



# A Game Theoretic Approach to the Israeli-Palestinian Conflict

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# A Game Theoretic Approach to the Israeli-Palestinian Conflict

Eryk Dobrushkin

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## **Abstract**

Today, the Israeli-Palestinian conflict, now over a century old, remains as destructive and intractable as ever. To gain a deeper understanding of the dynamics which perpetuate the Israeli-Palestinian conflict, I apply the lens of three instructive game theory models: Hawk-Dove, Evidence Games, and Norm Enforcement. I document features of the Israeli-Palestinian conflict consistent with such game theory models and develop insights as to the underlying incentives and fundamental dynamics compelling such individual and societal activity. Ultimately, I propose policy measures, informed by the game theory analysis, to produce substantive progress towards reconciliation and peace.

### **Acknowledgements**

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# 1 Introduction

Over the course of the 20<sup>th</sup> and 21<sup>st</sup> centuries, the Israeli-Palestinian conflict has incited four full-scale wars as well as countless military skirmishes. Yet, beyond destabilizing the immediate region, the ongoing conflict also inspires terrorist organizations operating around the globe.<sup>1</sup> Today, the Israeli-Palestinian conflict, now over a century old, remains as destructive and intractable as ever. As such, the conflict remains among humanity's most controversial and contentious debates – waged in religious, cultural, and political arenas in every corner the globe.<sup>2</sup>

As one of the world's most polarized and politicized debates, the Israeli-Palestinian conflict is the subject of ample academic research across history, sociology, political science, and legal studies (Tessler, 2009; Scham et al., 2005; Boyle, 2003; O'Brien, 1991). However, to date, limited research has been conducted on the conflict in the field of economics, specifically within the subfield of game theory. This neglected perspective leaves a potent gap in the literature. A game theoretic approach to the Israeli-Palestinian conflict will illuminate its ultimate causes and unveil fundamental dynamics that perpetuate and exacerbate the conflict. For leaders to design public policy that produces progress towards peace, they must understand and address the fundamental incentives and dynamics that govern individuals' actions in the conflict.

This paper improves our understanding of the Israeli-Palestinian conflict by leveraging the tools of game theory to evaluate the ultimate causes of the conflict and its longevity. Specifically, this thesis will examine the underlying incentives and structural dynamics of the Israeli-Palestinian conflict to illuminate how and why it persists. Furthermore, this paper will offer targeted and viable

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<sup>1</sup> Terrorist organizations that cite the Israeli-Palestinian conflict as justification for military action include al-Qaeda, ISIS, Hezbollah, and Hamas among others (Hegghammer & Wagemakers, 2013).

<sup>2</sup> Between June 2006 and June 2016, 68 out of 135 resolutions adopted by the UN Human Rights Council have pertained to the Israeli-Palestinian conflict. Between 2012 and 2015, the UN General Assembly adopted 97 resolutions criticizing specific nations, 83 of which (86%) condemned Israel (UN Watch, 2016).

policy measures to advance the cause of reconciliation and peace. To unveil such insight, I wield three models of game theory. First, the Hawk-Dove model captures dispute over a valuable resource, provides valuable insight into the foundational issues of contradictory land claims that triggered and continues to perpetuate the Israeli-Palestinian conflict. Second, the Evidence Games model unveils biased revelation, selective search, and internalization as the mechanisms which produce social and bilateral polarization within and between Israeli and Palestinian society. Third, and finally, the Norm Enforcement model exposes the normative structure that perpetuates the conflict, impeding interethnic cooperation and collaboration. Together, these three models unearth and reframe issues at the core of the Israeli-Palestinian conflict, revealing that progress towards a lasting peace requires substantial cultural change and thoughtful public policy by leaders on both sides.

The paper proceeds as follows. Section 2 provides a brief literature review. Section 3 presents a broad historical overview of the region of Palestine and the modern Israeli-Palestinian conflict. Section 4 provides background on the use of game theory in analyzing social behavior, establishing its utility in subsequent analysis. Section 5 outlines the Hawk-Dove model and explicates insights on competition and role setting in the conflict. Section 6 presents the Evidence Games model and unearths the mechanisms that drive polarization. Section 7 describes the Norm Enforcement model and draws on its insights to understand social and international norms that perpetuate the conflict. The final section concludes with overarching implications of such analysis, highlighting lessons for policy makers and national leaders as well as proposing further areas of application.

## **2 Literature Review**



The sheer quantity and broad diversity of academic literature on the Israeli-Palestinian conflict is practically overwhelming, spanning disciplines including history, sociology, political science, and legal studies, among others. However, the vast majority of such research is decidedly partial, typically originating from the affected communities themselves. Furthermore, there exists a steep imbalance in the academic literature available – the lion’s share of which is written by Jewish and Israeli scholars. While such contributions are valuable, a relatively small proportion of research attains the ideal of truly objective academic work. Recognizing this drawback in the literature, I will proceed to introduce the most prominent research on the conflict, both partial and objective.

As much of the Israeli-Palestinian conflict concerns historical events, comprehensive overviews of the dispute are typically written as detailed histories. The quintessential, impartial histories are Morris (2001) and Tessler (2009). Morris, an eminent Israeli historian critical of prevailing historiography, retraces the history of the Zionist-Arab conflict focusing careful attention to meticulously deconstructing historical myths. Meanwhile, Tessler (2009) examines a diverse collection of existing literature and primary sources to present the conflict from both Israeli and Palestinian perspectives.

Other prominent research on the conflict is concentrated among sociology, political science, and legal studies. Published in successive studies, Sham et al. (2005) and Sham et al. (2013) present a detailed archetype of Israeli and Palestinian national narratives through the voices of citizens themselves. Their work illuminates the two divergent historical narratives of the conflict presented by the Israeli and Palestinian communities. Addressing the legalities of the conflict, O’Brien (1991) and Boyle (2003) provide a comprehensive survey of the legal and moral dimensions of the conflict from the Israeli and Palestinian perspectives, respectively. Such works are merely highlights from an abundance of academic literature across history, sociology, political

science, and legal studies. However, one influential field that has yet to undertake significant research into the conflict is that of economics, specifically within the subfield of game theory.

The tools of game theory have profoundly influenced the way in which practitioners and academics analyze conflict. Most notably, game theory was vital in shaping American foreign policy and military strategy throughout the Cold War (Hesse, 2010). Yet, research utilizing game theory in application to the Israeli-Palestinian conflict is scarce. One such exploration is van Negri (2012). This review adapts Bueno de Mesquita's strategic behavior model to the Israeli-Palestinian context, examining the interplay between Israeli political concessions and Palestinian extremist violence. Through a historical analysis of flashpoints in the conflict, the paper concludes that peace is only possible if moderate political leadership controls both the Israeli Knesset and Palestinian Authority. A more comprehensive examination of the conflict is Webb (2008), which wields several models of evolutionary game theory to investigate the very nature of the Israeli-Palestinian conflict. Webb (2008) attempts to best capture the structure of the conflict by estimating the most accurate parameters in a variety of evolutionary game theory models. This approach is insightful insofar as uncovering the most illustrative model of the Israeli-Palestinian conflict, yet it stops short of extrapolating consequences for the conflict. My work will strive to draw out insights and actionable public policy implications from such models.

### **3 History**

Understanding and analyzing the Israeli-Palestinian conflict requires a familiarity with its history and current trajectory, with a keen eye for discerning misconception from fact. The demographic and political history of the region is long and tumultuous. Containing the Holy Land, the biblical promised land of the world's three major religions, Palestine has been and remains to

this day a fierce battleground. In the following paragraphs, I seek to present a relevant, succinct, and unbiased history of the region and its people.

Though the origins of the Israelite people are historically debated, the first appearance of the name in secular historical record occurred in 1200 BCE. During most of the biblical period, the Israelites were the demographic and political authority in Palestine<sup>3</sup>. The Davidic Kingdom, referenced in the Bible, ruled the region in one form or another from 1020 BCE until 586 BCE, when the nation was conquered by the Babylonians. For the next seven centuries, Israelites, later to be known as Jews, retained demographic dominance in Palestine, but never regained stable political control over the region (King & Stager, 2001).

Two specific events mark the decline of Jewish demographic dominance in Palestine: the Bar-Kokhba revolt in 132 CE and the ascension of Constantine as Emperor of Rome in 324 CE. Starting in 63 CE, the majority Jewish population of Palestine came under Roman occupation. In 132 CE, the bloody Bar-Kokhba revolt began – a violent Jewish uprising in the Roman province of Judah. To quell the rebellion, Emperor Hadrian dispatched a massive Roman force to the region. As recorded by Roman historian Cassius Dio, 580,000 Jews died in the conflict while multitudes more perished of famine and disease. “Thus”, Cassius Dio writes, “nearly the whole of Judea was made desolate” (Cary & Foster, 1914). In the aftermath, Roman Emperor Hadrian renamed the province Syria Palaestina. However, the event that sealed the demographic decline of the Jews in Palestine was the ascension of Constantine the Great as Roman Emperor in 324 CE. With his coronation, Christianity became the official religion of the Roman Empire. Subsequently, widespread Christian conversion and immigration to the Holy Land secured a Christian

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<sup>3</sup> Throughout, I occasionally refer to the region under dispute between Israelis and Palestinians as “Palestine”. This is in no way a political statement, but merely simplified terminology with which to refer to the region.

demographic majority in Palestine that would last through the end of the 8<sup>th</sup> century CE (Montefiore, 2012).

