Kaleidoscope International Journal is Boston College’s undergraduate-run international relations and global studies publication. The Journal intends to serve as an unbiased medium to promote greater awareness and understanding of international issues by publishing the research, articles, and photo submissions of students from a variety of disciplines.
Cover Photo: “Victoria Falls Through a Rainforest” by Grace Rosario

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LETTER FROM THE EDITOR

On behalf of our entire staff, it is my pleasure to present to you the Fall 2015 edition of Kaleidoscope International Journal! In this issue we cover a wide array of topics, from the history and development of Japanese cartography to renewable energy in the Gulf States.

To start, Boston College senior Meaghan Kelliher writes about the rise of femicide in Mexico’s Ciudad Juárez, discussing the causes and implications of gender-based violence for the border city. Next, Connor Tobin, a BC junior, discusses the potential for creating renewable energy in the Gulf States. Alfred Bolden, a senior, then shares his experience studying abroad in London, England. Traveling around the English countryside and exploring London, Bolden contrasts traditional Britain with the new urban Britain. Junior Olivia McCaffrey writes about the rise of the Japanese art of cartography, and its historical implications as the West met the East in the Tokugawa era.

Allicen Dichiara, a senior at Boston College, contrasts modern American divorce laws with those of ancient Rome, proving that despite the difference of over two thousand years, marriage and marital problems are a staple of human history. Veteran Kaleidoscope author Tate Krasner, a senior, then discusses NATO’s involvement in the Balkans in the 1990s. Using game theory, Krasner analyzes the rationality and the success of NATO’s intervention in the humanitarian crisis being waged by Bosnian Serbs. Grace Rosario, also a senior, shares a photo diary of her experiences in Zambia and Botswana. Rosario spent the summer in Africa with a group of BC students studying poverty, human rights, and environmental justice. Finally, sophomore Sofia Sorokas recounts her summer spent interning with a Member of Parliament in Ukraine. Her timely discussion of Ukraine’s revolution offers hope that the country will soon find stability.

This is my first edition serving as Editor-in-Chief of this journal. Though we have said goodbye to key members of our staff, Kaleidoscope has proudly expanded to include a number of new faces. I want to extend my gratitude to everyone on our team, from copy editors to layout designers to administrative officers – it is only with their hard work and dedication that we can put together this publication. I can say, on behalf of the whole staff, that we are proud and excited to present you with the Fall 2015 issue of our journal.

Emily Liddy
Editor-in-Chief
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In November 2001, the bodies of eight women were discovered in a cotton field in Ciudad Juárez, all showing evidence of extreme sexual violence. The discovery brought sudden international media attention to the issue of femicide in Juárez, a tragedy which has been “accruing bones since 1993,” when the signing of the North American Free Trade Agreement (NAFTA) brought rapid industrial growth to this once small border town. Following this wave of global concern, the Inter-American Court of Human Rights (IACtHR) ruled in the landmark “Cotton Field” ruling that the Mexican government had an obligation to take an active role in confronting the social and structural conditions causing extreme gender based violence in Mexico. Despite this, the number of women killed in Ciudad Juárez has continued to grow. This has not only indicated a level of failure on the part of the Mexican government to implement changes, but also discouraged other countries in the region from addressing this problem. Even without an extensive examination for change, an in-depth consideration of the root causes of femicide in Ciudad Juárez and of the failed reforms can inform countries elsewhere on the necessity of persistence and structural modifications. These causes include unregulated free trade and drug trafficking, both of which stem from a culture of female “second class citizenship.” Ultimately, this culture passively accepts femicide and obstructs successful implementation of reform.

Before addressing the severity of femicide in Ciudad Juárez, along with its specific causes, it is important to first establish a general understanding of femicide and gender based violence. In her article “Violencia Feminicida,” Mercedes Olivera offers a comprehensive definition of femicide (also known as feminicide) explaining that it is, “the extreme end of a range of violations of women’s human rights—a direct and extreme expression of economic, political, social, and gender violence that is structural in nature.” Critical to her definition is that gender based violence is a misogynistic expression of domination and control over women. This expression has intensified, as widespread poverty has driven more women into the workforce, and thus challenged “institutionalized masculine power.”

Turning towards Ciudad Juárez, its importance in the dialogue surrounding femicide becomes clear. One of the first...
uses of the term was in 1993 to describe the sexual murders in Ciudad Juárez, thus bringing “femicide” into the international human rights lexicon and placing Ciudad Juárez at the center of subsequent dialogue.² Officials estimate the number of femicides in Ciudad Juárez exceeds 500 women as of 2010; however, there is a widespread consensus that this official number is far lower than the actual body count.³ Furthermore, the official number only includes the “found bodies,” not the missing ones, which “number in the thousands.”⁴ Scholar William Paul Simmons highlights the gravity of the situation. He notes that although more men are killed than women, the number of women killed has been increasing at a rate twice that of men. In addition, femicides in Ciudad Juárez greatly exceed both average rates for Mexico and comparable border cities.⁵ The rate at which femicide has continued to rise in Ciudad Juárez has made it “longest epidemic of femicidal violence in modern history.”⁶ This longstanding centrality of Ciudad Juárez in the discourse on femicide is especially significant, as Ciudad Juárez has become an important test case for change and reform.

An understanding of why femicides occur is first informed by who is most affected. In the article “No More Killings! Women Respond to Femicides in Central America,” Marina Prieto-Carrón, Marilyn Thomson and Mandy Macdonald note that there is a prominent misconception that most victims are the maquila workers of Ciudad Juárez. Maquila workers are women who work at manufacturing plants owned by large multinational companies and are hired because of a distorted belief that they are “cheap and supposedly docile workers.”⁷ Though these women do make up almost a third of femicide victims in Ciudad Juárez, such misconception manifests itself in the notion that all victims are maquila workers living “la vida loca…coded language for prostitution.” This title serves to ‘justify’ their death by devaluing their life with misdirected standards of morality.⁸ The most important and telling commonalities lie in the fact that most victims are from “the most marginalized sectors of society,” and that all victims are denied first class citizenship and the right to life on the basis of their gender.⁹ This is made especially apparent in that some women are “killed as an act of revenge against a close male relative of the women,” making their bodies into no more than an object of vengeance.¹⁰ Further concerning, more than 60% of femicides in the region are committed in the victim’s own home by a partner or family member.¹¹

In her article “Accountability for Murder in the Maquiladoras,” Elvia Arriola makes a compelling argument that connects unregulated free trade, especially post-NAFTA, to the environment of hostility towards women. She further asserts that the Ciudad Juárez femicides are an extreme manifestation of this environment.¹² Currently, under NAFTA, transnational corporations are protected from being held accountable for any harm done to workers in Mexico. This has lead to both “fatal indifference” towards the lives of workers and an accepted environment of physical, emotional, and mental abuse.¹³ In her article, “Poor Brown Female,” Alicia Gaspar De Alba paints this brutal picture of the gendered abuse at maquiladora assembly plants. At such plants, women are not only subjected to ten to twelve hour work days in dangerous conditions for little pay, but also to pregnancy testing at the time of hiring, enforced birth control, and even “monthly menstruation tests.”¹⁴ Outside of the factory, the safety and security of the maquila workers is even further disregarded. Workers frequently walk between their shantytowns and bus stops in the pitch-black of the early morning or late night to be picked up by an unlicensed and unscreened bus driver and driven to work. If they arrive late, they are commonly sent home, regardless of whether or not it is still dark out or if they have reliable transportation home.¹⁵

Such unregulated labor conditions more broadly create an environment in Ciudad Juárez that is both hostile and exploitative to the lives of workingwomen.¹⁶ As previously noted, murders of maquila workers account for about a third of the femicides in Ciudad Juárez, making this a largely incomplete explanation. If viewed through a wider lens, though, it becomes clear that the exploitative environment created and reinforced by the maquiladoras, has far-reaching and detrimental effects on the attitudes towards workingwomen in the whole of Ciudad Juárez.

Any consideration of Ciudad Juárez would be incomplete without an exploration of the effects of the drug war and organized crime in the city on femicide rates. Drug violence has been rising at alarming rates, with more than 6,000 dead since 2006.¹⁷ The problems with the rise in drug violence as it relates to femicide are numerous. First, the
“principal target” of drug cartels is the “working poor,” whose “productive labor established Ciudad Juárez’s reputation as a profitable hub of global industrialization.”\(^\text{20}\) Workingwomen, then, are more at risk because of a sort of violent “second class citizen” double jeopardy, wherein they are targeted not only for their gender but also targeted by cartels because of their social class. The second problem is the violent military response that has been adopted by the government, making Ciudad Juárez one of the most violent cities in the world. This has both normalized violence and diverted attention from what the government considers lesser priorities in Ciudad Juárez, like eliminating violence towards women.\(^\text{21}\) Furthermore, there is a failure on the part of the government to acknowledge that the war on drugs is affecting civilians. Melissa Wright, department head of Women’s Gender and Sexuality Studies at Pennsylvania State University, explains that, similar to the “victim blaming” that is common justification for femicide, the government puts forth a similar narrative that those who have died from the intensified “war on drugs” are similarly “responsible” for their own fate. This ultimately ignores the deadly effect these issues are having on the whole community and avoids taking steps to redress the problem.\(^\text{22}\) Finally, organized crime in Ciudad Juárez contributes to widespread corruption in state security structures, creating a climate of insecurity and impunity for women.\(^\text{23}\)

"Though the climate of impunity and victim blaming highlights women’s status as “second class citizens” in Juárez, possibly even more telling, and disturbing, is the context of the murders themselves"

Further scrutiny of free trade and the war on drugs reveals a common element, which underlies not only these two factors but can also be universally applied to explain femicide in Mexico and beyond. This is a deeply ingrained ideology that treats women as inferior, thus justifying their exploitation in the free trade driven public sphere and their lack of protection in an ever-broadening war on drugs. Most fundamentally, the status of “second class citizen” manifests itself in a climate of impunity for perpetrators, blame for the victims, and a wholesale devaluing of female lives.\(^\text{24}\) First, this widespread impunity is well documented. Between 2010 and 2011, of femicide cases registered by the National Centre Against Femicide, only 4% of the cases had been sentenced, some of which led to acquittals.\(^\text{25}\) The majority of cases go without an investigation—and even when cases are formally investigated and brought to trial, institutional prejudices lead to very few sentences.\(^\text{26}\) This impunity makes the cost of femicide low for perpetrators, who are likely to get away with murder.

