcement would grab headlines, thereby capturing free marketing, possibly distracting the public from Chipotle's efforts to restore its image.

Conclusion

While striving to lower the cost and increase the accessibility of meat, the farming system began to produce unhealthy cows and thus provide unhealthy beef to consumers. By increasing the availability of grass silage,

BioPac'r allows factory farmers to increase the quality of their animals' lives without having to compromise. Since farmers can maintain their current model, consumers will have access to healthier meat at the same low cost.

Furthermore, with the right marketing strategy BioPac'r can leverage the media to fend off opposition and recruit partners. The partners can then use the media to create buzz, painting themselves as innovators and forward thinkers, terms aptly ascribed to BioPac'r. BioPac'r even places another existing social problem, green waste, at the core of its solution. In reaffirming the financial viability of agribusiness, the private sector succeeds where the government sector fails.

In many ways, what makes the BioPac'r a viable option is also why it may not be a satisfying solution. Despite increasing the quality of factory farm meat, the BioPac'r does not fully address the current low standards for livestock care. By maintaining the preexisting model of factory farming, Americans and their policy makers are not forced to confront issues like animal welfare or overconsumption.

Nevertheless, the BioPac'r is definitely a step in the right direction. The partnership with Panera may begin a national conversation that comes to ask how and why there was such a market opportunity in the first place.

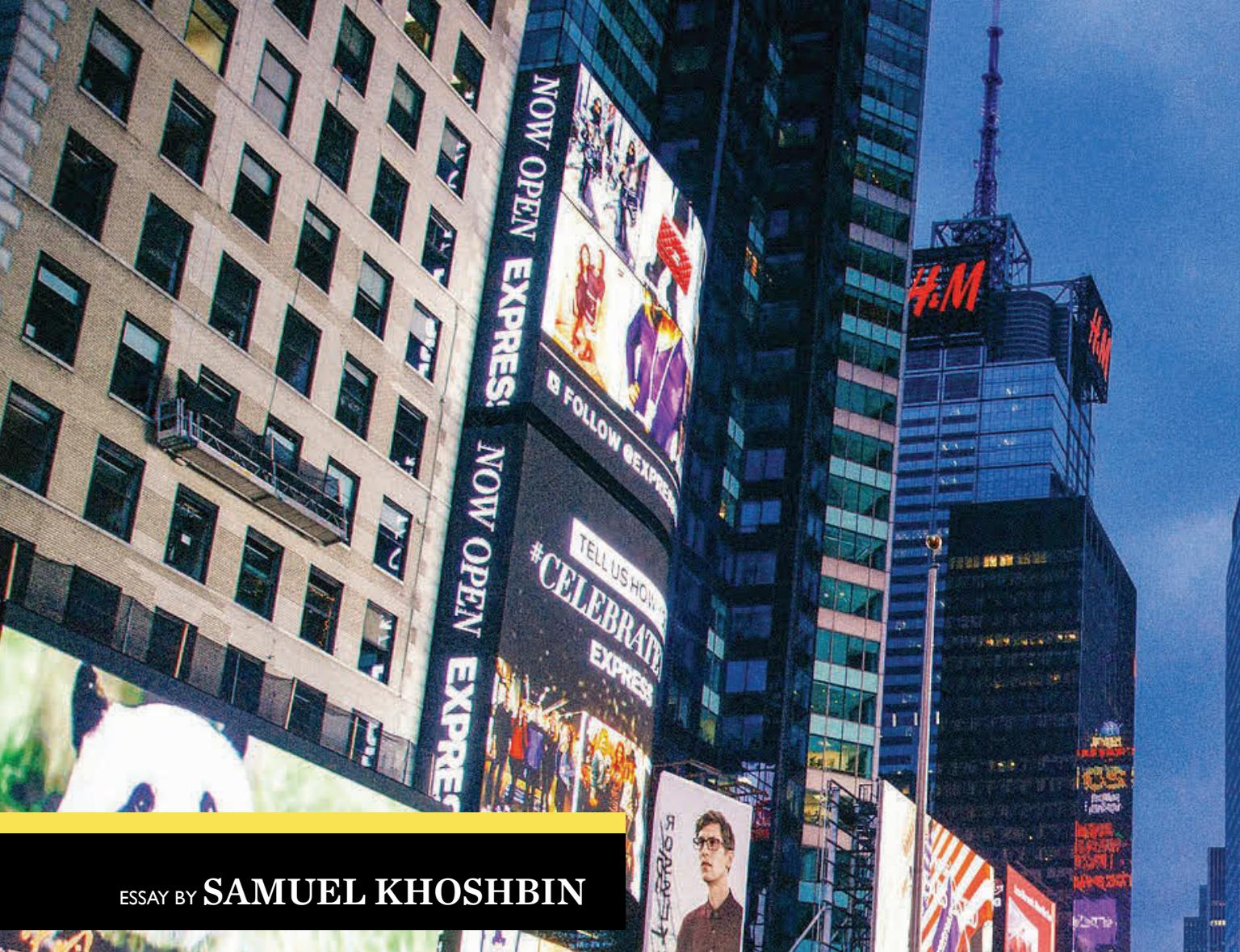
Furthermore, the hope is that a fast-food company, such as McDonald's, finds inspiration—either social or financial—from partner farms using BioPac'r silage. Such partnerships could move the national default towards a more sustainable future.

David Foster Wallace, in his commencement speech to Kenyon College, defines blind certainty as "a close-mindedness that amounts to an imprisonment so total that the prisoner doesn't even know he's locked up."⁵⁰ Sometimes an issue becomes so ingrained within our culture that we forget it is an issue altogether. We may shrug our shoulders in acceptance and shift our awareness to the good it produces. Because mass food production is not leaving our society any time soon, many acquiesce to the social costs involved. As we turn our attention to dollar menus across the nation, we may forget that these benefits are products of a compromise. By suggesting an alternative solution, like more natural feed for factory cows, businesses possess an ability to force us to confront our personal and cultural assumptions. ■



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ESSAY BY SAMUEL KHOSHBIN

SWIPE AND SPEND: consumers can't help but play into the endless cycle of payment that feeds credit card companies like American Express, Visa, and MasterCard. Credit cards' convenience and quickness are unparalleled. Their use is accompanied with an air of nonchalance that makes spending money verge on sexy. Their sleek designs correspond with names like "Sapphire," "Gold," or "Black," that hint at their power to purchase. So we swipe and spend, swipe and spend. But get cash back? Why would these behemoth credit card companies feel the need to return money to their clients? Well, even though people are hooked on card spending, companies must still compete

with each other and further strengthen their grip on the spending market. So in the early 2000's, cash back programs were born. These programs incentivize consumers to spend more because they have a cash return – sometimes as small as 1 percent – coming their way. Credit card companies make more money on interest payments than they lose giving cash back to their clients. The programs range anywhere from 0.5 percent cash back for department store purchases to 7.5 percent cash back on groceries or gas.¹ It's a genius marketing campaign, and once the bulb was lit, everyone saw the light. Now, offering cash back on a credit card doesn't lend the same competitive edge as it used to.

There are a thousand possibilities for companies when they need to differentiate themselves in a competitive market place. American Express (AMEX), for example, could pour money into research, development, and marketing, hoping for a new program to increase brand recognition or searching for some new service it thinks customers will like. But wouldn't it be smarter for AMEX to improve a preexisting program that it knows will work? Peter Drucker in the *Harvard Business Review* advocates this approach: focus funds toward a limited number of assuredly productive efforts.² In an ideal scenario, a company addresses its need for change without tempting risk. As long as the new idea significantly increases revenue, this

CASH FORWARD



Author Samuel Khoshbin unveils a plan that leverages existing cash back credit card programs and creates “conscious spending,” a means of customer engagement that might actually change the world.

method of improvement is safer and will likely offer great returns. If AMEX considers changing cash back, a new idea might increase market share followed by minimal implementation costs and minimal guesswork.

The Issue

We live in a time of progress. People care about the Earth, they care about other people, and they increasingly understand the repercussions of their actions. Consumers don't want to see companies carry out business plans driven solely by a lust for money. Quite to the contrary, consumers support companies they believe are concerned with the same social and environmental issues as themselves. They respect

companies that donate money to charities and other initiatives, and they feel good about shopping or employing a company that is socially and environmentally conscious.³ Yet consider *shared* value. Donating money offers little benefit to a company besides perhaps, mild augmentation of consumer sentiment. In the credit card industry, donating to charities is a requisite for existence. It's the obvious answer to creating social and environmental change, yet unfortunately, the shared value is extremely indirect. So how could a credit card company like AMEX engage with progressive social and environmental causes while creating value that includes itself? Basically, what program could AMEX introduce to hit two birds with one stone? And why

stop at two? Why not three, a dozen, or hundreds?

The Solution

A credit card company (any card company could offer this solution, but I will use AMEX for my example) could address social issues, environmental issues, and shared value by offering cash back incentives that apply to a variety of companies with impactful business practices and missions. This allows AMEX to impact a plethora of meaningful causes by simply introducing them to the preexisting AMEX cash back program. The current cash back program aims at increasing general spending, but if AMEX offers cash back at stores or companies that are environmentally friendly or



...what program could AMEX introduce to hit two birds with one stone? And why stop at two? Why not three, a dozen, or hundreds?

beneficial to their communities, it can help very specific groups. These cards would create “conscious cash back” or spending with good intentions and would funnel spending toward places that deserve it. In order for this incentive to work, the percentage of cash back would have to be slightly higher for conscious spending, but even a half percent increase on cash back would be enough to say that conscious spending offers the best returns. This new program would also work for AMEX because it would stimulate conscious consumers to purchase AMEX cash back cards. Of course, AMEX would also profit on the interest payments these cards will rack up. And finally, consumers will also appreciate this card; as they are introduced to new markets, their spending habits are diverted toward solid products that AMEX has specifically endorsed.

The Deserving

After seeing this program’s potential, one comes to realize that the hardest part for AMEX would be choosing companies that are eligible for conscious cash back. In a world of stores, retailers, and companies that care (or at least say they care) about the environment and their communities, AMEX would need a discerning eye when creating a list of eligible companies. The revenue increase this program would bring listed companies necessitates a competitive process for eligibility. Due to companies’ predispositions, AMEX should have complete jurisdiction over every step of enrollment. Companies could either be selected or offer up their names to AMEX, but after that, the onus

would be on AMEX to physically go out to these companies, interview them, and validate their eligibility. Since AMEX has offices throughout the world, and documentation on companies’ business practices are usually quite extensive, this enrollment process would not be difficult for AMEX to facilitate.