The Middle Ages was a particularly tumultuous and vicious period in the region of Palestine. Political control passed to Muslim Caliph Umar in the 7<sup>th</sup> century CE, who peacefully ruled over a majority Christian population during his reign. However, later caliphs were less tolerant of religious plurality and through persecution, conversion, and migration, the region became majority Arab Muslim by the middle of the 9<sup>th</sup> century CE. The territory remained as such through the Middle Ages, despite incessant Christian Crusades and intermittent Christian rule. By the end of the Middle Ages, the Ottomans secured rule of the Levant, and in 1516 Palestine came under the purview of the Ottoman Empire. Ottoman rule of Palestine lasted into the modern era, until the region was conquered by British forces in 1917 at the close of the First World War (Montefiore, 2012).

The roots of the modern Israeli-Palestinian conflict lie in the late 19<sup>th</sup> century, with the emergence of Zionism. Facing the existential, twin problems of worsening anti-Semitism and assimilation in Europe, Jewish intellectual leaders across the continent sought answers to their continued plight living in diaspora as persecuted minorities without a country. Motivated by historical and religious connections to Eretz Israel (the Biblical Land of Israel), leaders of the movement cultivated Zionism – the national movement of the Jewish people that advocated for the reestablishment of a Jewish homeland in the Land of Israel (Engel, 2013).

As the manifestation of the Zionist dream, nearly 600,000 Jews migrated to Palestine between 1882 and 1948 fleeing persecution across Europe. The Jews arriving in Palestine settled predominantly on land purchased by Zionist organizations from absentee Arab landowners. In doing so, the Zionists displaced thousands of Arab tenant farmers living and working on purchased land. Such displacements angered the populace, frequently boiling over as violent riots between the Arab and Jewish communities. Yet, this status quo persisted through much of the 20<sup>th</sup> century until May 1947, when the British relinquished their imperial claim to Palestine, leaving its sovereignty to be decided by the newly minted United Nations (Shapira, 2014).

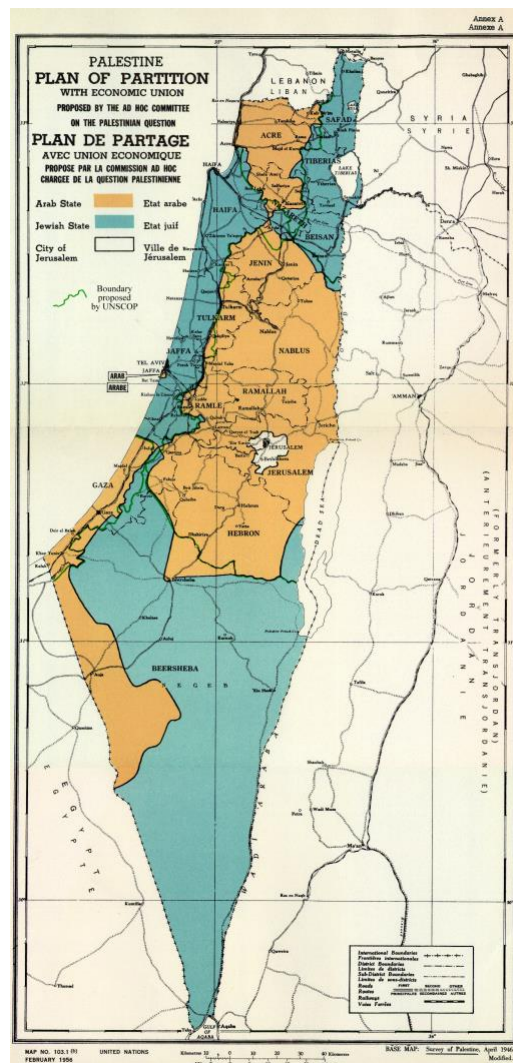


Figure 1

On November 29, 1947 the General Assembly of the United Nations voted to adopt Resolution 181 by a vote of 33-13-10, partitioning Palestine into two separate Jewish and Arab states as shown in Figure 1 (United Nations, 1956). Member states voted as follows:

For (33)	Against (13)	Abstain (10)
Australia, Belgium, Bolivia, Brazil, Belorussian Soviet Socialist Republic, Canada, Costa Rica, Czechoslovakia, Denmark, Dominican Republic, Ecuador, France, Guatemala, Haiti, Iceland, Liberia, Luxemburg, Netherlands, New Zealand, Nicaragua, Norway, Panama, Paraguay, Peru, Philippines, Poland, Sweden, Ukrainian Soviet Socials Republic, South Africa, United States, USSR, Uruguay, Venezuela	Afghanistan *, Cuba, Egypt *, Greece, India, Iran *, Iraq *, Lebanon *, Pakistan *, Saudi Arabia *, Syria *, Turkey *, Yemen *	United Kingdom, Argentina, Chile, China, Colombia, El Salvador, Ethiopia, Honduras, Mexico, Yugoslavia

Not a single Middle Eastern nation (starred above) voted in favor of the partition plan, rejecting the authority of the United Nations to determine sovereignty in the region (United Nations, 1990).

On May 14, 1948 David Ben-Gurion declared the establishment of the State of Israel. The next morning, the armies of Egypt, Jordan, Iraq, and Syria, invaded the nascent state, seeking to wipe the new nation off the map. Ultimately, the Israelis mounted a successful defensive campaign, repelling the invading forces beyond the original boundaries of the State of Israel as is shown in Figure 2 (Rekacewicz, 1998). A ceasefire between the warring sides was brokered by an international coalition which composed the 1949 armistice line, later dubbed the Green Line. This boundary remained the status quo until hostilities resumed in June 1967 (Herzog, 2005).

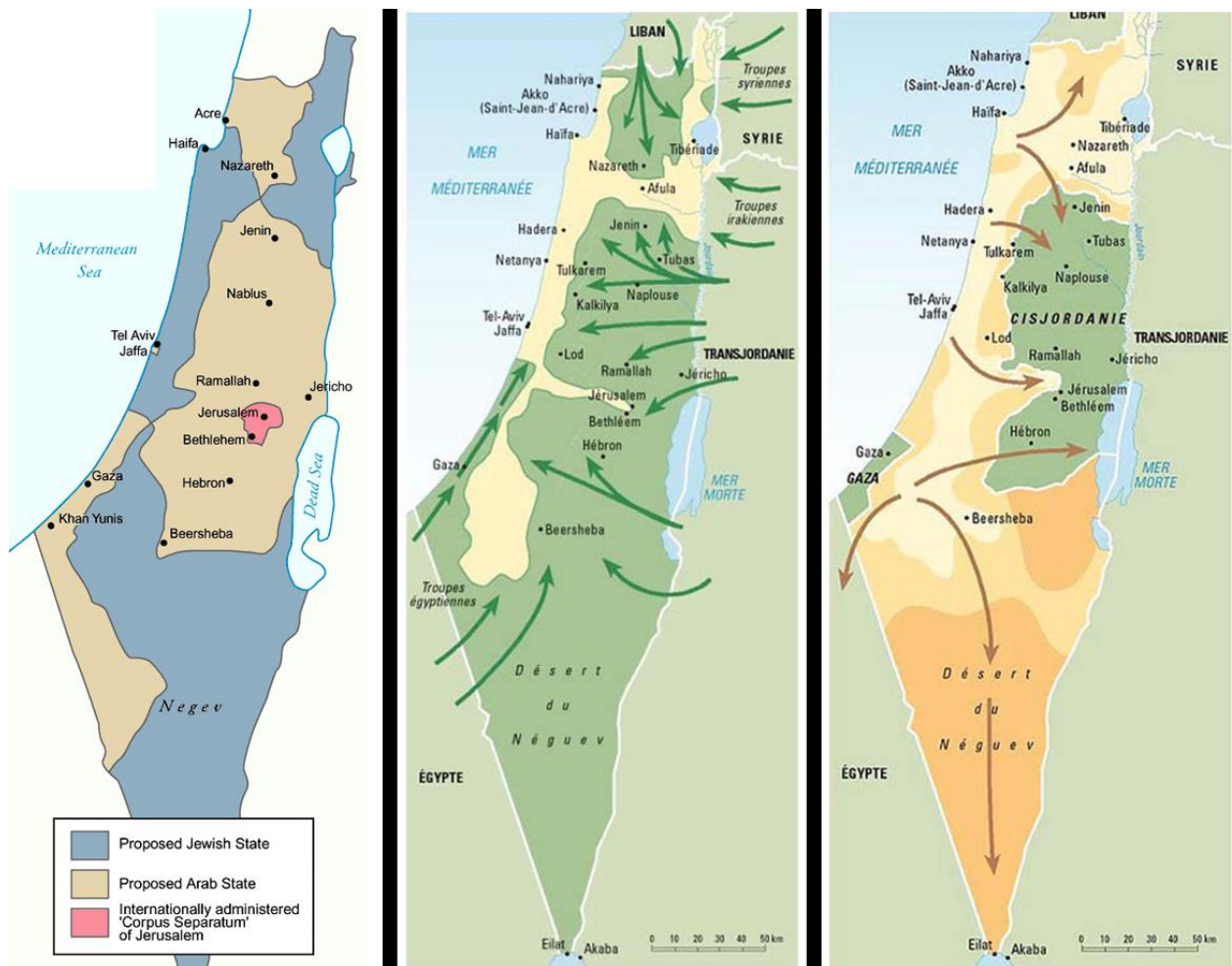


Figure 2

In early June 1967, the armies of Egypt, Jordan, Syria, and Lebanon massed on Israel's border preparing once again to wage war. On June 5, Israel launched a pre-emptive strike. Within six days, Israel beat back the Arab armies, seizing Egypt's Sinai Peninsula, Jordanian territory west of the Jordan River, the Golan Heights, and Jerusalem. Israel again held on to all the captured territory, driving thousands of Palestinian Arabs out of the Holy Land and bringing a million others under Israeli sovereignty (Morris, 2001).