Pervasive victim blaming bolsters the climate of impunity, wherein women are held responsible for their own deaths over the perpetrators themselves. As femicides in Ciudad Juárez continued to rise starting in the early 1990’s, investigators stuck by the explanation that the victims were “hookers, or that they were heroin-users,” as if even this would make women responsible for their own deaths.\(^\text{27}\) Poet Marjorie Agosín wrote a collection of poems called Secrets In The Sand: The Young Women of Juárez, several of which speak to this problem. One in particular that stands out is entitled “Before Death Justice,” in which she writes:

Justice forgets about the dead women of Juárez
The Police yawn
Some say they walked around wearing dresses
Much too short
Provoking the murderers who
After all, were good men\(^\text{28}\)

In her article “Ghost Dance in Ciudad Juárez,” María Socorro Tabuenca Córdoba also colors the highly prevalent victim blaming by describing the first “prevention campaign” in 1995. One particularly troubling campaign ad featured an attractive young man and text that read:

Single man looking for young woman, hard-working, who likes to go to parties on the weekend until dawn . . . INTERESTED WOMEN please approach any dark street or alley. Priority given to young women who arrive alone and make the least noise.\(^\text{29}\)

This ad was problematic in many ways, contributing to stereotypes that depicted victims as party going, “loose” workingwomen—and then functionally blaming them for their own death. It fortified the notion that women were at fault if they “dare take to public spaces, which are reserved for men” by working, going out dancing, or walking on the streets.\(^\text{30}\) Further, it disregarded the realities of domestic violence, discounting the idea that women are more often than not victims of gendered abuse within their own homes.
Even more telling than the culture of victim blaming and impunity is the context of the murders themselves. Revealing a gross disregard for the basic humanity of these women, bodies have been found inside trash dumpsters, on train tracks, at busy intersections, and in landfills, brick ovens, and vats of acid. They have been found “strangled, mutilated, dismembered, raped, stabbed, torched, or so badly beaten, disfigured, or decomposed that the remains have never been identified.” With this gruesome context, it becomes even more dismaying that a state of impunity and victim blaming precludes the conviction of the perpetrators.

It was within this hostile environment that the landmark “Cotton Field” case took place. Three mothers of the “Cotton Field” victims chose to bring a case before the Inter-American Commission of Human Rights (IACHR) and then to the Inter-American Court of Human Rights (IACtHR). These women argued that their daughters were “denied the right to life, integrity and personal freedom” and that the government had “violated the right of the victims’ families to access justice and judicial protection.” The Court’s ruling was a breakthrough in international human rights norms. Most notable were the court’s decisions: the crimes had not been investigated with “due diligence,” the Mexican government was complicit in the perpetuation of a “culture of discrimination against women,” the government was obligated to pay “integral compensation” to address the context in which discrimination occurred, and the Mexican government must institute new protocols to investigate disappearances of women from a gendered perspective.

Though the Court’s ruling demanded extensive reform of the Mexican justice system and security apparatus, the continued rise in the rates of femicide indicates a failure in the implementation of reform. Despite the rise in the number of femicides, it is important to recognize what progress has been made, with an understanding that even small changes are still important. In an article by Caroline Bettinger-López, White House Advisor on Violence Against Women, recognizes that even with challenges, “limited but notable progress has been made.” This progress includes the government’s public apology and acceptance of international responsibility, a newly accessible list of disappeared women and girls on the Chihuahua Prosecutor’s Office website, and a reinforcement of the “40-point Program of Action,” which includes advancements like the creation of a Specialized Office for Female Homicide Investigation in the State Prosecutor’s Office.

Unfortunately, the implementation of other ostensive “reforms” remains unconvincing. The functionality of the new DNA database to match samples found at crime scenes is dubious, victims’ families argue that monetary reparations have fallen short, and the program to incorporate a gendered perspective into investigations is tenuous. Furthermore, some have asserted that the “Women of Ciudad Juárez Center for Justice,” a center meant to provide wraparound support for victims’ families, operates without guidelines “and with the sole purpose of falsely demonstrating compliance with the court’s ruling.” Amnesty International’s Annual Report goes further to highlight failures. Criticisms include an ineffective enforcement of legislation to prevent and punish violence, inadequate training of officials to appropriately deal with gender based crimes, inoperative protection orders in many states, a lack of new investigative protocols, and, most importantly, a continued climate of impunity for perpetrators.

While many factors inhibit success, it is important to note that reform efforts tend to lose strength in the implementation stage where there is less public pressure to comply and thus less cost in noncompliance. Obstacles like a lack of institutional capacity, funding, and political motivation arise because “second class citizens” are not prioritized, and thus these all-important mechanisms for successful implementation are diverted to other priorities. Again, when entering the demanding stage, institutional actors are willing to confront the challenge insofar as the cost of noncompliance stays high. With regards to femicide, not only does international attention and pressure diminish immediately after reforms have passed, but also the ideological “second class” status of women in Mexico further reduces the political will to institute reforms.
Even without a highly successful model for change, then, there is still much to be learned from Ciudad Juárez, both in better combating femicide in Ciudad Juárez and in addressing femicide elsewhere. In this climate, the lives of women are devalued, the victims of femicide are blamed, and the perpetrators go unpunished. While an acknowledgment that the root of the problem is an ingrained culture of female “second class citizenship” may reveal a daunting task, the importance of such an understanding cannot be understated. In both Ciudad Juárez and beyond, a problem of such depth and intensity can only be addressed with international and domestic pressure that is both far-reaching and persistent. It must continue well into the implementation process to ensure that the cost of noncompliance remains high for government institutions. After decades lacking consistent reform paralleling decades of ever increasing rates of femicide, it is unclear how many more bodies must Ciudad Juárez find in a cotton field before enough is enough.

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A Case for Renewable Energy in the Gulf States

By Connor Tobin

“Transcending politics, climate change is a universal problem that all governments share an equal onus to combat”

To counter and prevent the disastrous effects of global warming, rising sea levels, and erratic weather patterns, governments must act swiftly and decisively in order to provide a clean energy path towards a sustainable future. Transcending politics, climate change is a universal problem that all governments share an equal onus to combat. The Gulf States, for instance, though varying in political, economic, and social conditions, face similar problems relating to climate change and should work in concert to mitigate them.

The Gulf Cooperation Council (GCC), which consists of Saudi Arabia, Kuwait, Qatar, Oman, the United Arab Emirates (UAE), and Bahrain, has four major incentives to invest in renewable energy and combat climate change: the region’s vulnerability to rising sea levels and dependence on imported goods, a potential reduction in the Gulf States’ hegemony over oil supplies, the region’s need for water desalinization, and the positive economic and cultural effects of investments in renewable energy. The states in the GCC must meet their renewable goals, increase subsidization of green technology, and promote a culture which favors long-term, sustainable policies over mercurial, market driven decisions.

Climate change could cause increased temperatures and rising sea levels worldwide. By 2050, Qatar, Bahrain, Kuwait, and the UAE are projected to have some of the highest percentages of populations at risk from rising sea levels. Qatar has the highest risk, with an estimated 35.1% of its population predicted to be directly impacted by the increase in sea levels.1 The UAE is also particularly vulnerable due to its man-made islands and buildings along the coast.2 The GCC nations’ inland regions are less susceptible to the effects of rising sea levels, but they are the most affected by rising temperatures. Over the next several decades, rainfall is expected to decrease while temperatures rise, creating drier and more desertous conditions in these countries.3 This will inevitably reduce agriculture, resulting in a shortage of food and potential unrest.

The Gulf States lack significant water resources, causing insufficient agricultural capabilities, and must therefore invest in agricultural farmland abroad; this creates a substantial weakness with regard to food security.4 The states in which the GCC has invested are more susceptible to the effects of climate change than the Gulf States and rank very low on the Food Security Index.5 Additionally, international law offers no recourse for compensation in the event that the land in which the GCC invests cannot sustain agriculture due to extenuating circumstances, such as drought.6 The GCC has effectively created a contractual system that exposes

Ice caps melting in the Arctic due to climate change pose threat of rising sea levels.
the region to the effects of climate change in even more vulnerable areas, such as Africa and Southeast Asia. The Gulf States’ food security is additionally threatened because their imports pass through the Arabian Sea and the Persian Gulf, both of which may become unviable for commercial shipping due to global warming. If the infrastructure is rendered inoperable, then the Gulf States could face further food shortages and instability. Due to their dependence on foreign markets for food, and to the vulnerability of those markets to the effects of climate change, the best policy for these governments to adopt would be to work towards mitigating the effects of climate change in order to keep these foreign markets accessible.

One of the largest threats to the Gulf States’ dominance over the oil market is the melting of the Arctic ice caps. A 2008 study by the U.S. Geological Survey estimated that the region held a bounty of 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas in liquid form; the Gulf States contain known reserves of 495 billion barrels of oil and 1,497 trillion cubic feet of natural gas. As polar ice caps melt, this expansive energy resource will become more accessible to international oil companies and to Russian state-owned enterprises, which would reduce the Organization of the Petroleum Exporting Countries’ (OPEC) clout. Paradoxically, it is in the Gulf States’ best interests to diminish the harmful impact of the fossil fuels on which their economies depend in order to prevent the extraction of more fossil fuels that would minimize the need for their own reserves.

An increase in the demand for oil is a critical issue in the region, with the Gulf States having experienced a near doubling of oil consumption in the first decade of the millennium due to the need to desalinize water and an inaccessibility to natural gas reserves, which forces the Gulf States to use oil to generate domestic electricity. Oil is a fossil fuel and is therefore less efficient than natural gas at electricity production. Renewable energy offers a solution that can keep up with the increasing electricity demand. For example, wind speeds and energy demands in Kuwait are highest during the summer. Additionally, Kuwait’s peak electricity demand hours during the summer months coincide with its peak hourly solar radiation. Due to these circumstances, solar panels and wind turbines are ideal sources of energy for Kuwait and allow the state to save oil for exportation and can provide power for water desalinization to combat agricultural dependence. Solar power will also be affordable, once the opportunity cost of domestic consumption in lieu of exportation is considered. The same benefits can be conferred to all members of the GCC.

The nations in the GCC face a lack of economic diversification, unemployment, underemployment, low education levels in the sciences and engineering, and a weak private sector. Domestic investment in creating renewable technology can help to solve these problems. Investing heavily in education and funding programs aimed at developing new renewable technology or improving existing energy sources
would contribute to building a stronger work force that could supply better labor to industries that do not rely on resource extraction. Investment in just one field is obviously not sufficient to cause a total economic turnaround, but green technology could be a lucrative part of a larger initiative to diversify the economy.

In addition to implementing new initiatives to fight climate change, the GCC must maintain established efforts. In July 2013, Saudi Arabia set out an impressive goal in its National Energy Plan to become the world leader in renewable energy by 2032, aiming at satisfying a third of its energy demand with renewable energy. In January 2015, however, the country pushed its goal back by eight years to 2040. Keisuke Sadamori, a director at the International Energy Agency (IEA), said, “One of the key messages from the Medium Term Renewable Energy Market Report 2013 by the IEA is that policy uncertainty is the largest risk for renewable investment.” If Saudi Arabia and other Gulf States are to effectively combat global warming, they must maintain their commitment to their policy objectives.

**“Each state should analyze the extreme risk that they are in and how climate change threatens their sovereignty”**

AWCA Power, a Saudi Arabian company that develops power and water projects, represents the contradictory nature of plans for renewable development in the Gulf. AWCA Power is owned by the Saudi Arabian government. Currently, the company has plans to invest $7.4 billion in solar and wind energy projects in Saudi Arabia and in other countries as part of a $15 billion investment package. AWCA Power, however, also invests heavily in coal power plants in Mozambique, Indonesia, and Vietnam and has plans to expand these investments. If Saudi Arabia is truly committed to combating global warming then it must terminate these ‘dirty energy’ projects or at the very least alter its policy to provide incentives for state-owned companies to create renewable energy projects.