The hardest part for AMEX would be deciding where to start. The companies it should choose in the beginning must not only champion the purpose of this shared value initiative, they must also be large enough to get the ball rolling for the initially unknown “conscious cash back” program. Sure, AMEX would air commercials to advertise these conscious cards, but actual everyday use and effectuation of the cards is a great advertisement in itself. In addition, enlisted companies would go out of their way to relay this information to their consumers since it offers an incentive to shop at their stores, and the only entity taking cash out of its pocket for the cash back is AMEX. This could be AMEX’s own form of negative cost marketing. TerraCycle founder and CEO, Tom Szaky, utilizes this marketing technique as it is free (some even pay to advertise for you) and it spreads like wildfire.⁴ The conscious cash back program is the kind of initiative that stores want you to hear about. They want you to buy more with this cash return in mind. However, it isn’t every company that is large enough and effective enough to help AMEX spread the word.

For the initial launch of the product, AMEX should target multiple industries and multiple companies within

them. In the food industry, AMEX could partner up with Panera Bread, a fast casual restaurant which abstains from GMOs and will eliminate all artificial additives by the end of 2016. Starbucks would also be a viable candidate as it campaigns against additives and high fructose corn syrup.⁵ Chipotle is eligible as it finishes eliminating GMOs from its ingredients within the year,⁶ and Tyson could be a huge partner in 2017 if it sticks to its promise of removing all GMOs from its chickens.⁷ In the fashion industry, AMEX can look to a clothier like H&M, which is phasing out all unsustainable and non-organic clothing material by 2020.⁸ Women’s clothier Eileen Fisher takes it a step further with its own 2020 plan as it not only aims to be 100 percent sustainable but also shoots for predominantly fair trade practices. The brand’s practice of fair trade offers, “Higher wages and investments in local communities – not business as usual.”⁹ Patagonia would also be a viable partner for the initial launch since the brand already has a renowned recyclables practice,¹⁰ and both AMEX and Patagonia would gain from the publicity generated by joining together.

These are only two industries of dozens that make up consumer purchases, and the companies mentioned only address a few of the hundreds of social and environmental problems this program has the potential to address. The conscious cash back program will start with larger companies like these, and once it has built a solid reputation, AMEX can expand into smaller businesses. The cash back incentive will give these smaller or growing businesses a better opportunity to succeed, and their enlistment alone will also draw in consumers.

The Details

Then come the numbers. Different goals and missions that companies set themselves would be rewarded with different percentages of cash back. Eileen Fisher could offer a higher cash back return than H&M’s organic clothing label because Eileen Fisher supports fair

trade on top of natural cotton. AMEX needs to offer premium cash back for the companies that excel. The breakdown of the percentage returned to cardholders for each company would rely on AMEX deciding how it will maximize its own revenue (through new card revenue and interest gained on incentivized purchases) and also benefit enlisted companies, while leaving consumers with enough surplus to continue shopping.

The Future

In order to have long term effects on environmentally and socially sustainable business practices, AMEX's program must also be sustainable. This concern is answered first, by noting that the conscious cash back program is designed to generate revenue. On top of this, the program is highly adaptable. The concept of a running list of endorsed companies gives AMEX control of who and how much it decides to help. As consumer concerns evolve over time, so can the list of conscious cash back companies.

Yet the program will thrive for another reason. The core of this program breaks down a paradigm: spending money should make you feel bad. The conscious cash back cards will make consumers feel good on two levels: one, they will get some of their money back when they shop consciously, and two, they will be helping to create a plethora of changes by purchasing the "right" products. Cashiers asking, "Would you like to receive conscious cash back?" or saying, "If you use your American Express card we can offer you a 5 percent cash return," isn't just about the stores or AMEX making money. These questions are asking the purchasers if they want to feel good about what and how they buy, and this core question will be answered with a resounding "Yes"—perhaps increasingly so—as time goes on.

But it's not just about cash coming back to consumers or having them feel good. After the cards are swiped, after the revenue's collected, after the returns are sent—it's important to remember

why a company would decide to pursue an ambitious social impact program. It goes beyond the cash AMEX makes by selling new cards and collecting interest. The companies that benefit are helping laborers receive fair pay, they are making sure animals are treated kindly, and they are striving to leave the world a better place than they found it. The missions of equality, charity, consumer health, and ecological consciousness that a credit card could help support are backed by employees who uphold them in their day to day lives. The woman who envisaged opening an all-natural pizza store can know AMEX will back her aspirations. The man giving youths with a criminal record a shot at making a living at his hardware store can know AMEX will back him. The progressives, the good Samaritans, the people that are making a difference could trust in an entity larger than themselves for support. The AMEX program isn't just about getting cash back. It's about moving cash forward. ■

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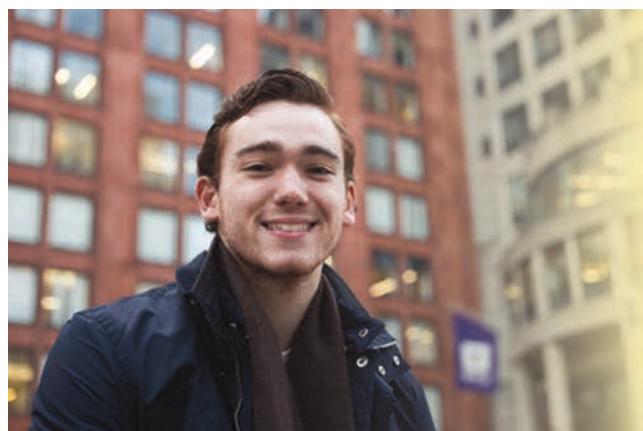
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ຄົວຄະຫຼາດ





CORPORATE SOCIAL ACTION AGAINST SEX TRAFFICKING

ESSAY BY MEGAN MCMILLON

In this passionate piece, author Megan McMillon advocates for victims of sex trafficking in Bangkok, Thailand and suggests a potential remedy to the thriving illicit sex industry there. Through corporate partnership, victim rehabilitation, and industrial opportunity, McMillon proposes a step-by-step fix for a global humanitarian issue.

HUMAN TRAFFICKING is defined by the Oxford Online Dictionary as “illegally transporting people... typically for the purposes of forced labour or commercial sexual exploitation.”¹ Millions of men, women and children fall victim to this heinous crime each year across the globe. Almost every country in the world is involved or affected in some way, yet Southeast Asia is known for its abundance of sex trafficking and its lack of government intervention. The victims of sex trafficking are, in most cases, vulnerable young girls and women manipulated and forced into the inhumane system.

Economically, the sex industry is much like any other industry because, unfortunately, a demand can be met with a high, reusable supply. Sex traffickers see these women and children as merchandise—simply goods and services—victims stripped of their humanity. This horrendous practice cripples the

for sexual purposes”⁴ and Cambodia is ranked fourteenth in the world for modern slavery; 22 percent of its victims fall into the category of sex trafficking.⁵

Southeast Asia not only perpetuates trafficking regionally but also serves as one of the largest providers of sex trafficking internationally. Southeast Asians were detected in nearly 64 percent of countries worldwide in the sex industry.⁶ These statistics serve to showcase the magnitude of the problem that exists and continues in Southeast Asia.

What makes this issue so difficult to address is that it is culturally ingrained throughout Southeast Asia and has become a mindset of the public. The people of this region have become so accustomed to trafficking that it is simply a part of day-to-day life. How can you change the mindset of an entire region? Sex trafficking is a form of modern slavery, even when historically, traditional slavery has been put to an end all across the world.

unreported, researchers estimate that nearly \$100 billion is made from sex trafficking each year. It is clear to see why so many individuals have taken advantage of this market and why many governments in this region “neglect to enact specific policies” to stop the issue and prevent its growth.⁸ Furthermore, corruption favors this practice as many police officers and government officials often partake in the services provided by the sex industry. They turn a blind eye to it or in some cases even protect brothels and traffickers.

Previous attempts to deal with the issue of sex trafficking often included rehabilitation of victims and raising awareness.⁹ These initiatives are necessary and should continue, but there could be more done to prevent the problem from the outset. While aiding the victims of sex trafficking is important, it is also important that there be preventative measures to combat sex trafficking and its vicious cycle. The best

“...researchers estimate that nearly \$100 billion is made off of sex trafficking each year.

potential of young women and children across the world and action should be taken to bring its practice to an end.

The practice is especially prevalent in Asian countries. Nearly two thirds of the sex trafficking industry exists in Asia—one third in Southeast Asia alone.² The sex trafficking that occurs in Southeast Asia exemplifies the range and variations that occur around the world. According to Michelle Kuo of the *Harvard International Review*, the sex industry “remains a hugely profitable and deeply entrenched enterprise” in Southeast Asia.³ Nearly “60 percent of tourists in Thailand visit solely

But what happens when the law fails to take the necessary action to enforce anti-human-trafficking-laws?

The problem exists largely at the local level, especially in the developing parts of Southeast Asia. There are many factors that contribute to the abundance of sex trafficking in this region, including years of conflict, poverty, gender inequality, lack of government intervention, and corruption – all reasons that sex trafficking became a “systematic strategy of economic development.”⁷

Though it is hard to exact numbers, as this industry is widely illegal and

solution includes three main parts: raise awareness through an ad campaign that encourages female empowerment and demands governmental change; educate and instill important skills in the victims so that they can find work elsewhere; and create an industry lucrative enough in this region so that the sex industry no longer has to exist.

Female empowerment is an important and necessary approach towards solving this issue. The first step toward change would require men’s recognition of the worth of a woman, including her virtue and humanity. Empowerment of women



and raising sex trafficking awareness is just the first part in a market-based course of action. However, sex trafficking obviously exists for economic reasons as well; as stated, there exists a high demand and an abundant, reusable supply. Further, economic means are hard to come by, especially for women and those residing in impoverished regions. An industry that can employ these victims of sex trafficking and potentially replace the sex industry would be ideal.

For obvious reasons the problem of sex trafficking across the world cannot be fixed all at once. Consequently, this proposed project should start in one country, Thailand: the country most known for its sex industry as a tourist attraction. This country serves as one of the primary transit hubs of victims of trafficking from all over the world, as well as having an abundance of internal trafficking itself. The U.S. Department of State ranked Thailand a Tier 3, the lowest tier in terms of the country's efforts to combat human trafficking.¹⁰ The Tier 3 ranking simply means that the government of Thailand does not fully comply with the minimum standards and is not making significant efforts to change.

Many business establishments in this country cater to the demand for commercial sex by covering it up or making arrangements with the men that control the industry. In recent years, the country has increased efforts to

prevent sex trafficking by prosecuting traffickers and by protecting victims. Yet still, corruption exists within the police force as well as within the government. The government has failed to decrease the demand for forced sex within the country.¹¹ Without creating other opportunities for victims and traffickers, the cycle will continue in this country as long as demand exists.