Israel fought its last conventional war against Egypt and Syria, beating back the two nations that launched a surprise attack in October 1973. Since the conclusion of this conflict, limited



binational peace agreements have been negotiated between Israel and its neighbors on the principle of exchanging land for peace. Through such peace agreements and land swaps, the region has not again seen conventional war. Nonetheless, extreme factions on both sides of the conflict have continued to perpetrate violence and insight hatred between both peoples.

The most recent major development in the conflict was the signing of the Oslo Peace Accords on the White House Lawn in 1993. The agreement required the Palestinian Liberation Organization (PLO) to renounce terrorism and for Israel to enter into a phased withdrawal from the West Bank and Gaza. As a result, the Palestinian Authority was given legislative, executive, and judicial authority over the West Bank and Gaza as a presumed stepping stone to statehood. Most crucially, the agreement included mutual recognition of each nation's right to exist, bringing about a paradigm shift in the conflict, well captured by the prodigious handshake between Israeli Prime Minister Yitzhak Rabin and Yasser Arafat (Tessler, 2009).

The Oslo Peace Accords were meant to put Israeli and Palestinian leaders on a sure path toward peace and a permanent two-state solution. However, over the past three decades, internal political tensions, extremist actors, and tribal instincts have scuttled continued efforts to forge a lasting peace. This paper sets out to analyze the incentives and structural dynamics that have caused the conflict and continue to thwart progress towards peace.

## **4 Game Theory and Social Behavior**

Game theory is a framework of mathematical models used to analyze interactions between rational decision makers in cooperation and conflict. In a given game, each player acts according to a strategy which maximizes their expected payoff, subject to the actions of others. Such games are often evaluated using the concept of Nash equilibrium, a unique scenario in which neither player



may increase their payoff by unilaterally deviating.<sup>4</sup> Conventional game theory is used to understand the behavior of rational and deliberate actors, such as heads of state, firms in competition, or participants in an auction (Schelling, 1977; Tirole, 1988; Milgrom & Weber, 1982). In such settings, the fundamental assumptions of rational, intelligent actors are typically upheld and thus, agents' behavior is expected to be consistent with Nash equilibrium.

As game theory has developed and diversified, academics in a variety of fields have come to utilize such models in their own work. Notably, game theory has been fruitfully applied to evolutionary biology and psychology – cases in which agents do not act deliberately, but instead according to strategies with which they were born or intuit. In this context, agents play a game of life and realize various payoffs. The next generation then plays the game of life themselves, so on and so forth. In such a setting, if a mutant reaps superior payoffs, they are more likely to survive and realize reproductive success, causing the advantageous behavior to spread from generation to generation. Based on this logic, academics have formalized mathematical models demonstrating how natural selection forges the arc of evolution, applicable to biological, psychological, and cultural evolution (Maynard Smith, 1982; Nowak, 2006).

One influential insight that has emerged from this burgeoning literature is that natural selection and evolution dictate that behaviors converge to Nash equilibria. This follows from the simple logic that behaviors which make an individual relatively successful in survival and reproduction will become more prevalent. Thus, behaviors will converge to a strategy which cannot be improved unilaterally, defined as a Nash equilibrium. Grounded in such reasoning, game

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<sup>4</sup> The mathematical representation of a Nash equilibrium is a strategy profile  $s^* \in S$ , such that for all individuals  $i \in I$

$$U_i(s_i^*, s_{-i}^*) \geq U_i(s_i, s_{-i}^*) \quad \forall s_i \in S_i$$

theory models have been insightfully applied to explain phenomena including sex ratios, cooperation, and territoriality (Fisher, 1958; Trivers, 1971; Maynard Smith & Price, 1973).

Just as natural selection dictates the arc of evolution, so too do such dynamics shape human nature. Human intuitions and ideologies are the expression of our evolved psychology. Thus, our resulting behaviors bear the mark of their game theoretic origins (Hoffman, Yoeli, and Navarrete, 2016). Exploring such origins can offer clarity to the seemingly inexplicable features of human behavior. Recently, models of evolutionary dynamics applied in the human context have done just that, offering explanations to phenomena including the adoption of religious rituals, the expression of emotion, and the use of indirect speech (Sosis & Alcorta, 2005; Frank, 1988; Pinker, Nowak, & Lee, 2008). Just as game theory has emerged as a valuable tool for studying human behavior, it presents an insightful lens through which to examine human conflict, in particular, the Israeli-Palestinian conflict.

Israeli Nobel laureate Robert Aumann described the utility of game theory well, writing that, “detail distracts attention from essentials. Some things are seen better from a distance; ... the coalitional form of a game, by abstracting away from details, yields valuable perspective” (Eatwell, Milgate, & Newman, 1989). This thesis aims to achieve precisely this objective: to strip the Israeli-Palestinian conflict of much of its complicated, obscuring detail in order to expose essential, causal dynamics in the conflict.

## **5 Hawk-Dove and Land Claims**

The Hawk-Dove game is a fundamental model in game theory which captures a dispute over a valuable resource. Applied to evolutionary biology, it has revealed distinct characteristics of animal territoriality (Maynard Smith & Price, 1973; Davies, 1978). These findings are applicable in the human context as well, revealing valuable insights into human attitudes and beliefs about

ownership (Desciolo & Karpoff, 2015). In this chapter, I will employ the Hawk-Dove model to discern specific events that instigated and continue to perpetuate the Israeli-Palestinian conflict. Ultimately, leveraging insights from the model, I contend that unilaterally establishing a national border between Israel and Palestine presents a promising path toward reconciliation and peace.

## 5.1 Hawk-Dove Model

The Hawk-Dove game is a model of dispute over a valuable resource. A description of the mathematical model is as follows. In this model, each agent chooses whether to fight for some resource or concede, which is equivalent to choosing whether to play Hawk or Dove.<sup>5</sup> If one agent fights and the other concedes, the fighter claims the full resource, worth  $v$ . If both fight, each has equal probability  $\frac{1}{2}$  of victory, while both pay a cost of fighting,  $c$ . Thus, in expectation each will earn  $v/2 - c$ . If neither fight, the pair splits the resource and each claim  $v/2$ . The scenarios listed above with their respective payoffs are enumerated below in the matrix form of the Hawk-Dove game.

		Player 2	
		<i>Hawk</i>	<i>Dove</i>
Player 1	<i>Hawk</i>	$(\frac{v}{2} - c, \frac{v}{2} - c)$	$(v, 0)$
	<i>Dove</i>	$(0, v)$	$(\frac{v}{2}, \frac{v}{2})$

Figure 3

When  $v/2 < c$ , the only Nash equilibria are those in which one player fights and the other concedes. This can be understood as a best response function mathematically as follows:

$$U_i(s_i = \text{Hawk} \mid s_j = \text{Hawk}) = v/2 - c < U_i(s_i = \text{Dove} \mid s_j = \text{Hawk}) = 0 \quad (1)$$

$$U_i(s_i = \text{Hawk} \mid s_j = \text{Dove}) = v > U_i(s_i = \text{Dove} \mid s_j = \text{Dove}) = v/2$$

---

<sup>5</sup> Note that the game theory terminology Hawk and Dove are unrelated to the political science terminology of hawkish and dovish.

This set of equations demonstrates that an individual's optimal strategy is to assume the opposite role as their opponent. Thus, so long as fighting is relatively costly ( $v/2 < c$ ), an individual can never benefit by deviating from this equilibrium strategy, constituting a Nash equilibrium.

Considering this two-player game, the Nash equilibrium is for one agent to play Hawk and the other to play Dove. However, in a population of size  $n$ , players have no way to ensure they are engaging an opponent of the opposite type. In this setting, the optimal strategy is to condition one's action on that of their competitor, which requires anticipating their opponent's role. To do so, players must condition on an uncorrelated asymmetry – an arbitrary asymmetry in an otherwise symmetric game that distinguishes between the players but does not impact payoffs. Vitrally, such an uncorrelated asymmetry must be discrete and common knowledge if it is to be viable (Hoffman et al., 2018).

A classic example of such an asymmetry, well documented in nature, is incumbency. Incumbency often dictates behaviors of animal territoriality – that is, why animals behave aggressively to defend territory where they have arrived first, even if incumbency provides little to no defensive advantage (Maynard Smith & Price, 1973).<sup>6</sup> In fact, research has determined that incumbency is the best indicator for whether or not an individual fights vehemently to defend a valuable resource (Davies, 1978; Sigg & Falett, 1985). This phenomenon is the result of natural selection and evolutionary dynamics which have driven territorial animal behavior toward this Nash equilibrium.

In disputes over possession and ownership, humans are subject to the exact same dynamics. This equilibrium is manifest in our understanding of ownership, which drives us to

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<sup>6</sup> Incumbency may be defined as an uncorrelated asymmetry as it is both arbitrary and does not impact payoffs. Incumbency has such aspects since it is determined by random chance and has no impact on the value of the contested resource.

believe a resource belongs to us if we arrive first. Thus, we also condition how aggressively we defend valuable resources by the incumbency paradigm. As evidence for such an instinct, one need look no further than any sibling dispute in which a child shouts “I had it first!”. Nonetheless, recent academic research has emerged to support the existence of this feature of human psychology using experimental simulations and comprehensive analysis of court rulings on disputed ownership (DeScioli & Wilson, 2011; DeScioli & Karpoff, 2015).