Reducing subsidies for groups that produce electricity generated by fossil fuels is just as important as investing in renewable technology and ensures that these new technologies are economically viable. Higher subsidies for fossil fuels mean lower subsidies for renewable energy sources, which makes it harder for renewable energy to compete with electricity generated by fossil fuels. It is important to note that energy-efficient devices become less likely to be used when electricity is produced by subsidized oil and gas, because the true cost of usage is not realized. This means that all actions toward energy efficiency, investment in renewables, and cutting carbon emissions must be coupled with reductions in subsidies towards the fossil fuel industries.

Each state in the GCC should analyze how climate change threatens their sovereignty, and then propose decreases in the subsidization of electricity generated by oil, commitments to cutting emissions, and increases in research and development of renewable sources of energy. If the GCC is successful, it could act as a model to other large-scale energy exporting nations, amplifying the Gulf States’ efficacy in combating climate change.
United States’ divorce rates have risen dramatically since the introduction of no-fault divorce. Before no-fault divorce, spouses had to provide specific evidence of marital fault and could not divorce simply based on incompatibility. Although some might believe the resulting rise in divorce rates, from 25% to 50%, have created a net negative impact on society, many of the individual data points in this abstract statistic represent life-changing, long considered decisions. The introduction of no-fault divorce allowed couples to make decisions they had wanted to make for a long time. The beginnings of no-fault divorce first took place thousands of years ago under the Roman Empire, where was first seen a similar transition from fault-based divorce to no-fault divorce. Rather than force couples to remain married unless serious fault could be proven, both the Roman and American societies had the foresight to alter their stance and understand that otherwise incompatible couples should be allowed to dissolve their marriages. The most notable differences between Roman and American divorce law lie in the formal legal requirements for divorce, division of property, and treatment of women in divorce. The American and Roman approaches, however, share similar roots in that they each recognized the necessity of no-fault divorce in order to ensure that the institution of marriage continue to exist based on intent and compatibility.

In early Roman years, husbands only had the right to a divorce in the cases of adultery, poisoning the children, or other severe acts for which the wife was at fault. According to Plutarch, a Greek historian, if the husband divorced for no good reason, he had to give half of his property to his wife and half to Ceres, the goddess of agriculture, grain crops, fertility, and motherly relationships.¹ Freedom to divorce slightly expanded thanks to the divorce case of Carvilius Ruga, a court case that established that if a husband divorced a wife for sterility, he would not be punished, and as she was not at fault, she could claim her dowry.² This precedent opened up the possibility of penalty-free divorce for non-moral reasons, but only to men. By the late Republic, manus marriages, marriages in which the wife was under the husband’s legal power, were much less common, meaning more women were sui iuris, in their own power, and had greater capacity to make legal decisions. With increased legal ability, women could eventually initiate divorce as easily as their husbands, and this reciprocal ability to initiate divorce developed into the Roman practice of no-fault divorce.³

Under no-fault divorce, Roman ideology reasoned...
that if marriage is formed on the basis of consent, the couple should be able to end the marriage based on withdrawal of that consent, with minimal official involvement from the state. Formation of marriage depended so heavily on the consent of the spouses that there was no exact form of words, actions, or written contract that had to be used at each wedding. Marriage ceremonies, witnesses, dowry documents, and cohabitation all made it easier to prove the legal existence of a marriage. Even without these elements, Romans held that the desire to be married and continued marital affection when apart would be sufficient to be defined as a legal marriage. Following similar reasoning, the Roman state also did not intervene to register or regulate divorces. Just as in marriage, specific procedures for divorce made it easier to establish legal evidence of the timing in order to divide property or determine legitimacy of children, but the procedure itself was not essential to establish a valid divorce.

The idea of free, no-fault divorce meant that divorce was determined by a mental state. Under this ideology, the Romans could not be obligated by other individuals or state to stay married if they no longer wanted to be: “Long standing tradition holds that marriages are free. So it is settled that agreements preventing divorce are invalid, and stipulations imposing penalties on the party who divorced are invalid.” Couples could neither be penalized for divorce nor be forced to divorce by the will of a parent. This held significance because the paterfamilias, the male head of a Roman family, was seen as all-powerful in regard to the decisions of their kin. These conditions spoke to the couple’s mental state and desire to be married as the most important element for determining the status or termination of the marriage. Specifically, the couple’s mental state must be one based upon the desire for a permanent, long-lasting union. As such, any couple that underwent a short break in their relationship was still considered married. Divorce could even be amicable and end with goodwill from both spouses if the marriage became too hard to maintain, as in the cases of “a priesthood, infertility, old age, or health.” Roman law and society seemed to be more interested in ensuring harmonious marriages than attempting to sustain forcible unions.

In fact, status of divorce became so heavily based on the will of the partners that, although there was an accepted traditional procedure to indicate divorce, there were many exceptions to this procedure. To initiate divorce, the accepted words “have your own property” were ideally spoken either while the other party was present or to a person in his or her power, or to his or her paterfamilias. However, in other cases, the simple departure of one’s wife from the family household was enough to qualify as a divorce procedure. Ulpian, a Roman jurist, holds that the repudiation document did not have to be “handed over nor known to the husband” for the marriage to be dissolved as long as the divorce was known to husband’s paterfamilias, child, or slave. This meant that spouses could be legally divorced without the consent of both parties involved. This principle was demonstrated in a case where a husband left his pregnant wife without notifying her of divorce and married a second woman. Although the case caused debate among jurists, a Republican court held that the husband’s marriage to his second wife was evidence of his intent to no longer be married, and thus validated his divorce from his first wife. Such ambiguous cases motivated the upper-class to formalize the divorce procedure as to prevent misunderstandings. If a husband failed to provide sufficient evidence to divorce, such as seven witnesses in an adultery case, he himself could be punished for prosecuting his wife.

Even though women had the reciprocal right to divorce, the legal code did not always ensure their financial protection throughout the divorce. After a divorce, the wife had to sue for the return of her dowry, and deductions could be made for children, fault, or items given or removed. If the woman or her father were considered seriously at fault for ending the marriage, a sixth of the dowry is withheld for each child, and an eighth of the dowry would be withheld for offenses considered less egregious than adultery. Even though the law was theoretically designed to allow the woman to receive her full dowry back upon divorce, which was in the interest of the state because dowries allow women to marry, there were many circumstances that decreased the woman’s dowry. For instance, a woman could not demand accounting of her dowry during marriage, and in some cases the husband was only responsible for “what he could provide.” The husband was entitled to retain the dowry money based on any offense for which he considered his wife guilty. In comparison, the American legal approach to divorce developed in a path parallel to the Romans’. Similarly to the Romans, America once used a fault-based system in which the spouse needed to present evidence of serious offenses such as adultery, cruelty, or desertion to prove a need for divorce. There were strict requirements for cruelty and
adultery that were often hard to prove, so it was common for spouses to feign an affair, especially in New York, where adultery was the only ground for divorce until 1967. In fact, with fault-based divorce as the only available option, lawyers even came to expect and understand “a certain amount of lying and perjury” to prove cases of adultery. This need to manipulate the system serves as proof that the divorce laws were not in line with current thinking and did not satisfy a modern need for different requirements. In 1969, California was the first state to pass a no-fault divorce law, and by 2001 all states had revised their divorce laws accordingly.

Contrary to the Roman approach of minimal state involvement, the United States appears to see a much greater need for regulating divorce affairs and outcomes. Couples must get a divorce through a state court judgment, which involves a petition signed by both parties, a sworn affidavit that there is an irretrievable breakdown in the marriage, and a signed separation agreement. Both parties must therefore be present, aware, and state their agreement to the divorce, in contrast to the Roman approach, which did not require documentation or even the presence or knowledge of both parties. United States divorce courts now also actively play a role in regulating division of property, alimony calculations, and child custody. Such involvement was not possible or necessary under Roman rule as the legal system was far less encompassing than the modern United States one. Despite this, the legal codes show many parallels between ancient and modern reasons for divorce, with both referencing adultery, infertility, abuse, and “irretrievable breakdown of the marriage” as formal legal grounds.

A second major difference between Roman and American divorce code is the regulation of division of property. Property is either considered to be separate property or marital property, and courts attempt to evaluate the contributions of each party to these holdings. While Roman division of property was comparatively simple, as couples kept their property separate and rarely had communal property, American divorce law has complex methods for categorizing property and determining the division of communal property. American law has moved away from the more ideologically Roman approach of the common law system that holds “he who holds title takes the property” in order to make way for a more equitable approach. This consideration is noticeably similar to the Romans’ evaluation of dowry-based expenses; “necessary” expenses would maintain the exact value of the dowry, and “useful” expenses would increase its value in the eyes of the court. Division of communal property has also become more complex with the inclusion of intangible assets such as stocks, interests in business, and debt. These modern considerations have also shaped and bettered the treatment of women in court settlements.

In accordance with today’s society, American divorce code has moved towards a system that protects women, rather than neglect them, as seen during the Roman era. From the 18th through the early 20th centuries, many studies found that American women were generally financially weakened by divorce, as Roman women often were. In the case of the Romans, this financial burden stemmed from the loss of dowry, while American inequity was largely attributed to the tendency for women to stay out of the workforce in order to cater to their families. The legal code accounted for the husband’s financial contributions to the marriage, but it did not account for the wife’s contributions as a homemaker or mother, so she was consistently left with less after division of property. Consideration of marital property has recently expanded to include the intangible value of time contributed in raising children. These factors greatly increase the wife’s calculated contribution and grant her a higher amount in property distribution. Unlike during the Roman period, American women can also request alimony, which further considers the husband’s earning ability and the wife’s needs (or the other way around), as a means to “maintain the station of life” she was used to during marriage. The American goal of equitability based on contribution to the marriage is in some ways similar to the Romans’ reasoning: in both cases the women are “returned” that which they contributed to the marriage, whether it be time and care, or dowry. However, American divorce code ensures greater financial protection for women and aims for financial self-sufficiency for both parties, whereas Roman divorce code only considered contribution of tangible property and was more concerned with returning the...
wife’s dowry for the purpose of re-marriage.