A proposed manufacturing project should target the city of Bangkok, the capital of Thailand, which is famous for its thriving sex tourism industry and inexpensive rents. Many vulnerable, uneducated women from impoverished villages find their way to Bangkok in hopes of finding better job opportunities. They're trying to make a better living and provide for their families, yet these women are often tricked and coerced into becoming victims of the sex industry.

At the same time, creating a project in Bangkok is relatively cheap. Many companies choose to manufacture in Thailand due to its accessibility. As a location, Bangkok presents the most opportunity to enact change on a large scale in just one location at a relatively inexpensive monetary cost. The city of Bangkok would be an ideal candidate for this new project: clothing manufacturing – and a company perfectly positioned to lead this initiative is *My Sister*.

My Sister's mission is to "create a world where all girls and women are empowered

to live free from a life of inequality and sex trafficking."¹² To make this mission a viable reality, the clothing company employs victims of sex trafficking in Nepal to make clothes, handmade jewelry, and beauty products. Along with the creation of job opportunities for victims, it also partners with non-profits and NGOs to raise awareness. Additionally, it donates 6 percent of its

profits to domestic and international organizations dedicated to the prevention, intervention and rehabilitation of victims of sex trafficking.¹³

My Sister believes that through "love, education and empowerment, we can all be a part of changing the future of the world and saving the lives of those trapped in modern day slavery."¹⁴ This mission statement is true and attainable if *My Sister* is provided with the platform and resources to change the world. Further, it may be able to take the initiative to not only to help victims, but also to prevent women and children from becoming victims of sex trafficking in the first place. The ultimate solution to fight sex trafficking would be to stop the problem before it starts. However, *My Sister* is a relatively small company that many individuals have not heard about; it does not have the means, the influence or the resources to enact change on a large scale.

For this reason, a larger company like Gap Inc. should take on this social business venture and partner with *My Sister* to make a change. Gap could market themselves to even more customers through a partnership. Companies that have enacted similar social responsibility initiatives, such as Patagonia who has taken on free trade products and recycling, have gained great success. Consumers want to buy from companies with a social responsibility they feel and



believe are creating a positive impact on society.¹⁵

Still, companies tend to shy away from the societal problems that are not clean-cut or glamorous. For example, breast cancer carried a social stigma for a period of time when it was considered a topic extremely personal and complex, but now that the issue has been taken on, breast cancer awareness – ‘fighting for a cure’ – is one of the most commonly advocated issues. All it will take is one large company giving sex trafficking the global recognition and awareness that it deserves. This proposed action can move the fight to end sex trafficking in the right direction.

Gaphas recently had trouble marketing its brand. Fast fashion companies such as H&M and Forever 21 have gained popularity and stolen Gap’s market share.¹⁶ From a marketing perspective, taking on social responsibility “can be an opportunity for businesses to strengthen their bottom line, do good for society, work to reverse some of the growing problems facing the world today, retain top talent, build an engaged Board of Directors and attract customers.”¹⁷ For these reasons, taking a very public stance on sex trafficking and investing in the issue could be very positive for Gap’s sales.

Gap is an ideal company for this issue because when Doris and Don Fisher opened the first store “they did so with a simple promise: to do more than sell clothes.”¹⁸ Gap already has an existing #DoMore campaign dedicated to issues such as opening the doors of opportunity, closing the pay wage gap, and promoting marriage equality. With the existing themes of equality, female empowerment and equal opportunity in its #DoMore campaign, what better issue for Gap to address than sex trafficking?¹⁹ As Gap is one of the largest and most successful global clothing companies, it would certainly have the financial resources to take on a project of this magnitude.

To initiate this project, Gap should borrow My Sister’s business model for implementation. My Sister presently works closely with non-profit partners

and NGOs participating in the most effective initiatives that are involved in the sex trafficking sector through “raising awareness, prevention, intervention, after-care, education, job skill training, and ending the demand.”²⁰ Also, a decent percentage of sales should be donated to primary non-profits partaking in the same efforts in order to bolster other organizations and work together toward a common end goal.

Presently, My Sister reinvests its income to grow the company, which in turn raises more funding to fight sex trafficking. Partnering with Gap would allow My Sister to grow tremendously. Together, the two companies, along with non-profit partners, can create even more job opportunities for sex trafficking victims in Bangkok. The partnership will also implement and fund education and training so women have a chance to earn money before they become ensnared by the sex trafficking system. Hopefully, if this business venture is successful, eventually My Sister and Gap will be able to expand into other cities across the world in order to enact social change on a global scale.

Once the clothing venture between My Sister and Gap is put in motion, the two companies should launch a vigorous ad campaign to be aired around the world. Many individuals are ignorant of the trafficking problem and of the extent to which it victimizes millions of women and children. Hopefully, as this issue is presented more often and openly to the public, the practice of purchasing sex will become detested across the globe and lead to a decrease in demand. Creating an ad campaign of this magnitude can give a voice to many women and children – many who no longer have a voice and are unable to fight for their own cause.

The government of Thailand is the greatest obstacle to this issue. Without the government’s compliance in enforcing laws with stricter prosecution, the problem will never fully end. From the corporate standpoint, there is not much that can be done other than to advocate for governmental change alongside

non-profits and NGOs. All that can be presently done is to continue to advocate and demand that the government increase preventative measures against the sex trafficking industry and become more active in identifying and prosecuting traffickers. By making the consequences of sex trafficking for traffickers and

customers more severe, the Thai government can help reduce the flow of business in the sex trade.

In summation, sex trafficking is a pressing, chronic social problem that exists across the globe and predominately in the Southeast Asia region. Ultimately, it will take a lot of time and resources for

the kind of change needed to put an end to sex trafficking. This multifaceted business plan, beginning in the sex trafficking capital of the world, Bangkok, is definitely a step in the right direction. It will raise global awareness, create job opportunities, and create an industry that can economically replace the sex industry. ■

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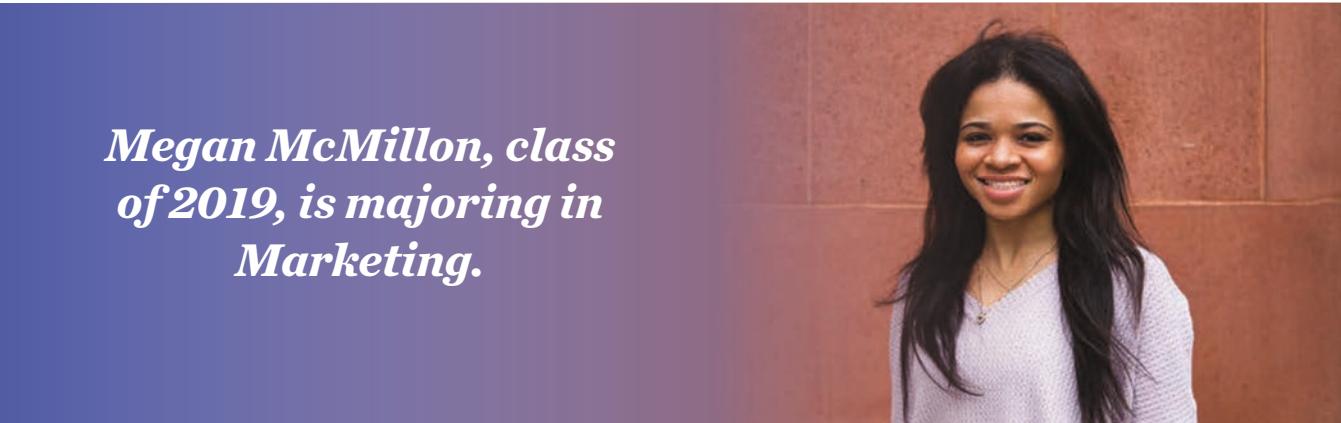
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■ Opening photo by flickr.com/drburtoni

■ Secondary photo courtesy of My Sister

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Who says death is a ‘natural’ process?
Most burials in the United States lead to environmental pollution and heavy soil contamination. Author Stella Park introduces an industry-wide, green solution to the pollution of the burial process.

THE COMPOSTING CASKET: **CLEANING THE EARTH AND YOUR CONSCIENCE**

ESSAY BY STELLA PARK



Poisoning the Environment through Burials

EVERY YEAR IN THE UNITED States, cemeteries bury approximately 30 million boards of hardwood, 2,700 tons of copper and bronze, and 104,272 tons of steel.¹ These burials result in an estimated 77,000 trees cut down annually to construct caskets, and some are made from endangered species such as mahogany and rosewood.² In order to meet the never-ending demand from the 2.4 million funerals held in the U.S. each year, manufacturers use these already limited resources to create more caskets.

Burying the casket inside the earth further amplifies the negative consequences on the environment. While wood is the most “natural” alternative, caskets made from chemically treated wood seep arsenic into the soil; metallic caskets emit equally harmful or worse toxins as they contaminate the land with lead and zinc.³ High levels of exposure to these chemicals may result in acute or chronic damage to an individual’s nervous system, impair the reproductive system, and harm the kidneys.⁴

In addition, cemeteries use 1.6 million tons of reinforced concrete to build burial vaults. The extensive use of concrete contributes to the production of 41 million metric tons of carbon dioxide the cement industry emits each year.⁵ The volume of natural resources that goes into building these luxurious caskets is alarming given that their purpose is to prevent a lifeless body from inevitably decomposing.

However, considering today’s population, the caskets used today are unsustainable. At present, there are 320 million people in the U.S., and at the current rate of deaths, casket burials will permanently deplete the amount of available land dedicated for cemeteries.⁶ Already, the country is experiencing a rapid decline in burial properties as costs dramatically increase every year. The former mayor of New York—Ed Koch—spent \$20,000 on just the burial plot in Manhattan, which he considered a “good investment.”⁷ The excessive consumption

of natural resources and emission of toxins into the earth cannot continue as it will ultimately destroy the environment.

Seeking a Greener Alternative

There have been efforts to reduce the amount of waste that goes into building and using caskets. One of the most popular methods is cremation. According to the *Wall Street Journal*, the use of cremation has been increasing about one percent per year in America. In 2014, 45.4 percent of Americans opted for cremations and the National Funeral Directors Association projects that the numbers for cremations will increase to 71 percent by 2030.¹⁰ This method also offers Americans a cheaper alternative. While a traditional casket costs on average \$7,200, the average cremation fee costs about \$1,400.¹¹ This “greener” substitute not only reduces expenses for the consumer, but also eliminates the need to insert artificial, metallic or wooden, toxins back into the soil.

However, while cremations do appear to be a “better” solution than using caskets, the results inflict just as harmful effects on the environment, primarily the atmosphere. Cremating bodies burns fossil fuels, which in return releases about 250 pounds of carbon dioxide per body into the air—equivalent to a car’s emission after travelling 500 miles.¹² Bodies also contain dental fillings that release mercury when burned, further intensifying airborne toxic emissions that have the potential to damage the central nervous system and cause congenital malformation.¹³ Thus, the effects suggest that cremations still do not offer a “greener” option.