While incumbency is one prominent form of uncorrelated asymmetry, it is crucial to note that individuals may condition on any viable uncorrelated asymmetry – that being one which is discrete and common knowledge. One such uncorrelated asymmetry which influences our sense of property rights is investment in a resource. This pattern has been observed in cities that occasionally grant property rights to squatters, in which a key determinant of such cases is whether the residents have invested in the property (Neuwirth, 2006). Another such indicator is a legal deed or contract, which establishes legal ownership.<sup>7</sup> The possible uncorrelated asymmetries are boundless, one just needs to analyze such indicators in context to understand how they dictate the roles assumed in conflict.

In discussing Hawk-Dove, it is valuable to assess the validity of underlying assumptions in the model. Most notably, the model assumes that fighting is relatively costly ( $v/2 < c$ ). This assumption is fundamental to the model, driving its central conclusions. Thankfully, this assumption is reasonable since physical conflict in nature often ends in the complete disablement or death of the losing party. Sustaining such serious injuries negatively impacts an individual’s fitness significantly, overwhelming any potential gain from conflict. In fact, ceremonial fighting,

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<sup>7</sup> A contract may be defined as an uncorrelated asymmetry as it is both arbitrary and does not impact payoffs. A contract has such aspects as an abstract modern construct delineating ownership that has no impact on the value of the contested resource.

territorial displays, and posturing are well documented phenomena that animals utilize in lieu of physical fighting to verify and obey uncorrelated asymmetries (Eibl-Eibesfeldt, 1961).<sup>8</sup> In addition, the model assumes confrontation is a symmetric game, in which each individual is equally likely to capture the resource. This assumption serves merely as simplifying in the model, as the fundamental results are robust to fluctuations from this exact probability (Osborne, 2004).

Fundamentally, the Israeli-Palestinian conflict is a territorial dispute between two nations over a single geographic territory. The Hawk-Dove model's insights into conflict over a contested resource are extremely valuable in examining this issue at the core of the conflict. The model predicts that conflict will arise when agents receive opposing signals from uncorrelated asymmetries (Davies, 1978). This may occur in two distinct ways: first, when two individuals interpret the same uncorrelated asymmetry differently, and second, when two plausible uncorrelated asymmetries point in opposing directions (DeScioli & Wilson, 2011). Both such sources of conflict are present in the Israeli-Palestinian conflict. This section will examine the uncorrelated asymmetries that have defined the conflict, investigating how we have reached the status quo.

## **5.2 Historical Uncorrelated Asymmetries**

Throughout the history of the Israeli-Palestinian conflict, uncorrelated asymmetries either disagreed upon or pointing in different directions have fomented tension and violence, instigating and perpetuating the interethnic conflict. Such uncorrelated asymmetries appear in a variety of forms throughout the history of the conflict. This section will investigate the uncorrelated asymmetries that have driven the development of the Israeli-Palestinian conflict.

### **5.2.1 National Narratives of Incumbency**

---

<sup>8</sup> In the context of the Israeli-Palestinian conflict, one might contend that the Israeli military is sufficiently strong as to conquer the region and incur minimal cost, violating the assumption that  $v/2 < c$ . However, Israeli behavior is constrained by the international community and by the United States in particular. As such, external actors are able to raise the costs of such an action by withhold financial and military support to Israel, preserving the assumption.

Recall from history that the Israelites, predecessor to the Jews, were among the ancient inhabitants in the land of Palestine. However, through military conquest, religious conversion, and mass migration, the Jews became the minority in the land by the 4<sup>th</sup> century CE. Subsequently, the land passed through Christian and Muslim hands, but attained a Muslim Arab majority by the middle of the 9<sup>th</sup> century CE. This Muslim Arab majority endured through the early 20<sup>th</sup> century, when it was challenged by the first waves of Zionist immigration. Given the intuition of the Hawk-Dove model and the uncorrelated asymmetry of incumbency, one would expect the Palestinian community, having lived as the clear majority in the region for the past millennium, to assume the role of Hawk. Conversely, one would expect the flood of new Israeli immigrants to assume the role of Dove. However, history tells a different story. In reality, both factions asserted a national narrative of incumbency and the seeds of the Israeli-Palestinian conflict were sown.

Fundamentally, each nationality touts a monolithic narrative of incumbency. The Israeli narrative is one of a peoples' righteous return to their sacred, historical homeland. The Palestinian narrative is of a people unjustly dispossessed of their land by colonizing invaders (Scham et al., 2013). Viewing the arc of history through the lens of their own national narrative, both sides disagree on which way the uncorrelated asymmetry of incumbency points. Thus, as predicted by the Hawk-Dove model, both factions assumed the role of Hawk. The resulting dispute laid the foundations of the Israeli-Palestinian conflict.

The Israeli national narrative of Jewish incumbency draws upon historical record as well as religious tradition. Israelis trace the origin of the Jewish people and the Israeli state back to early Israelites, who first appear in secular historical record circa 1200 BCE. Furthermore, Israelis assert the modern state as the rightful successor to the Kingdom of Israel, which reigned intermittently from 1020 BCE until 586 BCE. While historically verifiable, these tales of the ancient land of Israel originate in the Bible. In the text, God repeatedly promises the land of Israel to the Jewish

patriarchs and their descendants, stating, “This is the land I promised to Abraham, Isaac, and Jacob ... ‘I will give it to your descendants’” (Deuteronomy 34:4). Affirming these connections explicitly, the nation’s first Prime Minister David Ben-Gurion once remarked, “After [the Jews] long adventure on the stage of world history for 4,000 years in all countries of the world, we returned to the point of our origin and founded the third government of Israel” (Gurion, 1972). In sum, Israelis assert an inherited right to the land religiously, historically, and legally.

The traditional Palestinian narrative of incumbency asserts an inherited territorial claim, while highlighting the relative recency of Jewish migration to the region. Staking out their own claim to incumbency, Palestinians assert themselves as the true descendants of the region’s ancient inhabitants, including the Canaanites, Jebusites, and even Israelites (Daoudi & Barakat, 2013; Haaretz, 2018). Palestinians stress their unbroken presence in the region since the 9<sup>th</sup> century in crafting a robust incumbency claim. Furthermore, Palestinians assert that by the early 20<sup>th</sup> century there was a clearly identifiable Palestinian identity and nationality, constituting as a legitimate nation-state in the region (Scham et al., 2013). Thereby, the historic Palestinian presence and uninterrupted possession of the region’s land constitute an irrefutable claim to incumbency. In stark contrast, Palestinians label Zionism as a 20<sup>th</sup> century European colonialist enterprise bent on robbing Arabs of their ancestral land (Daoudi & Barakat, 2013). In sum, the Palestinian national narrative asserts Palestinian incumbency in the region while stressing the relative recency and colonial nature of Zionism.

Understood through the perspective of divergent Israeli and Palestinian historical narratives, it is clear that the uncorrelated asymmetry of incumbency is interpreted inversely by each nationality. Thus, as each faction conditions on opposing interpretations of the uncorrelated asymmetry of incumbency, conflict in the region is unsurprising, consistent by the Hawk-Dove model.



### **5.2.2 Land Deeds v. Squatters Rights**

Recall that throughout the late 19<sup>th</sup> and early 20<sup>th</sup> century, Zionist organizations purchased large tracts of Palestinian land from absentee land owners to support Jewish migration to Palestine. These purchases displaced thousands of local tenant farmers who had been living and working the land for generations. Mass displacement infuriated the local populace, often erupting in violent riots between the Arab and Jewish communities in the British Mandate of Palestine. This tension and conflict are the result of two opposing uncorrelated asymmetries, which indicated to both Jews and Arabs that they retained rightful ownership over such properties.

The violence observed between the Israeli and Palestinian communities throughout the 1930s was a direct result of the collision of two divergent conceptions of land ownership. On one hand, European Jewish migrants touted legal deeds purchased from absentee landowners as justification for their ownership of land. On the other hand, Arab tenant farmers subscribed to a Middle Eastern conception of ownership, which was constituted by living, working, and investing in one's land. To the native population, the exchange of a meaningless paper deed could never constitute proper ownership. Thus, each faction touted what they believed to be verifiable justification for rightful ownership, while rejecting the claims of their opponent. Two different uncorrelated asymmetries, valid only in one's given cultural context, pointed in different directions. As such, both Israelis and Palestinians, conditioning on culturally significant uncorrelated asymmetries, asserted rightful possession and assumed the role of Hawk. Thus, as predicted by the Hawk-Dove model, violent clashes ensued.

### **5.2.3 British Promises**

Throughout the course of WWI, Britain solicited political and military support from colonized peoples across the globe. For instance, in exchange for support in the war effort against

the Ottoman Empire, Britain promised both Arabs and Zionist Jews political independence in the land of Palestine. In a letter dated October 24, 1915 Sir Henry McMahon, His Majesty's High Commissioner in Egypt, promised Sharif Husayn ibn Ali of Mecca "to recognize and support the Independance [*sic*] of the Arab within the territories included in the limits and boundaries proposed" (McMahon, 1915). The agreement established Britain's commitment to the creation of an independent Arab homeland, including the region of Palestine. Nevertheless, on November 2, 1917, the Balfour Declaration was published, reading: "His Majesty's government view with favour the establishment in Palestine of a national home for the Jewish people" (Balfour, 1917). The declaration pronounced Britain's support for the formation of a Jewish state in Palestine, directly contradicting the commitment of the McMahon-Husayn correspondence. With the disingenuous agreements of the McMahon-Husayn correspondence and Balfour Declaration, Britain bestowed new meaning to the notion of a "promised land" in Palestine.