Despite clear differences in legal requirements, division of property, and treatment of women, Roman and American divorce code both shared a common evolution towards prioritizing the will and intent of the married couple. Both the American and Roman governments have an interest in sustaining marriage. Both aim to encourage greater birth rates, which was especially important for the Roman population that suffered high mortality rates, as well as preserve societal stability. Romans viewed the family as a microcosm of the state, and a breakdown in family order could lead to state decline. Additionally, both states want to prevent negative psychological side effects on children. Ultimately, both governments recognize that it is harmful to society to force couples to remain married against their will. Examining attitudes toward flawed marriages in Roman literature, Seneca, a Roman philosopher, references “the quarrels of inharmonious couples which are more shameful than divorce,” maintaining that divorce is preferable to continuing a dysfunctional marriage.34

Attitudes about the moral implications of the greater ease or frequency of divorce show further parallels between Roman and American viewpoints can be drawn from the moral implications of divorce. Just as modern American priests sometimes warn of the decline in the sanctity of marriage caused by rising divorce rates, Roman philosophers similarly spoke of the link between increased divorce rates and moral decline, equating serial marriage to adultery: “Is any woman now ashamed because she is divorced, when various illustrious and nobly born women count their age not by adding up consuls but by husbands?”35 Roman literature repeatedly demonstrates that the Romans’ ease of divorce and minimal legal requirements did not necessarily mean they viewed divorce with any less moral or emotional weight than modern Americans do. Irresponsible divorce, especially to a faithful husband or wife, was socially condemned. Specific examples of the emotional trauma accompanied with divorce include Lepidius, who died of anxiety caused by his divorce, and Domitian who was claimed to be unable to endure his divorce from Domitia.36

Despite clear differences in legal requirements, division of property, and treatment of women, American and Roman divorce codes share many fundamental similarities. Each developed from a system of fault-based divorce into no-fault divorce, recognizing that the intent and compatibility of the spouses is essential for functional, harmonious marriages. Both Roman and American legal code reflect the idea that marriage is based on reciprocal consent, so withdrawal of that consent is sufficient grounds to dissolve the marriage. Roman legal code relies more heavily on the pure intent and mental state of the partners for establishment of divorce, whereas American legal code adds greater procedural requirements to that foundation of intent. Unlike Roman law, American divorce code takes intangible contributions to the marriage into account, ensuring women greater financial protection and self-sufficiency in the event of divorce. Even though the Romans lacked the formal requirements for divorce Americans are accustomed to, Romans’ moral standards of divorce are similar to American attitudes: both generally view divorce as a regrettable necessity for incompatible couples that should be avoided when possible, but accepted when necessary.

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Political relations between Japan and Europe greatly improved the scientific accuracy of Japanese cartography, especially during the Tokugawa era, which dated from 1603 to 1867. Japanese cartography reflected the country’s distant relationship with the rest of the world. During the long stretch of geopolitical isolation from 1641 to 1853, Japanese cartographical methods developed independently from those used by the rest of the world. Over time, however, Japanese cartography absorbed subtle European characteristics, making it one of the few facets of Japanese society penetrated by European influence.

According to Marcia Yonemoto, a scholar in the early cultural history of Japan, mapping is not a “linear process of development, but [rather] a horizontal process of relationships between space, place, culture, and identity.” This description applies especially to Japan, which had a non-linear approach to the science of mapmaking and the absorption of Western influences. The progression of the map not only delineated Japanese boundaries, but it also increased their spatial consciousness. An important theme in Japanese cartography is the tension between precision and accuracy; mapmakers maintained precise detail in their maps even though the true borders and actual islands that constituted the realm of the nation remained in flux for quite some time. Tokugawa-era maps therefore evolved as a blend of European scientific knowledge and Japanese decorative traditions.

Japanese maps were diverse in their functionality; they served the purposes of exploration, administrative duties, maritime expeditions, religious chart-making, and propaganda distribution. Mapmaking has complex political connotations, and as one scholar in the field of Japanese cartography notes, “Mapping is as much about the processes of perception and representation as it is about the material product of those acts.” Emphasis on certain landmarks on political maps shows which locations were considered important in Japanese history and culture. Political maps have a prominent role in Japanese society to such an extent that their importance transcends navigational utility.

Japanese maps maintained distinct characteristics even as European scientific knowledge became ingrained in Japanese mapmaking. Certain maps remained predominantly decorative or uninfluenced by Western methods. These were
malleable and accessible to the laypeople. Although Japanese cartography was categorized by its vicissitudes, two constants remained: maps were a valued commodity and were a blend of both foreign and domestic influences. Though Japan had little direct contact with the West from the early 1600s to the mid-1800s, European influences managed to permeate Japanese cartography, bringing greater geographical accuracy to the more decorative and traditional Japanese maps.

The history of Japanese cartography is divided into two broad eras: the long-standing Buddhist conception of the world followed by the European conception in the 16th century. Buddhism was introduced to Japan in the 6th century, and it focused on cosmography, or the study of the earth using geography, astronomy, and geology. The Buddhist’s focus on cosmography prompted many endeavors to map the geography of Japan. The Tokugawa era, however, saw mapmaking truly flourish.

One scholar, Unno, asserts that the primary forte of Japanese cartography is representing Japan from different scales and perspectives. He asserts that Japan’s geographic isolation, combined with its “long history of undisturbed independence,” gave scholars little incentive to map the outside globe because “It was Japan that mattered most to the Japanese.” It was outside influences like the Europeans, however, that managed to permeate Japanese cartography, moving it closer to the modern era of accurate scientific political maps.

Unno characterizes the early Tokugawa period as one of “cartographic assimilation.” From the mid-16th to 17th century, Japanese cartography experienced heavy European influences. This was due to the influx of Spanish and Portuguese navigators and Jesuit missionaries, like Frances Xavier in 1549.

One such European influence on Japanese cartography was the use of the direction North to orient maps. Many earlier Buddhist-style maps oriented Japan in a way that South was at the top. By the Edo period, North was used to orient most general maps of Japan. Additionally, Japanese maps had no set scale, even for travel maps, and important structures were drawn larger than other locations, which degraded the maps’ accuracy. This fluidity was not present in Western maps because the resurgence of Ptolemaic geography employed a scientific, mathematical approach to mapmaking that valued accuracy above all else. Maps were no longer subject to the mapmakers’ artistic and cultural biases.

It is important to note that Japan as a whole retained a distinct non-Western and non-Christian identity during the 16th century. The arrival of Western influences immediately became a political issue so Japanese leaders sought to expel their perceived threatening ideas. The first missionary expulsion occurred in 1587. Leaders like Tokugawa Ieyasu judged Christian ideas to be incompatible with Japanese belief in Shintoism and Buddhism and so created an edict in 1614 to suppress Christianity. The shogunate, the effective ruler of the country, enacted three subsequent edicts meant to ban Christianity, diminish non-Japanese influences, and isolate Japan from the rest of the world. Only the Dutch and Chinese merchants who engaged solely in trade, a practice the shogunate considered “inextricable” to the Japanese market, were allowed to remain while the Portuguese and Spanish were driven out. It is therefore worthy of attention that cartography was a medium through which European influences were tolerably absorbed into Japanese life as beneficial agents of change.

European influences were especially prevalent in the Nanban, which were “southern barbarian” maps named after the Portuguese and Spaniards who crossed Japan’s southern border in the 1500s. Nanban then came to refer to Japanese world maps made between the late 1500s and mid-1600s that were influenced by the Europeans. These 16th and 17th century maps were generally less decorative and more scientific than their predecessors, displaying graduations of latitude, bar scales, blue bodies of water, red and green islands, and an absence of color elsewhere.

Jesuits stationed in Japan introduced Nanban maps. Portuguese explorer, Ignacio Moreira, who entered Japan in 1590 and stayed for two years, improved Japanese cartography by charting more precise coastlines. Nanban maps continued to be used during the period of isolationism, allowing European influences to transcend the borders put up by the Japanese. Starting in the 17th century, European cartographical ideas, tools, and techniques assimilated into Japanese mapmaking. The European era of influence on Japanese cartography produced more scientifically accurate maps reminiscent of traditional modern-day political maps.

European-influenced maps also retained distinctive Japanese characteristics, such as their modified orientation that placed the Pacific Ocean in the center, the Western Hemisphere on the right, and the Eastern Hemisphere on the left. This was meant to propagate a perspective from which Japan was at the world’s center. Also, Nanban maps retained their decorative qualities that kept them from being classified as political maps. Thirty world maps currently exist that were made in the Nanban tradition. Nanban maps were especially influenced by the world map of Abraham Ortelius, while the maps of well-known cartographer Matteo Ricci served as alternatives to Buddhist cosmography in the later Edo period. Xavier, who lived in Japan until 1551, introduced the idea of the spherical earth to the Japanese.

Though other sources place the origins of Japanese
The Evolution of Japanese Cartography

A Nanban world map, reflecting early improvement in the scientific accuracy of Japanese cartography

cartography in the Nara Period, 710 to 784, when land reclamation associated with the rise of Buddhist temples prompted creation of paddy-field maps, most scholars agree geographic maps were first seen in Japan during the Taikwa Period. In the year 646 the Japanese government ordered a survey of provincial borders. They had “cadastral” or Denzu maps made, showing the proportions, worth, and possession of land, chiefly for taxation. These maps were thorough, and noted the locations of both personal property and geographic landmarks. Later, Japan transitioned from divided provinces to a centrally run state that restrained private land ownership. When noble families ignored the edict and settled on private land, Shoenzu maps were made to delineate firm boundary lines of provinces to settle border disagreements. These topographical maps made use of the compass rose and charted distances between the postal stations. Standards of measurement existed, but during these early years precision was often valued over accuracy. Borders were rarely clarified, as artists instead chose to heighten the extreme detail within their existing maps.

The first general maps of the Japanese archipelago were made during the Heian Period, circa the 8th to 12th century. They are traditionally credited to Buddhist priest Gyogi-Bosatsu who was an expert on infrastructure. Anachronistically, however, this map is centered at the Province of Yamashiro, meaning the earliest it could have been made was the end of the Nara period. Pre-modern Gyogi maps that originated in AD 805 continued to be used in the Tokugawa and Meiji periods as nostalgic representations of a geographically and politically changing Japan. Gyogi-style maps remained popular for eight centuries and were thought to be the most accurate type of Japanese map at the time. The earliest known map of Japan as a state was made in 1305. Though it was detailed and included each of the 578 provinces as well as the population, it contained a number of nuances. In particular, the south was oriented at the top of the map, certain provinces were largely out of proportion, and the given population, seven million, was too high for this period.

The Gyogi map remained on the market until 1656 and proved influential to Chinese, Korean, and European maps. The first map of Japan printed in Europe was modeled after a Gyogi map and was created by Ludoico Teixera then distributed by Ortelius in 1595. Ortelius studied Gyogi maps thoroughly, which helped him produce a map of Japan that was more accurate than all of his previous maps. Again, these maps were subject to what the populace believed were important locations. Mapmakers chose to include locations like Gando, an island south of Japan, and Rasetsu, a province north of Japan. Even though these areas were not part of Japan, they were important to the Japanese, as signified by their adoption into social and cultural lore. An important cartographical advance during this time was the commonly accepted portrayal of Honshu, Kyushu, and Shikoku as the three main islands of Japan, while the northernmost island of Ezo suffered a more fluctuating status dependent on politics. The uncertainty of territory fostered a malleable perception of ‘insider’ and ‘outsider’ in Japan.