Consequently, an increasing number of people pursue different ways to reduce the amount of negative externalities from a seemingly inevitable social issue. As a result, interest in “green burials” has been increasing. A minimalistic approach to death, green burials “shun chemical preservatives, traditional heavy metal and wood caskets,” and do not allow the use of concrete burial vaults.¹⁴ They take shape in all different forms, ranging



from a simple biodegradable shroud to a bamboo casket.

For the Green Burial Council to approve of a green burial, they require the use of non-toxic and biodegradable materials for caskets, shrouds, and urns. This greener option has been rising in popularity for its innovative ideas and inexpensive prices, costing sometimes as little as \$500 for a shroud.¹⁵ According to a January 2015 survey by the Green

the market in an economically valuable and socially conscious way.

Becoming One with the Land

Introducing the eco-friendly, “composting casket.” While a traditional casket attempts to preserve the dead body for as long as possible, the composting casket seeks to achieve the complete opposite. Much like the popular practice of composting that gardeners use to fertilize

the annual use of 4.3 million gallons of formaldehyde, a highly cancerous fluid.¹⁷

The composting casket is made from a combination of shredded cardboard, newspaper, wood chips, and mushrooms—all necessary ingredients that already contribute to the organic process of composting. These natural resources also fulfill the requirements upheld by the Green Burial Council, qualifying the composting casket as a form of green

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Cremating bodies burns fossil fuels, which in return releases about 250 pounds of carbon dioxide per body into the air—equivalent to a car’s emission after travelling 500 miles.

Burial Council, demand for green burials has increased by 72.4 percent for the 70 cemeteries that started to offer these environmentally friendly options.¹⁶ These alternatives definitely provide consumers a way to return to the earth in a more natural way. Unfortunately, only a handful of states offer green burials, emphasizing the need to create a casket that appeals to both the consumers and

their lawns, these caskets will break down the bodies in an environmentally safe and healthy way. The composting casket also eliminates the need to use embalming fluid—a method of preservation started during the Civil War—because the entire goal is to break down the body and return the nutrients to the soil as fast as possible. Thus, these caskets will help promote the environment’s health as they eradicate

burial.

Some might argue that while cardboard and wood chips seem more natural to the earth, newspapers contain ink that might harm the soil. However, according to the *Chicago Tribune*, misconceptions about the toxicity of ink date back decades, when printers used lead type. In fact, most ink used today, such as the carbon black in black ink,





are organic and derived from soybean or linseed oil.¹⁸ Newspapers do not pose a threat when decomposing and most are recycled anyway which continues the theme of natural decomposition. Together, the organic qualities among all four resources collaborate to form a balanced relationship that helps decompose the body in an efficient way.

Breaking Down the Process

Contrary to the negative externalities caused by cremation or the traditional burying of caskets, using a casket made from cardboard, newspapers, woodchips, and mushrooms creates a cyclical and natural relationship between the body and the earth. According to *The New York Times*, human beings can be composted by combining carbon-rich resources (newspaper, cardboard, and wood chips) with nitrogen-rich bodies to eventually start the decomposition process.¹⁹

As the carbon-rich casket reacts with the body, the mushrooms that line the casket also play a significant role. According to the Center for Disease Control, the human body contains 219 different toxic chemicals, including tobacco, pesticides, and heavy metals.²⁰ Mushrooms, however, have the ability to biologically eliminate pollutants through a process called “mycoremediation.” By possessing certain enzymes, mushrooms biodegrade and recycle pollutants back to its mineral compounds, rendering

them non-toxic. Also, by another process of “biosorption,” mushrooms remove pollutants and metals in dead biomass found in the environment.²¹ Thus, mushrooms inside the composting casket will eliminate the chemicals located in the bodies and encourage the decomposition process.

After the mushrooms purify the corpse, the body breaks down inside the casket to release nutrients back into the soil. Unlike cremations or traditional heavy metal caskets, which disperse toxins into the air or trap the body inside a steel cage, the composting casket helps foster the nutritional cycle. The decomposing body alters the chemistry of the soil through a process of purging: it releases nutrients into the land and encourages maggot migration to transfer the body's energy to the entire environment. The process then develops a “cadaver decomposition island,” virtually forming a highly concentrated area of organically rich soil, which has been found to be greater than any other nearby areas.²² Therefore, combining such carbon-rich materials with the body encourages a relationship of “giving back” to the earth. The cycle repeats, creating a sustainable source of land for cemeteries.

Partnering up with Death

Batesville Casket Company is the perfect corporation to adopt the “composting casket” to sell in its line of

burial options. As the country’s largest casket manufacturer, Batesville Casket Company controls 40 percent market share of the \$1.5 billion industry.²³ With the amount of influence Batesville has over the casket and funeral home industry, choosing to sell these “composting caskets” will have a major impact on how manufacturers build future caskets, as well as increase the casket corporation’s stagnant profits.

Sales of caskets have been declining for years as more people choose cremation for financial and environmental convenience. In fact, annual sales for caskets in the U.S. peaked at \$1.9 million in 2000, and have steadily decreased to \$1.74 million in 2008 and to \$1.69 million sales by 2009.²⁴ By introducing a newer, greener option into its line of caskets, Batesville has the chance to dramatically increase its plateaued profits because not only is the composting casket environmentally friendly but also cost-effective. As a result, the partnership between Batesville Casket Company and the composting caskets will create “shared value”—generating economic value in a way that also produces value for society by addressing its challenges.²⁵

Compared to manufacturing a steel lined box with a chemically treated wood frame, a casket made out of shredded newspapers, cardboard, woodchips, and mushrooms will cut costs considerably. The country already has an

overabundance of the materials needed to build the composting caskets, allowing the corporation to continue selling their caskets for a high profit margin, while also decreasing costs for the consumers.

The U.S. only recycles approximately 67 percent of its 24 billion published newspapers.²⁶ This means that about 33 percent of newspapers are not recycled, which Batesville can utilize to produce caskets. The country recycles corrugated cardboard at a higher rate of 89 percent, highlighting the fact that the company has easily accessible resources ready for manufacturing. Much like the “undertakers” who discovered the untapped market for caskets during the Civil War, Batesville can similarly enter the “green burial” market and reveal the potential behind the use of composting caskets. By taking initiative, the company has the ability to completely transform the industry.

Looking Forward to Results

Paradoxically, the cost-effectiveness of composting caskets may pose a possible threat to Batesville’s profits. The company might not immediately experience huge profits because in comparison to the thousands of dollars the company charges for its 20-gauge steel or maple wood caskets, the mixture of shredded cardboard, newspapers, woodchips, and mushrooms simply cannot be sold at the same price.

However, while there might not be signs of immediate profits, Batesville’s target audience over the next few years will significantly expand, which will certainly increase its profits. According to *The New York Times*, the casket industry will have a larger market to cater to due to the millions of baby boomers who are predicted to die by 2040. The baby boomer generation is beginning to be more self-aware of the impact they have had on the environment and is seeking newer ways to depart from their lives in an eco-friendly way. After all, those “entering accelerated mortality...grew up with the first Earth Day” and are starting to pursue something more meaningful.²⁷

Batesville Casket Company technically does not even have to wait until the baby boomers begin to pass because the majority of Americans, baby boomers or not, start to plan out their funerals beforehand. According to the American Association of Retired People, “among the 20 million individuals who have prepaid for funerals or burials, 53 percent paid the entire cost, while an additional 44 percent paid in installments over time.”²⁸ With millions of people already planning their funerals, Batesville will experience rising profits in the short and long-term.

The company will not struggle to find a specific market to promote its new caskets since more Americans demand greener alternatives. A 2015 survey by the Funeral and Memorial Information Council found

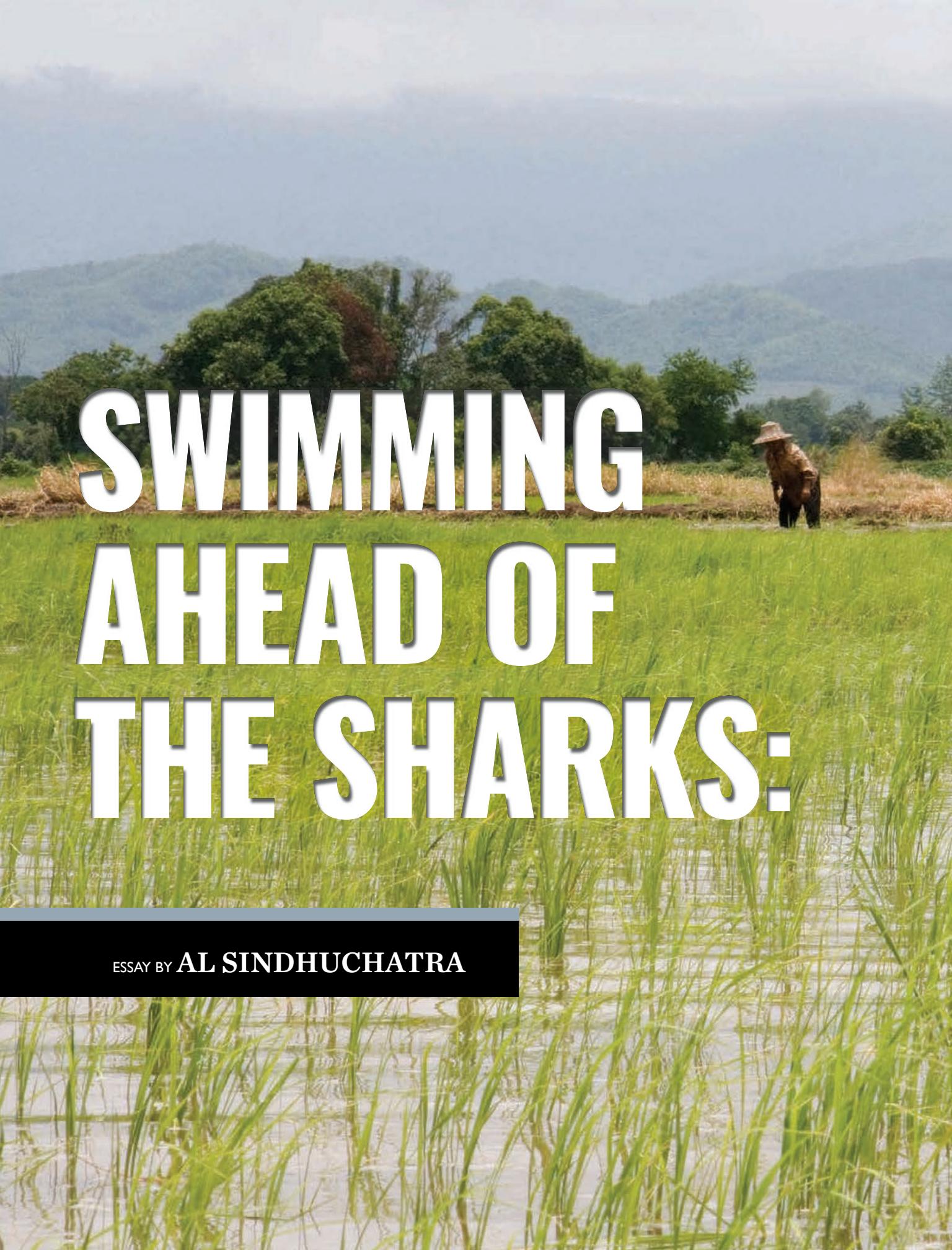
that 64 percent of respondents indicated an interest in green funerals, an increase from the 43 percent in 2010.²⁹ These growing interests in green funerals are only going to increase, urging Batesville to adopt the composting caskets. Because the new alternative offers not only an environmentally, but also financially conscious method of burials, it appeals to a significant portion of Americans who choose cremations. Out of those who choose cremations, 33 percent said cost was a primary factor, which further expands the company’s target audience.³⁰ Therefore, Batesville will eventually generate economic value by also increasing social value, ultimately forming shared value that benefits all parties involved.