Recall that following WWI, the crumbling Ottoman Empire ceded control of Palestine and Transjordan to Britain, marking the creation of the British Mandate for Palestine. Immediately, the British government's contradictory promises to Palestinian Arabs and Zionist Jews came to the fore. Based on the McMahon-Husayn correspondence and Balfour Declaration, Palestinian and Israeli proto-state institutions readied to declare independence. Instead, the British instituted strict colonial rule, precluding either nationality from asserting autonomy. Thus, conditioning on the contradicting promises of independence made during the war, both factions began to incite violence against one another and their British colonial ruler. The failure of the British government to abide by the uncorrelated asymmetries of the McMahon-Husayn and Balfour Declaration sowed the seeds of the emerging Israeli-Palestinian conflict.

#### **5.2.4 Authority of the UN**

Recall that on November 29, 1947 the United Nations voted to adopt Resolution 181 by a vote of 33-13-10, partitioning Palestine into separate Jewish and Arab states. Every Middle Eastern member nation voted in the negative, rejecting the authority of the United Nations to determine sovereignty in the region. On May 14, 1948 the State of Israel was declared in Tel Aviv. The next day, Egypt, Jordan, Iraq, and Syria invaded Israel, attempting to wipe the new nation from the map.

Armed with an understanding of uncorrelated asymmetries, it is clear that here two sides disagreed on the authority and legitimacy of an uncorrelated asymmetry: the passage of UN Resolution 181. Israel, citing the legality of a vote by the international community, declared themselves an independent state. Meanwhile, Israel's Arab neighbors rejected the notion that an international body might determine sovereignty in the region. Thus, the Arab nations moved to quash a state they believed had no legitimate right to exist. Disagreeing over the validity of the uncorrelated asymmetry of Resolution 181, both sides mobilized to defend their perceived legitimate claim, consistent with the Hawk-Dove model.

### **5.3 Contemporary Study**

While the Hawk-Dove model is certainly valuable in assessing historical causes of the Israeli-Palestinian conflict, the model also provides a worthwhile perspective for contemporary and predictive study. This section uses the Hawk-Dove model to examine contemporary issues exacerbating tensions in the Israeli-Palestinian conflict.

#### **5.3.1 Land Swaps and Loss Aversion**

A fundamental component of every previous Israeli-Palestinian peace process has been mutually agreed land swaps, effectively defining the precise borders separating the two states. Yet, on the rare occasions when negotiations have reached the stage of finalizing such details, precise

land swaps have posed a significant, if not insurmountable hurdle. This impediment may be understood through the psychological phenomena of the endowment effect and loss aversion, themselves well explained by the Hawk-Dove model.

The endowment effect is the human tendency to value objects that we possess more highly than identical objects that we do not possess (Kahneman, Knetsch, & Tversky, 1990). In the behavioral economics literature, many explain the psychological puzzle of the endowment effect with loss aversion, which is the human tendency to prefer avoiding losses to acquiring equivalent gains. However, while the endowment effect and loss aversion are closely related, both are well explained by the Hawk-Dove model (Gintis, 2007). The Nash equilibrium of the Hawk-Dove model dictates that an individual will fight for a resource they possess, while acquiescing to a competitor with incumbency. In accordance with this Nash equilibrium, human psychology has evolved to value objects we possess more highly than those we do not, eliciting behaviors observed by economists as the endowment effect and loss aversion. Thus, a compelling application of the Hawk-Dove model is in exploring the influence of the endowment effect and loss aversion on the conflict. Specifically, this framework will aid in understanding the modern impasse in peace negotiations surrounding the key issues of land swaps and a Palestinian right of return.

It is vital to take into account the historical context within which Jews migrated en masse to Palestine. In the late 19<sup>th</sup> and early 20<sup>th</sup> century colonialism was not the exception, but the norm. European Jewish migrants settled on a land that itself was subject to British colonial rule. Since migrating to the region, Jewish settlers and their descendants have constructed a thriving nation, building lives in the State of Israel. Though the practice of colonization may be condemned in retrospect, an Israeli's instinct to defend their nation comes not from an ideal supporting colonization. Rather, it is grounded in the human instinct to protect and defend territory which one

possesses. As a result, citizens are reluctant to relinquish land for peace or conduct land swaps, a clear manifestation of the endowment effect.

In many ways, the Palestinian people present an analogous claim. For the larger part of the last millennium, generations of Palestinians have lived and worked in the land of Palestine. Thus, the displacement of Palestinians during the 1948 War, known as the Nakba, echoes loudly in the national consciousness. Despite being resettled in the West Bank, Jordan, and elsewhere, Palestinians still yearn to return to their homeland. As such, the Palestinian national narrative maintains that Palestinian lands were unjustly seized by a conquering colonial power. This perceived injustice, a manifestation of the human instinct for loss aversion, lies at the heart of Palestinian demands for a right of return and repatriation. For many, such concessions are the only way to mend the damage of their loss.

Understanding the uncorrelated asymmetry of ownership and possession, manifest in human psychology as the endowment effect and loss aversion, one can appreciate the obstacle of proposed land swaps, as well as Israeli unwillingness to trade land for peace and Palestinian demands for a right of return. With such issues at the core of both parties' negotiated demands, the psychological phenomena of the endowment effect and loss aversion present strong impediments to a negotiated peace agreement.

### **5.3.2 International Borders and the Green Line**

In the international community, national borders are among the most robust and ubiquitous of uncorrelated asymmetries. Internationally recognized borders possess the instrumental characteristics of a robust uncorrelated asymmetry as both discrete and common knowledge. Once a national border is drawn, the equilibrium dynamics of the Hawk-Dove model dictate the roles assumed and subsequent actions taken on either side of the boundary. A well-

defined national border induces the Nash equilibrium dynamics that prevent conflict and facilitate optimal outcomes for both factions involved.

The Israeli and Palestinian communities have no such well-defined border. World maps ambiguously outline the region as an assortment of provisional boundaries and occupied territories. The closest parallel to a mutually agreed national border in the region is the Green Line. The Green Line was established in the aftermath of the Arab-Israeli War of 1948. Never intended as the basis for a permanent settlement and named simply for the ink it was written in, the Green Line has since become an internationally recognized standard for a future peace agreement (Herzog, 2005). As such, the international community hopes to establish this rough border line as a powerful uncorrelated asymmetry: the primary signal upon which each nationality conditions its actions. However, studying the Green Line through the lens of the Hawk-Dove model, it is readily apparent why it fails as a robust uncorrelated asymmetry in the Israeli-Palestinian conflict.

The Green Line lacks the crucial characteristics of a national border, undermining its viability as an uncorrelated asymmetry. Fundamentally, an uncorrelated asymmetry must be both discrete and common knowledge. The Oslo Peace Accords, which established the Green Line as the basis for future border negotiations functionally transformed the boundary into a flexible, negotiable variable. Introducing such ambiguity undermined the ability of the Green Line to serve as an uncorrelated asymmetry by violating the property of discreteness. Therefore, the Green Line has been unable to serve as a viable uncorrelated asymmetry or robust national border. As such, role expectations are uncertain and equilibrium dynamics are illusive. Thus, it is unsurprising that both Israelis and Palestinians have taken actions that jeopardize the feasibility of the Green Line as a permanent national border.

## **5.4 Policy Implications**

As we have seen, the Hawk-Dove model is valuable in assessing the historical causes and contemporary disputes at the core of the Israeli-Palestinian conflict. As such, the model provides a valuable framework for political leaders and policy makers to craft targeted public policy. In this section I examine two contemporary issues at the heart of the Israeli-Palestinian conflict: West Bank settlements and the Israeli security fence. Leveraging insights from the Hawk-Dove model, I offer a policy recommendation to address these issues and produce progress towards a lasting peace.

A contentious dispute at the center of the modern conflict is the existence and continued expansion of Israeli settlements beyond the Green Line. Israeli settlements are civilian communities built in the occupied Palestinian territories inhabited predominantly by Jewish, Israeli citizens. Conservative estimates by the UN predict that about 800,000 Israeli citizens live in settlements beyond the Green Line. Despite severe condemnation from the international community, Israeli settlement activity has continued to accelerate in recent years (United Nations, 2018). Uninhabited territory that is legally spoken for, but otherwise unclaimed is a target for motivated settlers seeking to construct facts on the ground and establish an Israeli foothold in the West Bank. Studied through the lens of the Hawk-Dove model, strategic settlements are a clear, concerted effort to establishing squatters' rights and de facto incumbency over territory in the West Bank. Such settlements are a direct, intentional impediment to a final settlement.

The Israeli West Bank wall is a separation barrier dividing Israel proper from the Palestinian territories, laid roughly along the Green Line. Though the barrier was initially presented as a temporary security measure in a time of heightened tensions, it has since transformed into the de facto border between Israel and Palestine, regulating the passage of people and goods between Israel proper and the Palestinian territories. Thus, the security barrier constitutes a powerful uncorrelated asymmetry in the Israeli-Palestinian conflict, as a discrete and

mutually observable signal analogous to a national border. Therefore, its replacement of the Green Line as the basis for a future border between Israel and Palestine is well predicted by the Hawk-Dove model. As such, the construction of the security barrier may be considered an effort by Israel to unilaterally establish national borders while bypassing internationally sanctioned border negotiations.