Another type of Japanese map influenced by the Europeans is the Jotoku-style map. These combine characteristics of the Gyogi-type maps with the coastal accuracy of the Nanban maps. Jotoku maps represent “the influence of European ideas and knowledge from the late sixteenth century, but at the same time they represent a synthesis of indigenous tradition and improvements in knowledge from both Japanese and European sources.” They show a marked improvement from the Gyogi maps, portraying more accurate shapes and scales of locations like Kyushu. One specific Jotoku-style map, the Kawamori map from circa 1627, utilizes European place-names in its representation of Japan, making it evident that the Kawamori creators drew on European sources.

Jotoku-style maps were heavily influenced by European pilots who amended and revised the Gyogi maps they obtained. The scientific accuracy and “chart-like” attributes that characterize Gyogi maps can be attributed to the pilots’ need for precise navigational tools. The pilots mapped several uninhabited islands off the Japanese coast for the first time. The Kyushu coast was depicted in more thorough detail, “reflecting the island’s importance in sixteenth-century trade that from 1545 was conducted mainly with the Portuguese.” The Kawamori is also important because it influenced the creation of future European maps. Several later Italian-made maps resemble the Kawamori map and include similarly emphasized locations. Jotoku-style maps represented an amalgamation of knowledge from both European pilots and missionaries, navigators who required accurate maps for their
voyages and recorded new locations they encountered along the way. The transition from Gyogi maps to more chart-like Jokuto maps was an important milestone in the mid-16th century for Japanese cartography.

At the turn of the 17th and 18th century, mapmaker Ishikawa Ryusen’s general maps of the Japanese nation and townships were more decorative than accurate. His were intended as practical travel aides, but are considered less accurate than the Gyogi maps that came before his. Again, personal preference and individual expression in Japan took precedence over a linear, scientific approach to mapmaking favored by others. One of the first major maps to take a strictly scientific approach was that of Nagakubo Sekisui in 1779, which was a complete map of Japan with an accurate scale, the first use of meridians, the inclusion of the most locations, and a few added ornamentations. Many later maps were modeled after Sekisui’s, whose work remained free from European influence.

Another important contribution of European knowledge to the mapmaking of Japan was the use of the European terrestrial globe starting in 1580. In 1592, Spanish envoy Juan Cobo presented a terrestrial globe with Chinese place-names to the shogunate. European terrestrial globes were often imported by Christian missionaries and employees of the Dutch East India Company as gifts to the shogunate. The emperor first commissioned a Japanese terrestrial globe in 1605. Its geography, which is derived from a Namban map, depicts a worldwide oceanic trade route beginning in Portugal. Although globes represented another important step in the European-scientific direction, there continued to be globes made in the late 17th century based on the Buddhist conception of the world. The movement to integrate European knowledge with the Buddhist image of the earth became stronger in the 19th century, especially after the transfer of European surveying methods and instruments was well established. Even as original Japanese maps remained in use, these instruments allowed the maps to be revised for accuracy more frequently and efficiently.

In particular, European surveying techniques flourished in Nagasaki, a burgeoning international trade port. The Portuguese, rather than the Dutch, were influential in bringing European-style surveying to Japan. The works of Portuguese Jesuit Pedro Gomez were pivotal in the geographic compositions of teachers and students studying surveying. Certain Japanese surveyors were even educated directly by Jesuit and Portuguese navigators. Terminology used by the Japanese in surveying, such as piloto, meaning computation or calculation, have Portuguese roots. Unno considers it noteworthy that no evidence exists of any Dutch influence on Japanese surveying, suggesting the Dutch functioned merely as transmitters of Portuguese information. The misconception of Dutch influence had been perpetuated throughout the Edo period partly because of the endurance of the unique Dutch trading privileges and partly because of the tendency to avoid anything Portuguese after the shogunate’s ban on Christianity. The Portuguese were known for their “evangelical zealotry,” which contrasted the neutral nature of the mercantilist Dutch. With the inception of the Tokugawa period, the Dutch were effectively the only Europeans that Japan allowed to have a direct presence in the nation. This shows another way the Japanese citizens molded their history into their maps. Methods they considered important and acceptable - in this case, those of the Dutch - were adopted into their cartographical practices.

Despite European influence on cartography, it is important to remember that the Japanese government played a crucial role in asserting the importance of mapmaking in Japan. As far back as 796, the Japanese government ordered the creation of provincial maps. Throughout the entirety of the Tokugawa shogunate there were five instances under which the leaders commissioned large projects to compile provincial maps. An important function of maps at this time was to enable the government to keep track of where people lived to ensure accurate allocation of taxes. Some surveys calculated the value of land based on the amount of rice that could be harvested in its soil. Such maps contained detailed depictions of mountains, fields, villages, and bodies of water. Domestic maps during the Tokugawa period, however, suffered from several inaccuracies. Surveyors continually rounded their measurements downward because the hemp rope used to make measurements stretched and contorted with moisture, making the grid-based area calculation method insufficient for measuring irregular non-rectangular areas.

The influence of Matteo Ricci’s maps made its way from China to Japan, symbolizing the greater movement of European knowledge to Japan. Starting in 1605, Ricci’s maps were incorporated into the geography and astronomy curriculum at the Jesuit academy in Kyoto. Almost all subsequent Japanese world maps were based on Ricci’s. One reason his map is so influential is because it was written in Chinese, an accessible language to many Japanese scholars. It is interesting to note that some European place-names appear on the Japanese world maps because, although Japanese scholars could read Chinese characters, it was difficult to translate proper names into the Japanese syllabary, so they borrowed the place-names from the Jesuits.

Ricci’s world maps provided the impetus for Bankoku-sozu maps in 1645, which were the first European-style world maps to be produced within Japan. These maps again show European influence while also retaining non-
Western distinctions. *Bankoku-sozu* maps were oriented with the east at the top, putting the Americas toward the North and Europe and Africa toward the South. They were printed on a scroll, and passed through several transitions of use. Though increasingly accurate, these maps served decorative purposes in homes and were presented as certificates to surveying students. Unfortunately, the quality of *Bankoku-sozu* maps deteriorated as they were revised. After 1646, publishers realized the commercial potential of *Bankoku-sozu* maps and began printing them in encyclopedias and other works intended for the general public. Literacy in Japan continued to grow to almost 50 percent of the male population by the mid-18th century, which increased the utility of maps for Japanese citizens.

Though Dutch presence was absent from Japanese surveying, their influence was tangible in other areas. Japanese education through Dutch materials, known as “Dutch-learning,” flourished in the mid-18th century and significantly influenced Japanese cartography, especially during the transitional time for the shogunate. Tokugawa Yoshimune, who ruled from 1716 to 1745, was a significant reformer and presided over a successful period of economic development. Economic prosperity brought more and more Dutch merchants into the Japanese market and spurred reforms in areas such as the Japanese calendar, agriculture, and Neo-Confucianism. In addition to those who were proficient in diplomatic and mercantile business, numerous Japanese scholars began studying the Dutch language which allowed them to translate many Dutch cartographic works into Japanese.

An interesting facet of the European-Japanese amalgamation of knowledge was confronted in the new world maps. Cartographers encountered difficulty in deciding how to map the Sakhalin area, which was still under exploration and was represented in conflicting ways on European maps. The compilers, striving for accuracy, drew from the most reliable information that existed about the coast of Sakhalin, which was obtained by Mamiya Rinzo during his voyage there in 1808 and 1809 as well as a Chinese Jesuit atlas from 1718 that contained a complete depiction of imperial territory. Overall, the final product was similar to European depictions at the time, but also forged new cartographic paths, being the first map in the world to show the Mamiya Strait.

Japanese political maps in the early modern era were characterized by their lack of politicization, and were only faintly influenced by the “authority and accuracy” that dominated European and colonial maps. Yet, Japan shared similarities with Western cartography in that both linked geographical knowledge with power. What made early Japanese cartography unique is that it increased the strength of the Japanese people as a whole, not the exclusive interests of the government. It “was not dominated by governing authorities, nor was it the vehicle of hegemonic power.” Early cartographers “ultimately refrained from positioning themselves in overtly political ways.” Since maps were not restricted to governmental domain, they could be widely disseminated and understood by the Japanese. Japanese cartographical knowledge flourished, therefore, in that its “meaning [was] not imposed by a singular authoritative source, but generated by the circulation of maps and the multiplication of mapping tropes.”

Due in part to the fact that the shogunate relied on the *daimyo* and the “parcellized sovereignty” in which the *daimyo* divided the island, regimental authority was restricted. Japanese early modern cartography processes were accessible, and “[t]he free flow of geographic information had the unintended effect of leaving the discursive field of mapping open to the innovations and interpretations of non-elites.” Tokugawa maps were rarely made confidential by the government, and were sometimes commercially reproduced.

By the end of the 1500s Japan conducted trade with the majority of the Far Eastern states, including the Philippines, Siam, Annam, and Java. It was at the end of the 16th century that European maps appeared in Japan, the first being a world map brought from Rome in 1590 to the Imperial administrator Toyotomi Hideyoshi. European maps made for China were available in Japan as well.

Japan suffered a severe withdrawal from foreign relations and hence, new knowledge during its period of isolationism. Japan interacted only with its immediate neighbors, Korea, China, and the Ryukyu Islands before being introduced to European knowledge by the Portuguese and Spanish. Occasionally, maps delineated territories of

![Bankoku-sozu map](image_url)
present-day India and Persia, but Japanese relations with these areas were ambiguous and unsubstantial. Japanese maps were based solely on Buddhist and Chinese knowledge during this time. Though Japan actively traded with most of the Far East countries, the policy of isolationism soon extinguished any plans to make maps of these areas. Trade ceased, the building of large ships was banned, and Japanese citizens were forbidden from leaving the country. With the cessation of the exchange of knowledge, books, and maps, “Japanese scholars learned almost nothing about the geographical explorations and discoveries of the rest of the world.”

All that being said, Tokugawa-era maps would change this.

The Tokugawa Era was transformative for Japan, restoring a stable government, lasting peace, and material wealth in Japan. Maps of Japan became more accessible to the literate populace, and allowed them to more readily bring to mind a mental picture of their homeland. Yonemoto characterizes this mentality as “geosophy,” or the consideration of self in relation to territory and geography. This change was due in part to the growth of commercial publishing capabilities. Previously, actual geographic education remained meager, the science of cartography was underdeveloped, and many Japanese people had a fluid view of what constituted their home nation. The strong leadership of the Tokugawa period ended isolationism, resumed trade, and safeguarded the material wealth of the Japanese.

Soon the government commissioned thorough provincial maps again. Cartographers set the standard of measure at 6 inches to a league, with which they took the first land survey in 1605. This scale became commonly used among other cartographers and styles of maps. Cartographers then used this land survey in 1651 to create what is likely the first general domestically produced map of Japan.

Though world maps were not plausible until after the Europeans arrived, early maps played an important role for the Japanese government. As already mentioned, the shogunate allotted sizable resources for the measuring and mapping of not only the Tokugawa realm, which constituted approximately 25% of Japanese land, but also for the whole country. The daimyo were ordered to gather and produce extensive cadastral maps for “the most comprehensive store of spatial information ever compiled by a Japanese government.” Cartographic influence extended so far as to impact the political philosophy of the time. During the late 1600s, Confucian scholars like Kaibara Ekiken (1630-1714) adopted the belief that political order can be found in studying the natural model of the world. They regarded maps as instruments with which to “identify and maintain the class, status, and gender distinctions that defined early modern politics and society.”