Using caskets for traditional burials is not sustainable for the environment even in present day, much less in the near future. Eventually, everyone dies, which emphasizes the inevitability of this issue. Fortunately, the composting casket establishes a balanced relationship—a “give and take”—with the earth, which will limit toxic effects, whether they are from burials or cremations. But only through the partnership with Batesville can the possibility of a healthy environment become a reality. ■



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A photograph of a rural landscape. In the foreground, there's a field of green rice plants growing in water. A person wearing a wide-brimmed hat and dark clothing is bent over, working in the field. In the background, there are several green hills or mountains under a hazy sky.

SWIMMING AHEAD OF THE SHARKS:

ESSAY BY AL SINDHUCHATRA

A photograph of a farmer from behind, wearing a large, light-colored conical hat and dark clothing. The farmer is bent over, working in a lush green rice paddy. In the background, there are more rice fields, some trees, and misty mountains under a clear sky.

SAVING ISAN FARMERS FROM PREDATORY LENDING

Author Al Sindhuchatra reveals how big corporations in Thailand have an opportunity to establish an exemplary microfinancing infrastructure. Sindhuchatra further explains how this corporate action can help rural farmers access credit more easily to end the loan shark epidemic in the Isan region of the country.



JUNTEE PHONONGNA WAS A farmer who resided in the Sri Saket province of Isan, the northeast region of Thailand. She had a 13-acre farm where she had been harvesting rice for the majority of her life. In 1993, she approached a predatory lender, seeking a quick loan of 30,000 baht to buy fertilizers and seeds required for the next harvesting season. After giving the loan shark the deed to her 13 acres of farmland and making a verbal agreement, she received the much needed cash with a monthly interest of 5 percent.

Over the years, Phonongna was able to consistently pay back portions of her loan. In 2001, she decided to pay back the whole

amount, but received notice that she was still 130,000 baht in debt. Phonongna attempted to negotiate and paid the lender 70,000 baht, hoping that her loans would be settled. However, in 2014 she was approached by the police and was asked to move out of her farmland as the lender sold the land.¹

Phonongna's story is just one case of a massive predatory lending issue that still affects Thais across the country. Statistics from the World Bank suggest that out of the 50.3 percent of people who borrowed money in Thailand, only 15 percent borrowed from commercial banks.² This significant discrepancy means that the majority of Thais still rely on informal sources of capital. A large part of that

capital comes from predatory lenders, otherwise known as loan sharks.

Today, loan sharks operate an estimated \$3 billion underground lending business that is notorious for its absurd interest rates and brutal loan collection processes.³ Loan sharks can charge interest rates of 5 percent a month or more, quickly transforming small loans into large debts, as in Phonongna's case. With such high rates, victims of these loans often default. However, if an individual fails to make a payment, loan sharks take their collateral and deliver horrific penalties involving property damage, assault, and murder.

Because of its simplicity and accessibility, predatory lending is very

attractive to Thai farmers. The farmers in Thailand's northeastern region, Isan, especially find loan sharks practical because of the inconvenience of utilizing proper financial institutions. Today, approximately 7.7 million farmers reside in Thailand,⁴ and most operate in Isan where half of the country's rice fields are located.⁵

Unfortunately, this part of the country is also the most underdeveloped. This is largely due to the population's lack of education and the region's over-reliance on agriculture as an income source. Isan has a regional GDP per capita of only 74,532 baht while Thailand has a GDP per capita of 193,394 baht.⁶ Thus, with the

To aid these farmers at risk of becoming prey to loan sharks, the government launched various programs to help farmers repay their loans and avoid confrontation. One attempted solution was the "Village and Urban Revolving Fund" implemented by Thailand's populist ex-prime minister Thaksin Shinawatra. In this scheme, the government allocated 1 million baht to each major village in a microfinancing program that aimed to increase the outreach of formal credit. From these funds, individuals could take out personal loans of up to 20,000 baht (\$656 US) without collateral.⁷ Unfortunately, these village funds could not satisfy the capital

convenient loans to farmers. A hint at the solution can be found in the Philippines, where a company called BPI Globe BanKO is providing a mobile, microfinance service for Philippine's poorest citizens.

BanKO is "Philippine's first mobile-based, microfinance-focused savings bank."⁹ The bank is a partnership between the Bank of the Philippines Island, Philippine's third largest bank by revenue (BPI), Philippine's second largest mobile network operator (MNO), and BPI Globe BanKO. With Globe's existing mobile banking infrastructure called "G-Cash" and BPI's capital, BanKO was able to establish itself as Philippine's leading mobile banking service. It had more than



...if an individual fails to make a payment, loan sharks take their collateral and deliver horrific penalties involving property damage, assault, and murder.

lack of business occurring in the region, Isan has yet to develop a solid financial infrastructure that covers the entire region. Many farmers consequently do not have access to bank branches and need to rely on loan sharks as their source of capital.

Moreover, the inconvenience of obtaining commercial loans dissuades many farmers from getting formal loans. Securing formal loans requires farmers to visit the bank several times to read and sign paperwork and then wait approximately 3-4 weeks for the bank's approval. The inaccessibility and inconvenience of a regular bank loan makes Isan farmers vulnerable to loan sharks. This explains why Isan has the highest number of loan shark victims than in any other region.

needs of even a small sized farm due to the \$656 US cap. In addition, research found that for every dollar put into the fund, Thai households borrowed and consumed a ratio of more than one to one, further worsening the region's debt.

A more recent program launched by Thailand's military junta offers \$345 million in loans of which farmers can borrow up to 100,000 baht to pay back their unsecured debt. From there, farmers can repay the government over a course of 10 years at an annual rate of 12 percent.⁸ Despite the fact that the program has the potential to limit the damage of predatory loans, it is not sustainable in the long-term due to government budget constraints.

With the government failing to come up with a sustainable plan of action, the issue calls for an alternative private sector solution that can provide fast and

2,000 agents across the country allowing customers to receive microloans and deposit money.

Currently, BanKO offers a product called NegesyoKO a multipurpose business microloan for micro-entrepreneurs. NegesyoKO loan amounts can range from \$673 to \$6,730 with an interest rate of 2 percent a month (26.9 percent a year).¹⁰ What makes NegesyoKO and other BanKO loans unique is that BanKO operates these loans through agents that can be located in grocery stores, convenient stores, and post offices – locations that are more widespread than bank branches. At these agents, people can sign up for loans and deposit into their accounts.

After the bank approves the loan, individuals can view their paperwork and sign their promissory note through



their basic mobile devices. The bank then disburses the funds into their mobile accounts, and customers can repay their loans through mobile transactions. This increased outreach through a widespread agent network makes it easier for Filipinos located outside the close proximity of banks to obtain formal credit. The mobile transactions further simplify the repayment process after an individual receives the loan. Additionally, BanKO can approve NegesyoKO within a week – in contrast to a month for regular commercial banks – making it more attractive to small businesses that need cash quickly.

With the unique nature of BanKO’s system and the characteristics of NegesyoKO loans, I believe that a similar system implemented exclusively for Isan farmers can deter the growers from approaching loan sharks. Since BanKO’s system provides the advantages that one seeks from loan sharks – simplicity and accessibility – the system can act as a substitute to the predatory lending in the region. BanKO’s system also grants lower interest rates than loan sharks. Furthermore, by handling all paperwork, loan disbursement, and loan repayment on mobile devices, BanKO loans are more convenient than regular bank loans since there only has to be one face-to-face meeting when applying

for the loans. Farmers also receive their money through their devices in as little as one week, meaning that they no longer have to endure the long due diligence of a commercial bank approval. While BanKO’s system and loan sharks both solve the lending issue, BanKO provides an interest rate less than one half that of a loan shark’s rate, thus offering a logical replacement to the status quo.

A partnership between DTAC and Kasikorn Bank (KBank) can provide a similar service to Isan farmers as well. Currently, DTAC is Thailand’s number two mobile network operator with a 31 percent market share while KBank is the fourth largest bank in Thailand by revenue.¹¹ What makes the partnership between these two giants unique is that they have already co-developed and now operate an awarding winning mobile banking service with 700,000 subscribers transacting up to 4 billion baht a month through their ATM SIM cards.¹² With this infrastructure, there is no need to incur the cost required to implement a brand new m-banking system.

DTAC is also currently embarking on a “Smart Farmer” platform which is already aiming to provide information and online payment systems to help small farmers. As a result, DTAC has established itself as the leading MNO provider in the agrarian sector. Thus, the existing mobile

banking infrastructure combined with the DTAC’s presence in the farm industry demonstrates that they have the network, the resources, and the experience required to adapt BanKO’s model to specifically help the Isan farmers.

There are several steps that the two companies must take in order to implement BanKO’s system. The first step is to expand their existing infrastructure to handle the potential increase in cash-flow through the network. Then, the companies need to partner with convenience stores, gas stations, and post offices in Isan that can operate as agents to aid with the loan process. Since the availability of agents is crucial for the success of the program, the companies will have to target big names in the region, such as 7-Eleven and Tesco Express, and convince them to take part in the program. They can do this by offering incentives for every new account opened and offering minor cash-in, cash-out transaction fees. With the infrastructure and the agents in place, the company can distribute the mobile banking SIM cards exclusively to farmers seeking commercial loans. Farmers who receive their SIM cards can now conveniently apply for commercial loans with a similar structure to NegsyoKO.