Though consequential as a unilateral alternative to internationally sanctioned negotiations, the security barrier is most controversial for its exact positioning between Israeli and Palestinian territory. About 15% of the security barrier runs along the Green Line, while 85% cuts into West Bank Palestinian territory, encircling major Israeli settlements. The UN estimates that a projected 191,000 acres are enclosed between the security barrier and Green Line, comprising roughly 14% of the West Bank (United Nations, 2011). As such, a majority of the international community condemns the barrier as an Israeli effort to unilaterally seize territory belonging to a future Palestinian state. Without a shift in the status quo, the uncorrelated asymmetry of the security barrier may evolve into the permanent political border between the future states of Israel and Palestine.

Studying the settler movement and security barrier through the lens of the Hawk-Dove model illuminates the incentives and implications of such activity. However, both practices are merely symptoms of a more fundamental problem: the lack of a well-defined national border between Israel and Palestine. Without an unambiguous, discrete, and mutually observable national border, roles will remain poorly defined, equilibrium will remain elusive, and such duplicitous practices will endure. As such, public policy must aim to establish a robust uncorrelated asymmetry in the conflict, thereby fostering the mutually beneficial equilibrium dynamics captured in the Hawk-Dove model. In order to prevent further antagonizing cross-border activity and establish a



robust uncorrelated asymmetry, Israeli political leaders must unilaterally establish and enforce a permanent border between Israel and Palestine based upon the existing security barrier.

Former Israeli Prime Minister Ariel Sharon implemented similar policy in the early 2000s. Recognizing that the demographic, diplomatic, and security status quo existentially threatened the Israeli state, Sharon began pursuing the two-state solution unilaterally, initiating construction of the security barrier and withdrawing Jewish settlers from the Gaza Strip (Levin, 2014). Today's Israeli political leaders have the fleeting opportunity to complete the disengagement efforts initiated by Prime Minister Sharon. A renewed policy of disengagement and separation would include unilaterally establishing a national border along the security barrier and withdrawing settlers from beyond the new boundary. This policy serves to recognize existing facts on the ground and combat creeping territorial ambitions of the settler movement, de facto establishing two states for two people.

Simply instituting a national border will dramatically alter the dynamics of the conflict. Delineating a discrete and mutually observable national border defines a robust uncorrelated asymmetry upon which Israelis and Palestinians may condition and coordinate their actions. As a result, roles on either side of the barrier will become well-defined, enabling mutually beneficial equilibrium dynamics to emerge. In addition, the incentives underlying continued settler activity and barrier construction deeper into the West Bank are effectively erased. Unilaterally establishing a national border between Israel and Palestine addresses a fundamental challenge at the heart of the Israeli-Palestinian conflict, effectively treating the symptoms of settlement activity and barrier construction.

Undoubtedly, this policy will encounter fierce opposition, both from within Israeli and Palestinian society as well as from the international community. However, applying the insights of the Hawk-Dove model, it is evident that without delineating a national border the factions may

never realize permanent peace. The repeated failure of internationally sanctioned negotiations to yield substantive progress leaves policy makers few promising paths toward peace. Unilaterally establishing a national border between Israel and Palestine generates a robust uncorrelated asymmetry, ushering in the equilibrium dynamics of the Hawk-Dove model and placing the two factions on a viable path towards reconciliation and lasting peace.

## **6 Evidence Games**

Polarization is both a state and a process, referring to the divergence of group attitudes and beliefs to ideological extremes. The phenomenon of polarization is well-documented by pundits, psychologists, and economists alike, noted for its ability to foment intolerance and conflict. Yet, the mechanisms through which polarization arises and is exacerbated are less well understood. Yoeli, Hilbe, and Hoffman (2019) explicate a game theory model capturing two distinct characteristics of persuasive spin: biased revelation and selective search. Coupled with the intuition presented in Trivers and von Hippel (2011) that humans internalize their own persuasive spin, the model uncovers the causal mechanisms that drive polarization. In this chapter, I leverage the Evidence Games model to investigate the polarization of Israeli and Palestinian societies and examine its influence and impact on the conflict.

### **6.1 Evidence Games Model**

The Evidence Games model developed by Yoeli, Hilbe, and Hoffman (2019) mathematically rationalizes human behaviors of persuasive spin, explicating the equilibrium conditions that motivate biased revelation and selective search. When combined with the intuition presented in Trivers and von Hippel (2011) that humans internalize their own spin, the Evidence Games model illuminates the causal mechanisms of polarization. The simplest form of the mathematical model is presented below.

There are two agents, a sender and a receiver. There are two possible states of nature  $\omega \in \{A, B\}$ . The sender acquires evidence that the state is A or B with probabilities  $q^a$  and  $q^b$ , respectively. Evidence lies in the set  $\{a, b, \emptyset\}$ . A signal  $a$  is evidence that the state is A, while a signal  $b$  is evidence that the state is B. All evidence acquired by the sender is private information, unless revealed to the receiver. The sender has a persuasion motive, wherein the sender's payoffs are increasing in the receiver's belief in a certain preferred state. Thus, receivers expect the sender to present supportive evidence and conceal contradictory data, adjusting their interpretation of obtained evidence accordingly. The sender cannot benefit from deviating from such expectations. If the sender were to deviate by concealing supportive evidence or revealing damaging data, the receiver would possess a lower belief in the desired state, harming the sender's payoff. Thus, equilibrium conditions dictate that the sender will reveal evidence if and only if it is supportive.

In addition, consider now that the sender may determine the intensity and source of the search for evidence. First, the sender determines the intensity of the search for evidence,  $c \geq 0$ . Subsequently, the likelihood of drawing evidence is  $q^\omega \lambda(c)$  for  $\omega \in \{A, B\}$  and some function  $\lambda$ , given  $\lambda' > 0$  and  $\lambda(0) = 0$ . Second, the sender determines the source of the search by selecting  $q^a$  and  $q^b$  from a commonly known set of probabilities  $Q \subset [0, 1] \times [0, 1]$ . Receivers expect the sender to search thoroughly for favorable evidence and minimally for contradictory data. Furthermore, receivers expect the sender to select probabilities of  $q^a$  and  $q^b$  liable to return supportive evidence. As such, receivers adjust their interpretation of obtained evidence accordingly. The sender cannot benefit from deviating from such expectations as doing so would harm their persuasive argument and thereby, reduce their payoff. Thus, equilibrium conditions dictate that the sender search diligently for supportive evidence among favorable sources.

Trivers and von Hippel (2011) assert that “self-deception evolved to facilitate interpersonal deception by allowing people to avoid the cues to conscious deception that might reveal deceptive intent.” As such, the authors depict individuals as both the deceiver and the deceived, simultaneously the agent and victim of their own persuasion motive and manipulative intent. Marrying the equilibrium dynamics of Yoeli, Hilbe, and Hoffman (2019) with this insight from Trivers and von Hippel (2011) it becomes evident that humans internalize their own spin. The internalization of persuasive spin is precisely the mechanism that induces polarization.

To illustrate this process and the polarization that it produces, let us consider the following example. Consider two agents, a sender and receiver, obtaining, revealing, and receiving evidence in four illustrative iterations of the evidence game<sup>9</sup>.

Evidence Obtained	Accurate Beliefs	Evidence Revealed	Purported Beliefs (Sender)	Bayesian Beliefs (Receiver)
$a, \emptyset$	0.8	$a$	0.8	0.5
$a, b$	0.4	$a$	0.8	0.5
$\emptyset, b$	0.1	$\emptyset$	0.4	0.14
$\emptyset, \emptyset$	0.4	$\emptyset$	0.4	0.14

In the numerical example provided above, the sender obtains a variety of two-signal combinations which foster statistically accurate beliefs about the state of the world. Subsequently, the sender reveals only favorable signals to the receiver, offering purported beliefs about the state of the world. Consequently, the receiver generates posterior beliefs about the state of the world, given their assumptions of the sender’s persuasion motive. More significantly, however, the sender internalizes the purported beliefs as predicted by Trivers and von Hippel (2011). As such, the sender adopts biased beliefs about the state of the world consistent with their persuasion motive.

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<sup>9</sup> All calculations are based on standard Bayesian techniques, given the evidence obtained and revealed. Illustrative numerical example replicated from Yoeli, Hilbe, and Hoffman (2019), see for in-depth Bayesian calculations.

The fundamental dynamics and conclusions of the model are consistent with a robust literature in psychology and behavioral economics. Evidence of biased revelation and self-deception is provided by Eil & Rao (2011) and Sunstein et al. (2017), which reveal humans' propensity to over-emphasize favorable evidence while ignoring contradictory data. Furthermore, the persuasive strategies of selective search have been experimentally observed, most notably by Ditto & Lopez (1992), which finds that individuals search more intensely for supportive evidence than for undesirable data. Finally, the precise mechanisms of polarization: self-deception and the internalization of spin, are consistent with Kunda (1990) and Mele (1997), which conclude that motivated reasoning and self-deception are evolutionary advantageous behaviors. As such, the Evidence Games model is not only theoretically sound, but has been experimentally observed and substantiated in a range of academic literature.