Japanese cartography underwent remarkable revision at the latter end of the Tokugawa era, during which its previously detached nature was “confronted directly by the universalizing forces of modern geography and cartography.” Dutch maps were the first to be translated, but by the late 18th century Japanese scholars began working with foreign cartography, such as that of Russia. In 1804, Russian envoy Nikolai Rezanov helped a shipwrecked crew return to Japan and brought several maps to Japanese authorities for translation. These, with other maps the shipwrecked Japanese crew had obtained, made a significant collection of Russian-based Japanese cartographical knowledge.

This development was significant in light of the rising pressure from foreign countries, such as Russia, for Japan to establish international commercial relations. In 1807, therefore, the shogunate ordered the astronomical observatory in Edo to create a new world map for international diplomatic use. The astronomers collected sources from Japan, China, and Europe for this map, and in 1810 they completed a map of the Eastern and Western Hemisphere entitled Shintei bankoku zenzu, or “Newly Revised Map of all the Countries.” Like some earlier Nanban maps, it depicted the Japanese archipelago in the center of the world and included supplementary hemispheric maps centered on Kyoto in the margins.

“Cartographic influence extended so far as to impact the political philosophy of the time”

In the end of 1700s, the arrival of Russian envoys and traders in the Kuril Islands and Ezo modernized Japanese cartographic techniques. Maps were highly valued during this period, often displaying an aura of prized rarity. One anecdote that shows the globalization of maps was the story of Takahashi Kageyasu. In 1828, court official Takahashi Kageyasu secretly traded several books and a small general map of Japan with Phillip Franz von Siebold in exchange for some Russian works and a newly-made map of Dutch holdings. This shows that foreign cartographical knowledge was a commodity during the Tokugawa period and that Japanese authorities attached great significance to maps. It also suggests that foreign maps were sought-after imports, as more recent prints of Japanese maps took on a more classified character.

The incentive to survey and produce more extensive maps was driven by a subtle urgency, which in the light of international trade relations prioritized documenting the coastline. Ino Tadataka was a surveyor and mercantile
mapmaker who undertook the first surveys of Japan’s coastline in 1800, producing the first accurately measured maps of the Japanese islands. Unlike the shogunate provincial maps, “these were guarded as state secrets… which indicates that the security of boundaries, both geographic and political, was acquiring new meanings in the early 19th century.”

Tadataka ushered in the modern period of Japanese mapmaking with his extensive undertaking to survey the entire country of Japan in the sixteen years between 1800 and 1816. By the time of his death, he had compiled 225 maps of the Japanese land. Tadataka’s meticulous attention and practical scales made his maps very accurate and provided an excellent segue into the use of scientific methods in cartography.

A second effect of Japan’s political entanglement with Russia and the domestic unrest in rural and urban areas is what Yonemoto refers to as the “antipolitics of pleasure.” During this time, from the mid-18th through mid-19th century, Japanese cartographers began to focus on the outside world, driven by the allure of unknown places and exotic customs. They forayed into sometimes fictitious mapping travel guides and imaginatively satirical maps.

Japanese techniques of mapping became increasingly standardized and widespread. By 1821, Japan had more than nine hundred political maps at its fingertips. Simultaneous to the fictitious escapist maps of the time, the science and accuracy of mapmaking became highly prized as well. Mapping instruments and methods became more meticulous. Throughout the 17th and 18th century Japanese cartography was heavily influenced by European ideas, methods, and instruments, such as the compass and astrolabe as Japan began to open itself up to European knowledge again. The Rangakusha scholars specialized in the exploration of European knowledge, and their first product was an encyclopedia of maps of Japan, including the first copper-engraved map. This encyclopedia served as the premiere source of geographical knowledge for many Japanese citizens for a long time.

Cartography in the Tokugawa Era influenced future eras of mapmaking in Japan. It led to comprehensive land reform in the Meiji Era and promoted a unified national identity in Japan. The sweeping reforms of the Meiji-era government (1868-1912) included a cartographic revolution in which surveying and mapmaking were integrated as part of a “comprehensive land reform policy and the creation of a national defense system.” This had significant effect on the mindset of the Japanese. Notions of territory and borders became linked to the concept of Japan as a united nation-state. Maps were an important stepping stone to Japan as it entered the 20th century, which was posited to develop into the “Pacific Age.” Schools adopted standardized curriculums of geography that emphasized “the connection between region, nation, and world,” which, along with the Meiji centralization of the mapmaking process in the hands of the state for the purpose of standardizing procedures for measuring and representing land, clarified mapping meaning and purpose.

The importance of mapmaking in Japan continued in the 1900s, when scholars realized the importance of preserving their cartographic history. In the early 20th century many government and scholarly efforts began to track, organize, and catalogue historical Japanese maps. Scholars endeavored to collect the extant remains of ancient Japanese maps for study. Their collections were displayed at the Imperial University of Tokyo and the Japanese Institute in Berlin in 1934 so that these maps could be shared with the populace.

In conclusion, European scientific knowledge had immense influence on Tokugawa-era political maps, making them increasingly thorough and accurate. Yonemoto suggests that Tokugawa-era mapping laid the foundation for nationalism and unity by making spatial knowledge accessible and allowing for the Japanese to better know the geography of their nation. Unno concludes that Japan’s “special relationships with the outside world at various times in its history” shaped its cartographical history in unique ways. While isolated and independent during the Edo period, Japan still absorbed European influences into its maps. Maps such as the Gyogi, Jokuto, and Bankoku-sozu each espoused various European influences. The Portuguese introduced surveying and navigation instruments while banned in 1630. The Dutch influenced empirical studies and catalyzed Japan’s scientific view of the earth. This movement toward science launched forward with the introduction of the heliocentric Copernican system as well as the translation of Dutch world atlases and globe-making manuals. The peace that characterized the Edo period was conducive to allowing interest in culture and mapmaking to flourish. Japanese maps remained distinct throughout the European-led modernization, which served to aid in the acceptance and endurance of European cartographical techniques.

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This past August I had the unbelievable opportunity to travel for a month in Zambia with some of the best individuals I could imagine. Our summer abroad course focused on environmental justice, human rights, and poverty. For thirty days we explored different aspects of the Zambian culture, from city life to its rural villages. Our course’s focus on environmental issues allowed us to visit the forestry headquarters, where we viewed the deforested areas, and tree nurseries that supply commercial lumber uses. Further, we saw the major dam at Lake Kariba, which powers almost all of Zambia, in addition to a massive open pit mine that extracts copper from the bedrock. These visits, along with many other fascinating places, revealed the injustices that such environmental degradation had on local communities, especially those who lived in poverty. The rest of our four weeks involved testing delicious traditional foods, taking a safari through Botswana, experiencing true Zambian music and dancing, walking cheetahs, visiting Parliament, and, of course, meeting some amazing people. Seeing the real Zambia, without tourist perceptions, allowed a better understanding of the people, the culture, and how the environmental issues impact the country.
A Tour of the Zambian Environment

Sunrise in Lusaka, the capital and largest city of Zambia

The Zambian National Assembly allows gazelles, zebras, and monkeys roam around the ground.
Rosario

Right: Tour guides open the massive doors to the ZESCO, the national power utility, hydroelectric plant at Victoria Falls, introducing the tour to the inner-workings of power generation.

Right: Young boys pose as they train for the Zambian army.

Left: Nshima: a traditional Zambian meal eaten with fingers
A Tour of the Zambian Environment

Most of the students on the trip bungee jumped off the Victoria Falls Bridge. This area, the Boiling Pot, is where the white water rafting trip began.

Sunset over Lake Kariba, location of the hydroelectricity portion of the course.
Calculated Engagement: Examining NATO Intervention in the Bosnian War

By Tate Krasner

“Game theory analysis explains how shifts of preferences influence strategies and what each side can do to increase the credibility of these strategies”

INTRODUCTION

In 1991, following a tumultuous decade of economic stagnation and deep political division, Yugoslavia descended into chaos. Without the firm grip of their authoritarian leader Josip Broz Tito, who passed away in 1980, federal leadership deteriorated, relations among the six internal republics collapsed, and civil war broke out. Venomous nationalistic rhetoric, ethnic cleansing, and a multitude of war crimes characterized the conflict.

As reports began to emerge during the war concerning crimes against humanity, the international community, and particularly the North Atlantic Treaty Organization (NATO), the most capable multilateral security organization at the time, faced the decision whether or not to intervene against the Bosnian Serbs. The question of intervention had no easy answer. Debates raged over the potential costs of the operation, both financially and in terms of human lives, while others disputed how effective an intervention would actually be. The post-Cold War world presented an opportunity to Western democratic and capitalist states to assert their leadership, following decades of international polarization. These same nations, though, hesitated to become entangled in a complex conflict that appeared to have no end, and threatened their ability to engage elsewhere around the globe.

A growing consensus maintained that these powers, mainly the NATO countries, had an obligation to protect innocent civilians from mass atrocities.

At the same time, the Republika Srpska, a Serbian administrative entity in Bosnia and Herzegovina, questioned whether or not to continue its offensive to gain further territory in Bosnia and Herzegovina. Supported by Serbia, the Bosnian Serbs hoped to acquire more ground in order to strengthen their position and holdings within the new Balkan order. Despite their numerous military successes, however, the Bosnian Serbs were well aware that their advances garnered the unwanted attention of the international community. In particular, the lengthy Siege of Sarajevo and attacks on the United Nations’ designated “safe areas” alerted the Western world to the growing crisis in the region. Thus, the Bosnian Serbs entered a precarious situation, one in which their strategic decisions had the potential to invoke aggressive responses by NATO.

Game theory analysis evaluates the decision-making of both NATO and the Bosnian Serbs. By examining the Bosnian War in this manner, one gathers a clear understanding of the preferences and strategies of both sides during the conflict.
THE MATRICES

The decisions facing NATO and the Bosnian Serbs, as well as their interrelated nature, present a pertinent opportunity for game theory analysis. Both matrices, pictured below, present the two sides as players with simple “yes” or “no” decisions. NATO must decide whether or not to intervene against the Bosnian Serbs, and the Bosnian Serbs must determine how to proceed with their offensive in Bosnia and Herzegovina. Four possible outcomes emerge within each matrix.

Regarding preferences, it is relatively easy to determine the best and worst outcomes for each side, as these remain constant in both matrices. For NATO, the best outcome is for the Bosnian Serbs to halt their offensive without an intervention, while its worst outcome is to intervene while the Bosnian Serbs continue to fight. For the Bosnian Serbs, the best outcome is to continue the offensive while NATO refuses to intervene, and their worst outcome is to pull back as a result of NATO intervention. NATO would prefer to see the conflict resolved without exerting itself and its resources, peacefully returning to the status quo, while Republika Srpska would focus on gaining territory without interference.