In addition to saving farmers from loan sharks, a successful venture by DTAC

and KBank can also prove to be beneficial for each company's prospective profits. By having agents at various stores in Isan, the companies can increase their brand recognition in the region as each agent would present the company trademark to signify agent status. Additionally, KBank can now profit from the interest rates of the greatly expanded consumer base. Although microloans are high risk loans and small by nature, the higher interest rates should generate a decent return on investment for KBank. Moreover, customers who may be ready to transition out of microloans to traditional business loans in the future would also be more likely to use KBank as their source of

borrowing. Meanwhile, people who desire to use the service may need to switch from competing MNOs to DTAC. This means that DTAC will obtain new customers who not only will be using its mobile banking service, but also will be making calls on its network.

In sum, the solution of this long-standing problem seems to rest on the shoulders of two corporate giants who are in the best position to facilitate change. This proposal for a partnership to create a microfinance-focused mobile bank in Isan will create shared value for both the farmers and the corporations. Isan farmers do not have to suffer through the consequences of what they thought

was simply quick, fast cash. At the same time, DTAC and KBank, stand to profit by providing farmers with more accessible means of credit. In the end, the solution demonstrates the power of corporations to create sustainable solutions, blurring the lines between creating financial gains and practicing corporate social responsibility. ■

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■ *Opening photo by flickr.com/siebe*

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Due to the failure of GMOs, chemical pesticides
are once again on the rise – and still destroying
our environment. Author Patricia Nicolas-Nader
sees hope in two companies at the forefront of a
biopesticide innovation.



BIOPESTICIDES: A NATURAL SOLUTION TO PEST MANAGEMENT

ESSAY BY **PATRICIA NICOLAS-NADER**

GENETICALLY MODIFIED organisms, or GMOs, are organisms whose genetic material has been artificially manipulated through genetic engineering.¹ GMOs have become widely used since the technology was introduced in the 1980s, especially in crops such as cotton, soy, canola and corn.² Despite their unknown consequences, farmers use genetically modified seeds because they are pest resistant and allow for higher crop yields.³ The two main traits that have been introduced through genetic modification are herbicide-tolerance and pesticide-production. Crops that are herbicide-tolerant enable farmers to use herbicides such as Roundup to kill weeds without harming the crop itself. Crops that produce their own pesticides have been genetically modified using genes from a bacterium called *Bacillus thuringiensis*. These crops, known as Bt crops, are toxic to insects and thus allow for pest control.⁴

In the United States alone, 80 percent of processed foods contain GMOs, and this number continues to grow as farmers have become dependent on them. Although GMO proponents argue that GMO use reduces the need for pesticide use, nature has responded with “super weeds” that are resistant to pesticides such as Roundup, the most widely used weed killer.⁵ Super weeds have led farmers to increase their use of pesticides and herbicides, disproving the claim that GMOs reduce pesticide use. In the U.S., over 60 million acres of farmland are infested with these super weeds, and as a result, pesticide use has increased by over 500 million pounds in the past fifteen years.⁶ Although GMO use was intended to reduce chemicals in farming, the exact opposite has occurred as farmers now utilize a greater amount of stronger herbicides to fight the super weeds.

Monsanto is largely responsible for the spread of GMOs through its two main products: Roundup and Roundup Ready crops. Roundup is an herbicide that uses a chemical called glyphosate to help

farmers eliminate weeds without affecting their crops directly.⁷ After introducing the popular herbicide, Monsanto went on to introduce a Roundup resistant crop, known as Roundup Ready crops. These crops now make up nearly 90 percent of soybeans and around 70 percent of corn and cotton in the U.S.⁸ While farmers initially utilized Monsanto’s products to cut costs, herbicide-resistant weeds are forcing farmers to turn to more expensive methods and are “taking [them] into a more pesticide-dependent agriculture... when [they] need to be going in the opposite direction.”⁹

Monsanto, as one of the four main biotech seed companies controlling over half of the world’s seed supply, has monopoly power which it has arguably over-exerted. As if the seed giant did not have enough money, Monsanto has filed

lawsuits and unintentionally infringe on these patents.

In a world with a growing population and a growing demand for food, farmers want to ensure high yields. Pests are responsible for about a 40 percent reduction in the world’s crop yields, a statistic that could be justified by the use of GMO seeds. Although initially pesticides such as Roundup seemed like the perfect solution for farmers to increase yields and protect their crops, these chemical pesticides have caused damage to the environment, pest resistance, and lethal effects on non-target organisms.¹⁰ Synthetic pesticides have caused damage estimated at about \$8 billion per year.¹¹ For this reason, it is imperative to find an alternative solution that eliminates pests in a manner that is more environmentally-friendly.



Although...GMO use reduces the need for pesticide use, nature has responded with “super weeds” that are resistant to pesticides

around 150 lawsuits against farmers. Monsanto’s products are patented, ensuring that farmers must repurchase seeds and cannot save and replant them. When Monsanto’s investigators find that farmers have infringed on the patents, they often go on to sue the farmer and in winning the cases, farmers are forced back into a cycle of purchasing Monsanto’s GM seeds. Due to cross-contamination, even those attempting to stick to organic farming are often victims of Monsanto’s

Biopesticides, or pesticides derived from natural materials such as bacteria, plants, animals, and minerals, are a better alternative to synthetic pesticides.¹² These naturally occurring substances are healthier for the environment and even more efficient than chemical pesticides.¹³ According to the Environmental Protection Agency (EPA), there are three types of biopesticides: microbial pesticides, biochemical pesticides, and plant-incorporated

protectants. Microbial pesticides refer to organisms such as bacteria and fungi while biochemical pesticides refer to naturally occurring chemicals such as plant extracts.¹⁴ Plant-incorporated protectants (PIPs) are plants that have had genes inserted to produce pesticides inside their own tissues.¹⁵ The most common example of PIPs are Bt crops, which have had *Bacillus thuringiensis* inserted into them in order to produce their own pesticides. As PIPs are generally considered genetically modified crops, farmers should instead turn to natural pesticides such as biofungicides, bioherbicides, and bioinsecticides.¹⁶

Although biopesticides are safer and even more efficient than conventional pesticides, they make up less than 4 percent of the global pesticide market. There are only 202 biopesticides registered in the U.S. and 1,400 in the world. The advantages of biopesticides as a replacement for conventional pesticides are that they are biodegradable, less harmful to the environment, and can be designed to affect only target pests, minimizing externalities.¹⁷ Additionally, compared to chemical pesticides, biopesticides are less toxic and less likely to have resistance issues.¹⁸

Even though biopesticides make up a very small share of the global market, the market for biopesticides is growing at approximately 10 percent per year.¹⁹ As the demand for chemical-free products and organic farming increases, biopesticides will gradually replace chemical pesticides.²⁰ With increased awareness of environmental protection, biopesticides are becoming more imperative in the agricultural industry.²¹ In recent years, chemical pesticide production declined by 2 percent per year, while biopesticide output increased at the annual rate of 20 percent.²²

If biopesticides are so much better than chemical pesticides, why have they not replaced them? The main barriers that impede biopesticide adoption on a large scale are: 1) a highly competitive market, 2) risk-aversion from farmers, and 3) perceived lack of efficiency of the

products.²³ According to the research of Samuel Gan-Mor and Graham Matthews, published in the journal *Biosystems Engineering*, the reasons that people are not using biopesticides are: 1) high prices, 2) doubt of their efficacy, 3) lack of information about how to use them, and 4) uncertainty about what products to purchase.²⁴ Biopesticides are a relatively new technology that may not appeal to farmers as much as the already known, nearly 50 year old chemical pesticides. Although the selectivity of biopesticides make them attractive from an environmental standpoint, this can be a challenge from an economic perspective.²⁵ In addition, farmers need to be educated before using biopesticides and many will not agree to this unless they perceive a return on their time investment.²⁶

Although biopesticides are unquestionably better for the health of the environment, they have shortcomings. Biopesticides are slow acting and not as efficient as chemical pesticides in controlling the sudden outbreak of disease, as they are host-specific with delayed effects. It is important to recognize these limitations if we want to make a smooth transition to the new technology. Farmers must be educated about the trade-offs of using biopesticides; although eliminating pests is a slower process, it is healthier and more efficient in the long-run.²⁷ They have long persisting effects and can ensure permanent control of pests.²⁸ One of the main problems encountered in the development of biopesticides, especially entomopathogenic organisms such as fungi, is that they desiccate when exposed to ultraviolet light.²⁹ However, a New Mexico-based startup, EcoPesticides, may have found the solution to this issue.

EcoPesticides International Inc. was created in 2012 by Ravi Durvasula and Adam Forshaw at the University of New Mexico. The company launched in 2013 under the New Mexico Start-Up Factory with the assistance of New Mexico Angels, a group of angel investors dedicated to investing in early-stage startups.

The company is addressing the issue of biopesticide sensitivity to ultraviolet light through microencapsulation technology. This technology increases the viability and performance of biopesticides by preventing their desiccation when exposed to UV light. The encapsulation, created by a biopolymer coating, protects microbes such as fungi from degrading before the pests ingest them.³⁰ The company creates shared value as it does not harm people, animals, beneficial insects, or the environment. In addition, the technology provides a sustainable model to global agribusiness, by feeding the world and simultaneously protecting the environment.³¹

According to Adam Forshaw, the company's chief technical officer, "the biggest problem with the bio-pesticide solution is that when you spray them into the environment, they are rapidly inactivated by ultraviolet light and by desiccation."³² EcoPesticide's technology provides better protection for biopesticides such as fungi by "preserving potency and substantially increasing lethality."³³ The company's CEO recognizes the need in the market for an alternative to chemical pesticides and focuses on facilitating the widespread use of microbial pesticides.³⁴ The company's vision is to "support rapid global adoption of biologic-based crop protection through the development of technologies to extend the potency, effectiveness, and commercial viability of environmentally friendly biopesticides."³⁵ Currently, the company has raised \$400,000 in Series A funding and is actively seeking strategic partners from agribusiness companies, governments, and investors. EcoPesticides recently signed a Cooperative Research and Development Agreement with the United States Department of Agriculture and has started field testing in Africa.³⁶

A strategic partner for EcoPesticides would be Marrone Bio Innovations, a company dedicated to finding bio-based solutions for pest management. Founded in 2006 and based in Davis, California, Marrone Bio Innovations has raised almost \$40 million dollars in funding.

The company develops natural products for controlling insects, weeds, nematodes, and plant diseases.³⁷ Marrone Bio Innovations' products are used around the globe and help customers operate more sustainably with higher productivity. The company is committed to expanding the use of biopesticides not only through its products, but also through education. Marrone Bio Innovations has an entire



section of its website dedicated to information about biopesticides, from their benefits and barriers to information about how to use them. In addition, Marrone Bio Innovations provides an online course on how to effectively use biopesticides for pest management. The company understands that "in order for growers, applicators and pest control advisors to recognize the full potential of biopesticides, education is critical to ensure their proper use."³⁸

Marrone Bio Innovations is constantly seeking pest management characteristics in different microorganisms found in soil and other natural samples. Because

the company has so much capital in the corporate world, it is able to perform lab and field testing and product formulation in three years at a cost of approximately \$3 million. This product development is much more efficient than conventional pesticides, which often take over a decade at a much higher cost. Just like EcoPesticides, Marrone Bio Innovations acknowledges the market potential for biopesticides, mainly created by customers' demand for natural products. The company has a variety of biopesticide products under development, including herbicides and insecticides. A partnership between Marrone Bio Innovations and EcoPesticides would be mutually beneficial and would advance the goals of both companies.