Before advancing it is valuable to assess the validity of underlying assumptions in the Evidence Games model. Fundamentally, the model assumes that the sender is motivated to persuade, wherein the sender's payoffs are increasing in the receiver's belief in a certain preferred state. This assumption is vital to the resulting dynamics, thereby, the model is only applicable under such circumstances. However, in reality, a persuasion motive often exists. Thus, the assumption is reasonable and not awfully limiting, especially in the context of the Israeli-Palestinian conflict. Furthermore, the model assumes that the receiver detects the sender's persuasion motive, adjusting posterior beliefs accordingly. However, so long as the sender's persuasion motive remains intact, this assumption bears no significance on the sender's process of biased revelation, selective search, and internalization. Finally, the model assumes that the evidence collected and revealed by the sender is private information. As such, the receiver cannot distinguish between no evidence and the sender withholding contradictory evidence. This information asymmetry assumption is common in economic models and typically rational in context. Thus, overall, the

models' assumptions are both measured and reasonable, enabling its use in further investigating the Israeli-Palestinian conflict.

The polarization both within and between Israeli and Palestinian communities is striking. Such polarization exacerbates and perpetuates the Israeli-Palestinian conflict, deepening the divide between the two peoples and hampering Israeli-Palestinian dialogue. In this section, I will leverage the Evidence Games model to investigate societal and bilateral polarization and its symptoms as manifest in the Israeli-Palestinian conflict.

## **6.2 Societal Polarization**

Polarization is endemic in both Israeli and Palestinian society. Annual public polling conducted by the Israel Democracy Institute reveals that, for the first time since tracking began in 2002, political polarization between Left and Right surpassed Jewish-Arab interethnic hostility as the greatest source of tension in Israeli society (Hermann, 2018). In Palestinian society, the splintering of political factions culminated in armed clashes and near civil war between Fatah and Hamas in 2007. It is evident that extreme polarization plagues both Israeli and Palestinian society. In the following section, I will document features of Israeli and Palestinian discourse present in the Evidence Games model, illuminating individuals' persuasion motive and the precise mechanisms causing polarization within Israeli and Palestinian society.

Worsening polarization has elevated the political rift as the most prevalent source of tension in Israeli society (Hermann, 2018). Israel Democracy Institute survey director Dr. Tamar Hermann credits rising political tensions to the structure of the Israeli political system: "Two blocs have formed within Israeli Jewish society, holding opposing views on many different aspects of Israel as a collectivity: security issues, socioeconomic issues, and with regards to questions on corruption, culture, gender, and liberal values. This polarization is a dangerous process, reflecting an inability to reach consensus on what is the common ground" (Wootliff, 2018). This process of

polarization in Israeli society is driven by individuals' persuasive motive to signal their authenticity to in-group members of their respective political bloc. This persuasion motive prompts individuals, whether on the Right or Left, to engage in biased revelation and selective search. Thus, the causal dynamics of Israeli political polarization are well captured by the Evidence Games model, which rationalizes the behaviors of biased revelation, selective search, and internalization that drive polarization.

Underpinning behaviors of biased revelation and selective search are individuals' persuasion motive. For Israelis signaling to party-affiliated in-group members, senders are motivated to prove their authenticity and like-type to receivers. This persuasion motive is induced by the social rewards and reputational benefits that accompany successfully demonstrating in-group membership and political solidarity. To best convince the political in-group of one's authenticity, senders will practice biased revelation, revealing political views if and only if they align with in-group receivers. In practice, biased revelation may manifest as a variety of observable signs of party affiliation, such as political social media postings, lawn signs, or bumper stickers. For instance, a Likud voter may retweet a Netanyahu campaign video, attend a Likud-sponsored rally, or slap a Likud bumper sticker to the trunk of their car. The Likudnik will suppress and conceal however, any doubts he may have about Prime Minister Netanyahu's personal integrity and ability to lead. In the senders' effort to persuade in-group members of their authentic type, senders will also undertake selective search, the process of searching diligently for confirmatory evidence amongst biased signal sources. In practice, selective search may mean consuming politically biased news sources and talking politics only with like-minded friends. For instance, a Likudnik may consistently read Yisrael Hayom (pro-Netanyahu daily newspaper) and watch Likud Facebook TV, while swearing off all other sources as fake news. Through this process of selective search, individuals amass an arsenal of confirmatory evidence while bypassing contradictory data. Thus,

senders are able to present a biased purported belief to the in-group in their effort to demonstrate their authenticity and like-type. Finally, as described in Trivers and von Hippel (2011), senders will internalize their purported beliefs to avoid a “tell”, adopting a biased belief about the true state of the world. With this process occurring on both sides of the political spectrum, the result is divisive political polarization throughout Israeli society.

By reframing the roles of sender and receiver, the Evidence Games model becomes a worthwhile lens through which to examine behaviors of biased revelation and selective search by news outlets and politicians. The persuasion motives of news sources, such as Yisrael Hayom or Fox News, provoke behaviors of biased revelation and selective. The fundamental motive for such institutions is to maximize viewership and profits. The profit incentive induces a persuasive motive in content to meet consumer demand for biased, confirmatory evidence. Thus, news networks maintain a compelling motive to broadcast imbalanced content, facilitated by biased revelation and selective search. Biased revelation, as it appears in the news media, manifests as broadcasting only confirmatory evidence to viewers, while withholding contradictory data. For instance, Yisrael Hayom will publish almost exclusively pro-Netanyahu content, while suppressing any contradictory viewpoints or opinions. A cursory scan of the paper’s English translation from March 27, 2019 includes quotes such as: “Netanyahu has managed the latest escalation well”, “re-elect a diplomatically skilled leader of international standing and superior intellect”, and “Russia blasts Gant’s claims of collusion with PM as ‘nonsense’”, all run alongside a denigrating cartoon of political opponent Benny Gantz (Yisrael Hayom, 2019). In the news sources’ efforts to offer desired content to its viewers, senders will also undertake selective search, the process of searching diligently for confirmatory evidence amongst biased signal sources. In practice, selective search may manifest as hiring like-minded reporters and only interviewing party officials. For instance, the editor-in-chief of Yisrael Hayom is Amos Regev, a close personal friend of the Prime Minister with



whom Netanyahu speaks daily (Tucker, 2017). Through this process of selective search, the network amasses an arsenal of confirmatory evidence while bypassing contradictory data. Thus, news networks are able to present a biased purported belief to its audience about the state of the world. The result is a widening disparity between informative, objective coverage and the content broadcast and distributed by news networks. With this process occurring on both ends of the political spectrum, the media serves as an echo chamber, exacerbating societal polarization. Conceivably, the same dynamics exist between politicians and their voters, polarizing policy positions and political factions.

While endemic in Israeli society, political polarization may be even more striking within Palestinian politics. The Palestinian political landscape is limited to two rival factions, Fatah and Hamas. Fatah, a primarily secular movement, ostensibly disavows political violence and supports a negotiated settlement with Israel for achieving Palestinian statehood. Hamas, an Islamic faction, endorses military action against Israel as the sole means for achieving Palestinian independence. As such, the two movements distinguish themselves by their guiding secular and religious ideologies and opposing methods of resistance (Hilal, 2010). Progressively, the two factions have grown further and further apart. The polarization of Palestinian politics mirrors the polarizing dynamics present in Israeli society, well captured by the Evidence Games model. Individuals, media outlets, and politicians, prompted by a persuasion motive, participate in biased revelation and selective search, subsequently internalizing purported beliefs and exacerbate polarization throughout Palestinian society.

### **6.3 Bilateral Polarization**

Polarization is endemic within Israeli and Palestinian society, yet the bilateral polarization between Israelis and Palestinians has also never been more stark. Interethnic cooperation and compromise have never been viewed more negatively throughout Israeli and Palestinian society

(Rasgon, 2018). The deep divide between the Israeli and Palestinian communities is the product of individuals struggling to prove national fealty to their peers and both communities attempting to assert their national legitimacy to the international community. In the following section, I will document features of Israeli and Palestinian discourse present in the Evidence Games model, illuminating individuals' and societies' persuasion motives and the precise mechanisms intensifying polarization between societies.

In part, the process of polarization between Israeli and Palestinian societies is driven by individuals' persuasion motive to signal their loyalty to fellow citizens and fealty to their nation. This persuasion motive prompts individuals, whether Israeli or Palestinian, to engage in biased revelation and selective search. For Israelis and Palestinians signaling to internal societal members, senders are motivated to prove their loyalty to the community. This persuasion motive is induced by the social rewards and reputational benefits that accompany successfully demonstrating in-group membership and national solidarity. To best convince society of one's fidelity, senders will practice biased revelation, revealing opinions and beliefs if and only if they demonstrate social and political unity. In practice, biased revelation may manifest as observable signs of national solidarity, such as political social media postings, celebrating national symbols, or undertaking military service. For instance, an Israeli may tweet a celebration of Yom Ha'atzmaut (Israeli Independence Day), fly an Israeli flag, or voluntarily extend their national service. Meanwhile, a Palestinian may tweet a celebration of Palestinian Independence Day, fly a Palestinian flag, or burn an Israeli flag. Both the Israeli and Palestinian will suppress and conceal however, any doubts they may have about their national movement or its legitimacy. In the citizens' effort to persuade society of their authenticity, senders will also undertake selective search, the process of searching diligently for confirmatory evidence amongst biased signal sources. In practice, selective search may mean consuming nationally biased media sources and talking politics only with like-minded peers. For instance, an

Israeli may only read Hebrew news sources while avoiding pro-Palestinian coverage. Conversely, a Palestinian may only consume Arabic media while avoiding pro-Israeli coverage. Through this process of selective search, individuals amass an arsenal of confirmatory evidence while bypassing contradictory data. Thus, senders are able to present a biased purported belief to society in their effort to demonstrate their loyalty and fealty. Ultimately, senders will internalize their purported beliefs and adopt a biased belief about the true state of the world. With this process occurring on both sides of the interethnic divide, the result is divisive polarization between Israeli and Palestinian society.