Determining second and third preferences for both sides, however, is slightly more complicated; two separate matrices emerge. In Matrix I, NATO’s second preference is to intervene and halt the Bosnian Serb offensive, while the third preference is to withhold support, even while the Bosnian Serbs continue. In this same matrix, the second preference for the Bosnian Serbs is to halt their offensive if NATO does not intervene, and their third preference is to continue, even in the face of NATO intervention. Thus, Matrix I presents the Bosnian Serbs as being averse to conflict, while NATO values protecting innocent civilians, even if it means risking resources and manpower.

In Matrix II, the second and third preferences of each side are reversed. NATO would prefer not to intervene, even if the Bosnian Serbs continue their aggression. Conversely, the Bosnian Serbs choose direct confrontation with NATO forces instead of retreating. This second matrix presents the two players not only with different preferences, but also with fundamentally different approaches to the game. In this matrix, NATO places emphasis on avoiding conflict, while the Bosnian Serbs value the potential gains from continuing the offensive.

Lastly, it is important to note that any concerns over relative gains have been internalized within the order of preferences. Each actor seeks to achieve its best individual result, regardless of how its outcome compares to that of the opponent. For instance, NATO would always rather achieve the result (B, S) instead of a possibility such as (S, W), even though the gap in the latter option is greater. In practice, this indicates that both NATO and the Bosnian Serbs are focused on attaining a particular result, such as territorial gains or an end to hostilities, rather than simply seeking relative gains.

The Matrices

<table>
<thead>
<tr>
<th>Bosnian Serbs Continue Offensive?</th>
<th>Matrix I</th>
<th>Bosnian Serbs Continue Offensive?</th>
<th>Matrix II</th>
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<tbody>
<tr>
<td>NATO Intervene?</td>
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<td>NATO Intervene?</td>
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<tr>
<td>Yes</td>
<td>Yes</td>
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<td>W , T</td>
<td>W , S</td>
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<td>B , S</td>
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</tbody>
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Preference Key

B: Best  S: Second  T: Third  W: Worst
THREE CUTS OF ANALYSIS

Given the two matrices above, it is now possible to perform three levels of game theory analysis to study the decision-making of both NATO and the Bosnian Serbs. The first cut of analysis examines dominant strategies, likely outcomes, equilibria, and sequence. Next, the second cut of analysis determines whether either side can achieve a more favorable outcome for itself by using strategic moves—including promises, threats, and forcing moves—to alter the status quo. Finally, the third cut of analysis verifies the credibility of these persuasive moves, ascertaining whether each side can believe the other’s stated strategy. Combined, these levels of analysis explain both the perspectives and available options of each player.

The first cut of analysis begins by determining whether either side has a dominant strategy, meaning that, when the players move simultaneously, this choice of “yes” or “no” will always lead to the better outcome, regardless of the other player’s choice. For NATO, the dominant strategy is to play “no”; for Republika Srpska, the dominant strategy is to play “yes.” Assuming the players act concurrently, both would play their dominant strategies; thus, Matrix I will yield a result of (T, B), while Matrix II will lead to (S, B). These outcomes are both in a state of equilibrium, as neither side possesses the ability to unilaterally alter the outcome to its benefit by changing its choice.

It is also necessary to consider whether sequence plays into the predicted outcome of each matrix. In Matrix I, if NATO moves first, it chooses “no,” leading again to (T, B), and if the Bosnian Serbs move first, they select “yes,” producing the same result. Similarly, in Matrix II, NATO chooses “no” first, leading to (S, B), while the Bosnians Serbs choose “yes,” again resulting in (S, B). Through first cut analysis, it is determined that both sides retain dominant strategies in both matrices. Further, we can conclude that sequence does not affect the likely outcome in either case.

The second cut of analysis begins with looking at the expected outcomes of the matrices and asking two central questions. First, are the players satisfied with the likely outcome? Second, if a player is dissatisfied, can it carry out a strategic move of some sort in order to achieve a better outcome; or, if a player is satisfied, can it execute a similar move to secure the likely outcome? For Matrix I, the likely outcome is (T, B), while for Matrix II, it is (S, B). Bosnian Serbs are satisfied with these results and have no incentive to alter the outcome. In both matrices, however, NATO would ideally like to achieve a different result; in Matrix I, the desired outcome is (B, S), and in Matrix II, it is (B, T). NATO would also prefer (S, W) in the first matrix, but it remains unable to either force or persuade the Bosnian Serbs into complacently accepting their worst outcome.

Given the information above, it is now possible to address the second question. For the Bosnian Serbs, securing their preferred outcome is relatively easy. They must simply choose to continue their offensive to guarantee their best result. This scenario is an archetypal example of a “forcing move” in game theory, as NATO is compelled not to intervene in order to avoid its worst outcomes.

The situation is decidedly more complex for NATO, which is attempting to alter the status quo. In Matrix I, NATO can employ a strategic move to achieve (B, S), by threatening to choose “yes” and intervene unless the Bosnian Serbs choose “no” and halt their offensive. Carrying out this threat of intervention leads to the possibility of worse result for both parties, (W, T), but if successful, has the potential to lead to NATO’s best result. Further, the Bosnian Serbs achieve their second preference if they give in to the threat, while defying the threat leaves them with their third preference. NATO has no other strategic alternatives, however, besides this threat.

In Matrix II, NATO has no strategic moves that it can employ. Unlike the first scenario, NATO cannot successfully threaten Republika Srpska. If the Bosnian Serbs were to give in to the threat and choose “no,” halting their offensive, they would be left with their third choice. If they were to let NATO carry out the threat, however, this would result in their second preference. Thus, in this situation, the Bosnian Serbs simply have no incentive to defer to the threat, meaning that NATO has no means or reason to threaten in the first place. In fact, it
Calculated Engagement

Within the second cut of analysis, all strategic moves are viewed as credible. Thus, if NATO were able to make the strategic move first, it would prefer Matrix I, as it could successfully employ a threat to attain its best result. If the Bosnian Serbs were able to use their forcing move first, NATO would prefer Matrix II, in which it achieves its second preference within the likely outcome as opposed to its third. In Matrix I, NATO intends to halt its opponent’s offensive, while the Bosnian Serbs are avoiding conflict, suggesting that there is a strong incentive for the latter party to give in to the former’s threat. In Matrix II, NATO seeks to avoid conflict, while the Bosnian Serbs emphasize territorial gains, indicating that a threat would not influence Republika Srpska as it planned on continuing its campaign regardless. At this stage, these models appear to reflect reality quite accurately.

Lastly, the third cut of analysis ascertains the credibility of the strategic moves, examining whether the players can take any measures to convince their opponent of the gravity of the moves. On this level of examination credibility is not automatically assumed, so each side must persuade the other that it is committed to the strategy and will not alter it. This difference in assumption leads to a key methodological difference for the third cut: whereas in the first two levels, the matrices provided the sole source of analysis, the third cut also considers external factors.

For the Bosnian Serbs, the objective is relatively simple; they must convince NATO that their forcing move is credible and their offensive will persevere, regardless of NATO’s decision. The Bosnian Serbs must establish their commitment early, demonstrate that they will not waver, and persuade NATO that it is too costly to become involved. As long as this commitment is made clear and believable, NATO has no incentive to intervene and become entangled in a drawn-out conflict. During the Bosnian War, the Bosnian Serbs, like the other warring parties, established their commitment on the premise of nationalist and ethnic survival. They maintained that their fight was a necessary struggle to insulate themselves from hostile neighbors. In this manner, the Bosnian Serbs presented themselves as a resolute faction that was not afraid to become embroiled in a prolonged, bloody campaign, thus deterring outside intervention.

Further, by gradually ramping up aggression against protected zones and UN-designated “safe areas,” the Bosnian Serbs tested the limits of NATO. When NATO finally decided to begin a strategic air campaign, Operation Deliberate Force, the Bosnian Serbs retaliated, hoping to send a signal that they would not surrender. Lastly, the Bosnian Serbs attempted to take advantage of NATO’s risk aversion, especially in light of other ethnic conflicts raging elsewhere. In many ways, they rested the credibility of their forcing move on the assumption that NATO would do anything to avoid its worst outcome: protracted conflict with the Bosnian Serbs.

As for NATO, the multilateral organization must convince the Bosnian Serbs that its threat is credible, demonstrating that its commitment is firm and that the organization is willing to carry the threat out, if necessary. Following the Cold War, the international community faced a multitude of ethnic conflicts around the globe, presenting NATO with the opportunity to employ a mixed strategy. NATO could selectively retaliate against certain regional crises with force, thus setting an example to deter other aggressive factions. NATO could have responded to civil war in a country such as Somalia, Rwanda, or Sierra Leone in order to demonstrate its resolve and credibility in the Balkans. Alternatively, NATO could have made it clear that it intended to intervene in the Balkans to send a strong message to hostile regimes elsewhere in the world.

In addition to mixed strategies, NATO retained the option to progressively intensify its response to Bosnian Serb aggression to increase the plausibility of intervention. Instead of immediately committing itself to intervention, NATO could begin with smaller punishments, such as targeted airstrikes or sanctions. While an automatic response often creates a more efficient and credible threat, as seen in nuclear deterrence, for example, NATO lacked the capacity and organizational infrastructure to effectively put such a response into practice. As a multilateral organization with numerous members, NATO would most likely pursue more limited measures first. Finally, because NATO cannot employ a strategic move in the second matrix, the third cut of analysis is not applicable.

CONCLUSION

Given the analysis above, it is now possible to determine how accurately game theory models interactions during the Bosnian War, and whether it provides any additional insights within the case study. It appears that the game theory analysis is consistent with reality. Matrix II accurately

“In many ways, they rested the credibility of their forcing move on the assumption that NATO would do anything to avoid its worst outcome: protracted conflict with the Bosnian Serbs”
represents both sides at the beginning of the conflict, as NATO opposed intervention and the Bosnian Serbs pushed their offensive. In this early stage, the former was left without any strategic options to improve the outcome, while the latter had no incentive to tone down its operations. These facts are reflected in the matrix and align with the historical reality of the conflict.

The later stages of the war, however, are better modeled by Matrix I. As NATO faced growing pressure to act and the Bosnian Serbs became increasingly weary of war, the preferences of both sides shifted. Moreover, the model accurately reflects the emergence of a strategic alternative for NATO, that is, a threat of intervention. In reality, NATO successfully threatened Republika Srpska, using smaller, tactical airstrikes to increase the believability of a full-scale intervention. Thus, game theory analysis is consistent with the reality of the Bosnian War, accurately presenting the preferences and available options of both NATO and the Bosnian Serbs.

The conclusions reached through game theory analysis are relatively intuitive, but the advantage of such a method is its straightforward nature. At the outbreak of hostilities, the international community hesitated to take action in the Balkans, maintaining that it could do little to affect change in a region mired in such intense nationalistic and ethnic strife. By reducing the seemingly incomprehensible scenario to a simple game of two players with two decisions, a clearer conception of the conflict emerges. Further, while many diplomats, strategists, and politicians assumed a state of perpetual and invariable conflict in the Balkans, the game theory model suggests differently: the analytical differences between Matrix I and Matrix II demonstrate that changes in preference radically shift the strategic dynamic and the tactical options available to each party involved.