EcoPesticides would benefit from partnering with Marrone Bio Innovations because it would allow the company to scale its encapsulation technology. Marrone Bio Innovations has almost ten times more funding than EcoPesticides, and thus can afford to carry out extensive research in the field. Marrone Bio Innovations is a leading global provider of natural pest management products and has over thirty patents pending globally. In addition, EcoPesticides could seek ways to expand its products since Marrone Bio Innovations has a variety of biopesticides, including algaecides and molluscicide.³⁹ Currently, EcoPesticides' product is mainly used on fungi and other bacteria to attack pests like grasshoppers and locusts.⁴⁰

Partnering with Marrone Bio Innovations would allow EcoPesticides to try implanting its products on other microbes and provide biopesticide protection from elements other than light exposure. Other elements that affect the viability of biopesticides are humidity, which EcoPesticides can try to solve with resources provided by Marrone Bio Innovations, as it has stated that an ideal strategic partner would be an agribusiness company with a current position in biologic pesticides and herbicides.⁴¹

Marrone Bio Innovations would benefit from the partnership because

it would facilitate expansion. Working with EcoPesticides' licensed technology can improve the viability of Marrone Bio Innovations' biopesticide products. Marrone Bio Innovations could work with EcoPesticides to improve the efficacy of its products. Marrone Bio Innovations is one of the leading biopesticide companies and EcoPesticides is developing new technology that will benefit the industry. If Marrone Bio Innovations were to strategically partner with EcoPesticides, it could expand and continue to innovate this new technology.

Biopesticides offer an alternative solution to pest management that is healthier and more effective than conventional pesticides. Farmers need to be educated on the benefits of using biopesticides in order to eliminate risk aversion. Marrone Bio Innovations is facilitating this process by educating customers about biopesticides. Farmers need to understand the trade-offs of utilizing biopesticides: that although their effects are delayed, they are healthier and more efficient in the long run by providing permanent pest control. Biopesticides are still not widely used because they often degrade when exposed to UV light and humidity. EcoPesticides is addressing this issue and could benefit from partnering with a larger agribusiness company like Marrone Bio Innovations. Together, these two companies can work to scale biopesticides and eventually replace chemical pesticides. ■

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- *Opening photo by unsplash.com/michaelpodger*
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 - *Tertiary photo courtesy of Herb Pilcher*



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ESSAY BY **ADAM L. PATING**

Mental health, strategic marketing, and lingerie all combine in Adam L. Pating's call for action. He feels that, as society welcomes positive body image, inclusive marketing may be the next logical step for Victoria's Secret.



VICTORIA'S TRUE SECRET

MENTAL HEALTH issues such as anxiety, depression, and eating disorders pose a major threat to society. In extreme cases, these issues can often lead to suicide, taking not only an emotional toll, but a financial one as well. According to the Centers for Disease Control and Prevention, each incident costs an average of \$1,164,499 in combined medical expenses and work loss.¹ Sadly, of the people that chose to commit suicide, an overwhelming 90 percent were diagnosed with a potentially treatable mental illness.² The most prevalent mental illness, depression, has become increasingly tied with negative body image, especially among females, and has contributed to a nearly doubled attempted suicide rate compared to males

(8.1 percent for females versus 4.6 percent for males in 2009).³ It is very clear that action must be taken to address mental health – to mitigate unnecessary costs to society and more importantly, unnecessary loss of life.

One survey of 9,667 women found a strong, positive correlation between their appreciation of their own bodies and their happiness.⁴ Contemporary media is often blamed as the culprit of today's impossible body image standards, and perhaps rightly so. The average person views, per day, between 6 and 7 hours of combined media—all of which contain increasingly slim images of an “ideal” body type.⁵ In fact, through an analysis of Playboy centerfolds over a period of two decades, another study discovered a significant decreasing trend in the body size and weight of the models.⁶ While

these findings prove that sex does indeed sell, the question society needs to ask is simply, “At what cost?”

If the media is to blame for widespread body image issues, large companies that produce beauty-related products for women such as Dove and Victoria’s Secret hold the most power to initiate social change. Dove, the market share leader for body wash, launched its iconic, \$57.1 million dollar “Campaign for Real Beauty” in 2012.⁷ This unique ad campaign, featuring models with larger, curvier body types, gathered praise for its wholesome values, its willingness to venture off the hackneyed “sex sells” road used by competitors, and its clean-cut approach.⁸ It is no secret that consumer preference changes often and Dove was able to quickly align its views with its customers for a successful, shared-value-creating result: consumers received messaging that did not body-shame them, while Dove enjoyed a hefty 60 percent increase in sales since the launch.⁹

However, Dove’s Campaign for Real Beauty came under fire recently for exclusively featuring larger, curvier women. Critics say that Dove’s message has become that “real beauty is only for women with curves,” and that it’s simply exploiting the modern woman’s desire for an inclusive message.¹⁰ This negative brand publicity undermined Dove’s sales and weakened its social impact related to media-portrayed body images.

Currently, Victoria’s Secret is the world’s leading lingerie brand. It controls over 35 percent of the total lingerie market worldwide and had over \$7.2 billion in sales in 2014 (compare with Dove’s \$4 billion in 2014 sales).¹¹ Victoria’s Secret’s advertisements are subject to similar criticism – except that they exclusively feature supermodels instead of curvy women.

In 2014, Victoria’s Secret released “The Perfect ‘Body’” ad campaign for their new “Body” line of bras that, as usual, exclusively featured skinny, busty models. This promotion was met with public backlash from activists on social media due to its underlying message: Anybody

who does not look like a Victoria’s Secret Angel is imperfect.¹² Many unfavorable comparisons were made between Victoria’s Secret controversial campaign and Dove’s Real Beauty campaign, causing people to further damn Victoria’s Secret for their message and, in turn, praise Dove.¹³ Since Victoria’s Secret markets primarily to 18-34 year old women, activists like Frances Black say they have a “crucial responsibility to not use harmful and unhealthy ideas to market their products.”¹⁴ Public sentiment regarding the “Perfect Body” advertisements was so strong that an online petition started on Change.org that attracted 33,000 supporters. As Victoria’s Secret continues to test society’s limits and push the

Aside from quality of products sold, the main contributor to this corporation’s success in sales is its aggressive marketing strategy. Victoria’s Secret ad campaigns are both widespread and extremely influential, reaching the eyes, ears, and minds of many consumers. Specifics of Victoria’s Secret marketing spending were not published, but its parent company, L Brands, spent over \$2.72 billion on marketing and administrative expenses last year—the majority of which likely went towards Victoria’s Secret as it is the most successful brand under L Brands.¹⁵ Victoria’s Secret uses its huge budget to send promotional materials door-to-door, purchase traditional and online advertising, and set up enormous



While these findings prove that sex does indeed sell, the question society needs to ask is simply, “At what cost?”

boundaries of model glorification and sexuality, it risks accruing detrimental consumer resentment.

Given Victoria’s Secret’s enormous brand influence and marketing capabilities, they are the ideal candidate to initiate impactful change regarding female body image mentality. Victoria’s Secret can improve on Dove’s campaign by featuring a varied cast of models and still expect to see both increased profits and increased social benefit.

Why Victoria’s Secret? Current Marketing Strategy

storefront displays at all 1,002 locations.¹⁶

Beyond basic advertising, Victoria’s Secret’s marketing campaign also keeps the brand in the pop culture spotlight through the promotion of the Victoria’s Secret Fashion Show and the glorification of its team of supermodels, known as “The Victoria’s Secret Angels.” The fashion show and supermodel team, both heavily branded with the company name, each receive insane amounts of media coverage, making them Victoria’s Secret’s main source of promotional product placement, brand recognition, and indirectly, revenue.¹⁷ Unfortunately, this same media coverage is also what makes

Victoria's Secret a major contributor to the degradation of female body image.

Necessary Brand Shift

Victoria's Secret has developed unparalleled brand recognition since its start in 1977, making it the #1 most recognized consumer brand for women in 2012, according to rankings by *Women's Wear Daily*.¹⁸ However, in order for Victoria's Secret to stay at the top of the market, it needs to be able to adapt to changing consumer preferences. For example, Dove's original study that provided impetus for its "Campaign for Real Beauty" showed that only 2 percent of women considered themselves beautiful.¹⁹ Dove used this information to

past marketing efforts and negative campaigning by competitors.

Victoria's Secret's brand image has been under sustained threat by negative campaigning. Lane Bryant, a smaller lingerie company competitor, directly challenged Victoria's Secret with its bold ad campaign titled "#ImNoAngel." Lane Bryant's campaign featured curvy women celebrating their sexuality as well as saying the words, "How boring would it be if we were all the same?"²¹ This brand-targeting publicity stunt by Lane Bryant is extremely damaging to Victoria's Secret's brand and demonstrates that Victoria's Secret, at least to competitors, can be easily identified as a source of body-shaming marketing.



take advantage of an aspect of the female body image struggle, moving itself to the forefront of the body appreciation movement. This strategic move increased sales by 60 percent, generated invaluable amounts of positive PR for the company, and most importantly, allowed it to distinguish its brand from its competitors.²⁰

Focusing on bodily acceptance will become a necessity for Victoria's Secret in the near future due to shifting societal trends. Victoria's Secret needs to better align its brand with the body appreciation movement because of large opportunity costs stemming from insensitive

Expanding Markets

Although Victoria's Secret strives to sell high quality, sexually appealing lingerie to women between the ages of 18-34, the company does not necessarily market towards a large portion of that demographic.²² The average American woman over 20 years old weighs 162 pounds, compared to a tiny average weight of 115 pounds among Victoria's Secret models.²³ By featuring models that are closer to today's average body type, Victoria's Secret will market more effectively to naturally larger consumers and consumers who have aged and can

no longer maintain the slim body type suggested by Victoria's Secret marketing.

Currently these types of consumers get shown very little preference by the company with a limited selection of only 70 percent of styles for the average American bust size of 34DD. This decreasing selection trend continues as body sizes increase, as consumers with a bust size of 38D are only able to choose from 65 percent of styles. For the slimmer, model bust size of 34B consumers can choose from 92 percent of styles.²⁴ By appealing to consumers of all body types, Victoria's Secret can expand its selection and access much of the market that currently cannot buy its lingerie.

Incorporating body acceptance into Victoria's Secret marketing would provide further benefit by addressing current company vulnerabilities and long-term goals. In L Brands' annual report to shareholders, it noted "[its] failure to protect [its] reputation and [its] brand images," and "consumer spending patterns" as significant risk factors, alongside its desire to satisfy customers and cultivate customer loyalty.²⁵ Taking advantage of the body acceptance trend would address all of the aforementioned risk factors, as well as align Victoria's Secret's views with that of its customers, thereby promoting consumer loyalty and satisfaction.

Social Benefit

Victoria's Secret not only has a lot to gain from instituting a new ad campaign, it also has a lot to offer in terms of universal social value. Women who want to appear "sexy," may feel pressure to appear more like the heavily marketed Victoria's Secret Angels, giving the corporation huge influence over the female body image. In addition, Victoria's Secret promotes its iconic Victoria's Secret Fashion Show that attracts millions of viewers every year, the majority of which are women.²⁶ Most of all, Victoria's Secret is by far the most recognized lingerie brand among women.²⁷ The company clearly has immeasurable influence on women, and could benefit society simply by removing

its harmful marketing. In addition, it could make an even bolder statement and provide more social benefit by actively campaigning for body acceptance, regardless of body type. Because negative body image is strongly tied to depression, Victoria's Secret alone could benefit millions of women's mental health if its new marketing strategy brought about real change in the media's portrayal of feminine ideals.

When analyzing any proposal, however, it is important to consider the potential pitfalls along with the potential benefits. The introduction of a campaign featuring models with a realistic variety of body types, while beneficial to society and potential sales revenue, could hurt Victoria's Secret's iconic sexy brand image. Adding variation to today's supermodel ideal within a Victoria's Secret lineup may create a reduction in brand image or company value.

Though ethically repulsive, the fact of the matter is that the majority of contemporary society is not trained to view larger women as beautiful or sexy. However, this should signal to Victoria's Secret an even higher need for corporate intervention. The company has the undeniable ability to change public perception of what is considered sexy. With a reconsideration of its marketing strategy toward changing perceptions of sexy ideals, it could create societal good and still increase sales revenue.

Another potential pitfall lies in public suspicion regarding a sudden change in Victoria's Secret marketing – from one focused on selling sex, to one focused on selling wholesome values. Critics could accuse the company of exploiting today's female desire for inclusive messaging, just as they did with Dove's Campaign for Real Beauty.²⁸ This is precisely why Victoria's Secret needs to "walk the walk" and commit to the new body acceptance campaign by placing varied models and products in everything from its catalogues to its beloved Victoria's Secret fashion show. Ideal shared value can only

be created when Victoria's Secret begins successfully marketing the idea that regardless of what body type a consumer possesses, Victoria's Secret products will make them sexy.

Conclusion

Victoria's Secret is the company best poised to change media portrayals of beauty because of its strong brand image, overall marketing capabilities, and potential to reverse the effects of its current marketing strategies. Although the corporation may face initial skepticism and brand degradation, a new marketing campaign featuring models with more realistic and varied body types can create significant shared value. The introduction of this new strategy would benefit shareholders through increased sales revenue, and benefit the company through positive brand image and improved customer loyalty. The change would also benefit consumers and society as a whole by positively altering ideals surrounding the sexiness of women. ■



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THE CALL FOR CORPORATE ACTION

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ABOVE: Catherine O' Connor, Professor Jeffrey J. Younger, Stephanie Kim, Kelly Xie, Jing Hao
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ACKNOWLEDGEMENTS

WE HEARTILY CONGRATULATE THE TEN student writers published here and extend a warm thank you to all the numerous contributors to this fourth edition of *The Call*. I thank all for their hard work and dedication. We collected over 1000 student essays from *Business and Its Publics 2015* and *2016* and all these writers are the ultimate inspiration for this magazine. It is our hope that current and future writers are moved by the high caliber of the prose and the challenging ideas contained in their work.

We selected ten winning essays based primarily on compelling content and powerful prose. Evidence of critical thinking too was paramount. We looked for specific “calls for corporate action” that were realistic, creative, passionate – and unique. We tried to display a mix of current student thinking within a complementary collection of topics. Finally, to demonstrate the complexity of societal connections, we looked for interesting insights into the interrelations between business, society and government.

This publication was written, assembled and edited by NYU students - most notably by our editors Stephanie Kim, Catherine O’Connor and Dorit Sosnowik – with timely editorial help from Eileen Gilmartin, Robert Wosnitzer, Kyle Lai and Greta Li; thank you. Finally our talented art designer, Kelly Xie, and our skilled graphic artist and photographer, Jing Hao were superb. Their work is present on every page and the dramatic results speak for themselves.

Thank you to NYU Stern Undergraduate Dean Geeta Menon for her gracious opening letter and to Professor Batia Wiesenfeld for her introduction to the BIP course.

Overall, we owe gratitude to the many dedicated instructors who manage the weekly discussions, critical thinking, and critical

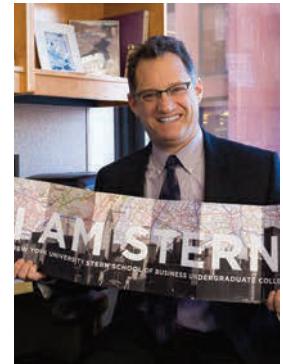
writing sessions that make up *Business and Its Publics: Inquiry and Discourse*. Their hard work is evident within all these essays. The plenary and inquiry discussion sections are currently overseen skillfully by Professor Batia Wiesenfeld. The administration of the class-wide student course is handled ably by Kristy McCadden, the Senior Associate Director of Social Impact Programming.

NYU Stern’s professional faculty lead the smaller class “inquiry” discussions and thanks are due to all: Ashish Bhatia, Azish Filabi, Barbara Holt, Batia Wiesenfeld, Bruce Buchanan, Elizabeth Boyle, Hans Taparia, Jeff Carr, Joe Foudy, Maria Patterson, Mark Brennan, Matt Statler, Mike Pollack, Mira Dewji, Paul Wachtel, R. Kabaliswaran, Sarah Labowitz, Shelly London, and Tara Wadhwa.

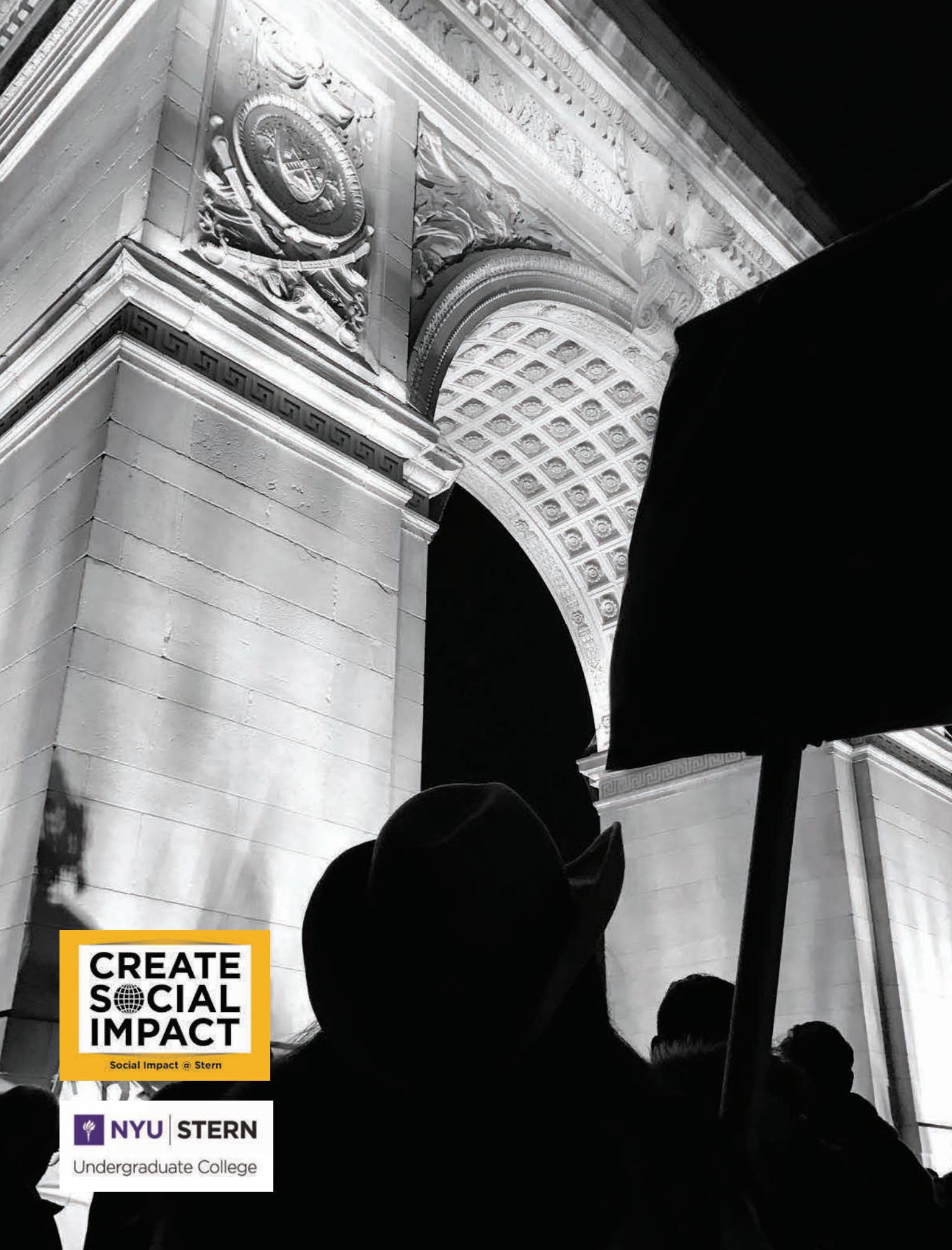
Discourse instructors lead the critical writing portion of the class, and without their dedication, you would not be reading this publication. Management Communication Chair Irv Schenkler and Professors Robert Lyon and Robert Wosnitzer formulate much of the discourse curriculum and numerous colleagues put the plans into play. Thank you to the following: Aya Tanaka, Brian Hanssen, Bruce Meyerson, Carol Newell, Claudia Caruana, Eileen Gilmartin, Ellen Pluta, Irv Schenkler, Jessy Hsieh, Josh Stager, Larry Menna, Laura Noren, Paul Melton, Rob Lyon, Robert Wosnitzer, Robert DiYanni, and Timothy Glencross.

Finally, for all their support and guidance, I would like to thank Bruce Buchanan, the C.W. Nichols Professor of Business Ethics and Director of the Business & Society Program and Matt Statler, Richman Family Director for Business Ethics and Social Impact Programming.

Thank you, one and all.



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