Ultimately, game theory analysis is not effective in providing additional, external insight; rather, it explains how shifts of preferences influence strategies and what each side can do to increase the credibility of these strategies. This method is particularly useful in a case such as the Bosnian War, in which a confluence of cultural, ethnic, and political tensions suggested to leaders that there were no obvious solutions available to them. Thus, like any effective model, this analysis provides a comprehensible, albeit simplified, understanding of an incredibly complex situation.

Tate Krasner is an International Studies major, Class of 2016

A meeting of the NATO Ministers of Defense and of Foreign Affairs
The French nation lived through five revolutions to become the stable state it is today; hopefully, Ukraine will only need two. Compared to the turbulence of the Euromaidan, that is, the wave of demonstrations beginning in Kiev in late 2013 demanding closer European integration, two years ago, lasting political change is slow. During my one-month stay in Kiev, the capital of Ukraine, the head of Ukraine’s National Security Service was deposed and the Chief Justice of the Kiev Appellate Court was taken into custody after a search of his chambers revealed car keys registered under relatives and thousands of dollars supposedly intended for “grocery shopping” and “dentist work.” Despite the controversial instances presented on the news, my internship with Member of Parliament (MP) Hanna Hopko was a positive experience and revealed the amount of progress made within the Ukrainian government.

Every member of MP Hopko’s staff was incredibly friendly and welcoming. For the duration of my stay we communicated exclusively in English to improve their language ability—a critical skill in the field of foreign affairs. Though MP Hanna Hopko is head of the Foreign Affairs Committee, she was also involved in many domestic projects including reforms for increased tobacco control and increased public access to medicine as well as judicial reforms that will allow for the review of contested decisions. MP Hopko belongs to a new generation of politicians removed from illicit post-Soviet approaches to representative work. As one of my first tasks, she requested a report comparing different countries’ foreign affairs to improve the efficacy and organization of her own.

In the past, Ukrainian foreign policy was to a large degree reactive and proceeded under Russian influence due to Ukraine’s strong economic ties its more powerful neighbor. MP Hopko is unencumbered by connections between politicians and oligarchs that allowed many parliamentary decisions to be settled covertly prior to Parliament’s session. Throughout June, I observed her approach to resolve problems and her ability to assert her position, despite her young age and limited experience. By translating her public announcements and documents, I saw her thorough understanding of the critical internal and external challenges facing Ukraine, along with her conviction to work to overcome these challenges and improve the country.

The first activity on my schedule was a meeting with a group of German journalists regarding the current military conflict in Eastern Ukraine. The discussion ranged from issues such as the importance of accurate news sources, as much of the news Europe receives about Ukraine is via Russian propaganda, to the politics of nomenclature - why the issue is considered a ‘conflict’ and not a ‘war.’ Also discussed was the plans for coordination with the international community to end the conflict and the necessity to stabilize Ukraine’s
future relationship with Russia. The Ukrainian MPs present at the meeting represented various factions within Parliament, which ensured representation of the varying and often discordant opinions. Though the situation requires federal coherence and unity, the inclusion of disparate opinions must be respected as the fullest manifestation of democracy.

Through the internship I was also an active observer to many meetings of the Committee on Foreign Affairs. I witnessed the Committee’s inner workings: the presentation of daily agenda, the input of invited specialists, the discussions, and the presence of a representative of the Civic Council. Moreover, the attendance of a Civic Council representative at these meetings guarantees government transparency and sets a precedent for public input in federal decision making.

My position also allowed me to work with a burgeoning organization independent from the federal government that will organize the monitoring of funds donated for humanitarian efforts in Ukraine. The organization will join foreign donors with Ukrainian non-governmental organizations (NGOs) and volunteer organizations to ensure that the donations are effectively allocated and accounted for. Given Ukraine’s history of corruption, the work of this group is critical both to current realities of donations and the general need for federal regulation and fiscal accountability. My contribution to this project included a compilation of international organizations currently helping Ukraine as well as a research report on foreign precedent for regulating international aid.

Finally, during my stay in Kiev, MP Hopko’s office organized my visit to Ukraine’s Parliament and the office of Ukraine’s Reanimation Package of Reforms. At Parliament, I witnessed presentations, debates, and voting procedures. Visiting the office of the Reanimation Package, I learned of the team’s progress and future plans. The team works with experts, NGOs, and members of Parliament and helps to advocate for key reforms in education, the tax code, and the health system. This civic platform emulates the effect of the Euromaidan, through which citizens across the nation volunteered with the military, the families of soldiers, and internally displaced people. For instance, in the office of the Reanimation Package, a former doctor with no previous legal experienced began work to reform the healthcare system and increase the efficacy of hospital organization.

I witnessed many such cases throughout my internship. Before participating in the Euromaidan and being elected as the first chair of her party, the “Samopomich,” Hanna Hopko herself was a journalist from Lviv. Provided the long-standing government system of old men adhering to the rules of corruption remaining from the Soviet era, it was refreshing to see many young faces—in the Committee on Foreign Affairs, in the group working to monitor foreign funds, and in the office of the Reanimation Package of Reforms—all of whom are working enthusiastically to reorganize the government, improve the nation, and finally get Ukraine on the right path. Euromaidan has allowed for a fresh start and provided opportunities for a new generation of voices to participate in decision-making and governance.

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Femicide in Ciudad Juárez
By Meaghan Kelliher

3 Ibid. 51, 53.
5 Alicia Gaspar De Alba and Georgina Guzmán,10.
6 Ibid.
11 Marina Prieto Carrón et al, 27.
12 Ibid.
13 Ibid.
14 Elvia R. Arriola, 28.
15 Ibid, 28, 33-34.
17 Ibid, 65.
18 Elvia R. Arriola, 28.
21 Ibid.
22 Ibid.
23 Mercedes Olivera, 50.
25 CCD (Católicas por el Derecho a Decidir) and CMDPDH (Comisión Mexicana de Defensa y Promoción de los Derechos Humanos), 2012, “Femicide and Impunity in Mexico: A Context of Structural and Generalized Violence.”

26 Ibid.


31 Alicia Gaspar De Alba and Georgina Guzmán, 3.

32 Ibid, 2.


34 Ibid.


36 Ibid, 5-7.


Image 1: http://womenartandculture.blogspot.com/2012/05/analysis-of-favianna-rodriguezs.html

Image 2: http://cache1.asset-cache.net/xc/824008-workers-make-speakers-in-a-maquila-in-ciudad-juarez-mexico.jpg?v=2&c=I-WSAsset&k=2&d=OCUJ5gVf7YdJQl2Xhkc2QHI2hY0e-IYzzZTWm5T2Z2ReDXopmBfkKH-2vOEi-Nbi0&b=O-DU2


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**Investment in Renewable Energy**

By Connor Tobin


3 Ibid, 3.


6 Smaller and Mann, 16-17.


15 “Saudi Arabia aims to be world’s largest renewable energy market.” arabnews.com

16 “Saudi Arabia’s nuclear, renewable energy plans pushed back.” Reuters

17 Quoting Keisuke Sadamori from Saudi Arabia aims to be world’s largest renewable energy market

18 The company falls under the auspices of the Public Pension Agency and the Public Investment Fund’s Sanabil Direct Investment

19 “Saudi Arabia’s ACWA Power shifts toward renewable energy.” Reuters

20 Tweed, Katherine. IAE: ‘The cost of fossil fuels to an economy is not reduced by subsidies; it is just redistributed.” http://www.greentechmedia.com/articles/read/IEA-The-Cost-of-Fossil-Fuels-to-an-Economy-is-Not-Reduced-by-Subsidies-i

(Note: the original source for this material, the 2014 World Energy Outlook, was not available. This article is a summation of its key points.)

Image 1: http://i.kinja-img.com/gawker-media/image/upload/s--NUwxJPbw--/18lqyyv5cfmdzjpg.jpg


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**The Modern American Divorce Law and Its Roman Roots**

By Allicen Dichiara


3. Treggiari, Roman Marriage, 443.


7. Ibid, case 78.

8. Ibid, case 75.


11. Frier et al, case 80.

12. Ibid, case 78.

13. Ibid.

14. Treggiari, Roman Marriage, 448.
15. Grubbs, 189.
16. Frier et al, case 78.
17. Grubbs, 190.
18. Treggiari, Roman Marriage, 466.
21. Ibid.
22. Ibid.
25. HG 2015.
26. Treggiari, Roman Marriage, 466.
27. Katz, 87.
29. Frier et al, cases 84 and 86.
31. Ibid.
33. Ibid.
34. Katz, 94.
35. Treggiari, Roman Marriage, 476.
36. Ibid.
37. Ibid, 471.

Image 1: https://upload.wikimedia.org/wikipedia/commons/c/c9/Mars_Venus_Louvre_Ma1009.jpg
Image 2: http://www.vanneman.umd.edu/socy441/trends/divorce.html
Image 3: http://commons.wikimedia.org/wiki/File:Miles_Ehrlich_judge.jpg
Image 4: http://www.romanobritain.org/2-arl_life/arl_marriage.htm#.VUTjlYuzD0t

The Evolution of Japanese Cartography
By Olivia McCaffrey

4. Ibid, 2.
5. Yonemoto, 175.
6. Unno, 347.
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11. Ibid, 347.
14. Yonemoto, 175.
15. Ramming, 17.
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17. Ibid, 390.
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29. Yonemoto, 177.
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35. Ibid.
36. Ibid.
37. Yonomoto, 1.
38. Ibid, 176.
40. Ibid, 2-3.
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47. Yonemoto, 173-174.
51. Ibid, 175.
52. Ramming, 17.
Calculated Engagement
By Tate Krasner

2 Doyle and Sambanis, 328-332.
4 Pugh, 384.

Image 1: https://upload.wikimedia.org/wikipedia/commons/1/1d/EA-6B_Prowler_supporting_Joint_Endeavor_from_CVN-73.jpg
Figure 1: Map of Bosnia-Herzegovina. http://natocouncil.ca/wp-content/uploads/2015/06/Bk-map.png

Ukrainian Politics Since the Euromaidan
By Sofia Soroka

Image 2: https://pbs.twimg.com/media/Bg3bKz9CAA76eu.jpg:large
Guidelines for Kaleidoscope Submissions

1. Any topic relating to international relations, cultures, and history, as well as personal cultural experiences, is acceptable. Any graduate or undergraduate student may submit to Kaleidoscope.

2. Papers should be submitted in Microsoft Word format. Submissions should not exceed 10 pages, single-spaced, with size 12 font. At least three relevant photos, with captions and sources, are required.

3. Photo diaries and other creative submissions are encouraged. Photo diaries should include at least 5 photos with captions and a brief description of the entire photo set.

4. Please submit, along with your submission, your name, school, department, class year, and contact information.

5. Any and all material that is not your own must be cited, including photos and images, using Chicago Citation Style.

6. Submissions should be emailed to bc.kaleidoscope@gmail.com with the word “Submission” included in the subject line.