Predominantly, the process of polarization between Israeli and Palestinian societies is driven by societies' persuasion motive to signal their national legitimacy to the international community. This persuasion motive prompts citizens, politicians, and societies, whether Israeli or Palestinian, to engage in biased revelation and selective search. For Israelis and Palestinians signaling to the international community, senders are motivated to prove the legality and legitimacy of their respective national movement. This persuasion motive is induced by the security guarantees, material rewards, and political benefits that accompany successfully demonstrating the legitimacy of one's statehood. To best convince the international community of the legitimacy of ones' national movements, senders will practice biased revelation, reciting events and data if and only if they demonstrate sovereign legitimacy. In practice, biased revelation manifests as recounting and espousing only confirmatory evidence, while withholding contradictory data. For instance, the Israeli and Palestinian national narratives are curated accounts of history that support claims of legitimate sovereignty, while omitting contradictory evidence. For example, in a speech to the UN Security Council, Mahmoud Abbas declared: "We [Palestinians] are the descendants of the Canaanites that lived in the land of Palestine 5,000 years ago and continuously remained there to this day" (Haaretz, 2018). Similarly, in his 2011 address to the US Congress, Prime Minister

Netanyahu declared: “this is the land of our forefathers, the Land of Israel” (The Washington Post, 2018). Here, in speeches given to the international community, both national leaders recite curated historical evidence in support of their claim to national legitimacy, while omitting contradictory data. In Israeli and Palestinian societies’ efforts to prove national legitimacy, senders will also undertake selective search. In practice, selective search may manifest as archeological digs, soliciting supportive legal opinions, and inquiring about international allies’ views on legitimacy. For instance, the Israeli state sponsors archeological efforts intended to unearth evidence of ancient Israelite inhabitants in Palestine and solicits American legal opinions on international legitimacy. Contrarily, Palestinian leaders solicit legal opinions from the UN and surrounding Arab states, while ignoring and discrediting American positions. Through this process of selective search, society and its political leaders amass an arsenal of confirmatory evidence while bypassing contradictory data. Thus, politicians are able to present a biased purported belief to the international community. With this process occurring on both sides of the interethnic divide, the result is divisive polarization between Israeli and Palestinian society.

Societal and bilateral polarization present a unique challenge in the Israeli-Palestinian conflict. Intense polarization both within and between Israeli and Palestinian societies prevents individuals, politicians, and societies from cooperating, collaborating, and reaching consensus on common ground. This difficult impasse impedes peace efforts and the pursuit of a negotiated settlement. However, partial remedies may yet exist to moderate the rise of polarization both within and between Israeli and Palestinian society.

## **6.4 Policy Implications**

As we have seen, the Evidence Games model presents a valuable framework for analyzing the causal mechanisms of societal and bilateral polarization in the Israeli-Palestinian conflict. As such, the model provides meaningful insight for political leaders hoping to mitigate such dramatic

polarization and its damaging effects. In this section, I propose that a program of third party media regulation may help moderate societal and bilateral polarization in the Israeli-Palestinian conflict.

Understanding polarization through the lens of the Evidence Games model, it becomes evident that biased media sources and radical politicians are not the root cause of polarization, but rather its symptoms. Biased newspapers and news networks, such as Yisrael Hayom or infamously Fox News in the American context, merely broadcast biased content to meet consumer demand. Likewise, radical politicians merely reflect the polarizing and extreme political positions of their constituencies. The resulting “echo chamber” is thereby a symptom of the evidence games played by individuals, politicians, and news networks alike.

In an ideal reality, policy would target the persuasion motives that incites the strategies of biased revelation, selective search, and internalization. However, such persuasion motives will always exist so long as individuals remain self-interested. Instead, the Israeli and Palestinian governments may pursue strategies to illuminate underlying persuasion motives and restrain the most egregiously biased media sources. I propose that the Israeli and Palestinian governments empower an unbiased third party regulator to determine, publicly shame, and penalize societies’ most heavily biased media sources, modeled after the French Higher Audiovisual Council.

This proposed regulatory body will be charged with regulating broadcasting, allocating spectrum frequencies, and protecting consumers. Today, the government and competitive media agencies already police lies of commission, calling out reported mistruths. This regulatory body will go a step further, placing all media outlets on a continuum of political leaning, publicizing and publicly shaming news sources practicing excessive spin. Merely illuminating the underlying persuasion motive and content bias will inform consumers on the nature of their media consumption, hopefully prompting adjustment to consumers attitudes about such sources. Furthermore, the regulatory body may take punitive action against societies’ most blatantly biased

outlets. A dramatic regulatory measure may be to revoke a source's right to the radio and television spectrum for those outlets that do not meet minimum requirements of objectivity. A more measured intervention however, may be to downgrade the priority of society's most biased sources, allocating them to higher channel numbers less frequented by casual consumers (Martin & Yurukoglu, 2017). Though entirely ameliorating the polarization fostered by the internalization of evidence games appears impossible, hopefully such policy measures pursued by an impartial third party regulator may help to moderate divisive political rhetoric and restrain the fundamental dynamics of polarization.

## **7 Norms and Norm Enforcement**

Norms are the unwritten rules that establish behavioral expectations within a given social, cultural, and political setting. As such, norms are a potent force governing individual and societal behaviors. Though their influence is well recognized, the mechanisms through which norms arise and are maintained are less well understood. Using the fundamentals of evolutionary game theory, Axelrod (1986) outlines a descriptive model delineating the requisite conditions which foster and sustain norms. In this chapter, I will utilize the Norm Enforcement model to investigate the role of norms in Israeli and Palestinian society as well as examine the impact of international norms on the Israeli-Palestinian conflict.

### **7.1 Prisoners' Dilemma and Norm Enforcement Model**

The Norm Enforcement model presented in Axelrod (1986) captures the fundamental dynamics necessary for norms to be established and maintained. In the model, individuals have the opportunity to cooperate or defect in each phase of a repeated game. Furthermore, each player has the option to punish one other, iteratively. Norms manifest and are maintained when players act according to two strategies. First, punish those who do not cooperate, known as third party

punishment. Second, punish those who fail to punish defectors, known as higher order punishment. In effect, higher order punishment establishes a recursive structure that motivates and sustains third party punishment, thereby maintaining the desired norm. The simplest form of the Norm Enforcement model is presented below, extended from the Prisoners' Dilemma.

In the Prisoners' Dilemma, two agents participate in a single-shot game. Within each round, agents choose whether to cooperate or defect, represented by the set  $\omega \in \{C, D\}$ . If both agents cooperate, both claim  $R$ , the reward for mutual cooperation. If one agent cooperates and the other defects, the defector yields  $T$ , the temptation to defect, while the cooperator yields  $S$ , the sucker's payoff. Finally, if both agents defect, the pair receives  $P$ , the punishment for mutual defection. The scenarios listed above with their respective payoffs are enumerated below in the matrix form of the Prisoners' Dilemma.

		Player 2	
		$C$	$D$
Player 1	$C$	$(R, R)$	$(S, T)$
	$D$	$(T, S)$	$(P, P)$

By construction, payoffs are defined by  $T > R > P > S$  and  $R > (S+T)/2$ . Thus, the unique Nash equilibrium of the Prisoners' Dilemma is for both players to defect. This can be understood as a best response function mathematically as follows:

$$U_i(s_i = \text{Defect} \mid s_i = \text{Defect}) = P > U_i(s_i = \text{Cooperate} \mid s_i = \text{Defect}) = S \quad (3)$$

$$U_i(s_i = \text{Defect} \mid s_i = \text{Cooperate}) = T > U_i(s_i = \text{Cooperate} \mid s_i = \text{Cooperate}) = R \quad (4)$$

This set of equations demonstrates that defection strictly dominates cooperation, constituting a dominant equilibrium of mutual defection. However, since  $R > P$  and  $2R > S+T$ , such a strategy yields lower individual and societal payoffs than mutual cooperation. Thus, the single-shot Prisoners' Dilemma frames conflict between the equilibrium strategy (mutual defection) and the

collectively desirable strategy (mutual cooperation). However, cooperation may yet be induced by introducing repeated interactions into the Prisoners' Dilemma.

In the iterated Prisoners' Dilemma agents interact across multiple periods, reacting to one another's actions. In such a setting, an agent's decision to cooperate or defect today not only determines current payoffs, but also influences future outcomes. The fear of retaliation for today's defection may persuade agents to cooperate, thereby inducing mutual cooperation (Trivers, 1971; Axelrod, 1984). In fact, multiple equilibria emerge in the iterated Prisoners' Dilemma. However, such equilibria typically oscillate between cooperation and defection. Pure cooperation remains elusive as an unstable equilibrium (Nowak & Sigmund, 1989).

The framework of the iterated Prisoners' Dilemma is broad enough to illustratively capture not only interactions between two agents, but also interactions among  $n$  agents (Hardin, 1982). The  $n$ -person Prisoners' Dilemma illustrates a scenario in which  $n$  individuals choose to either cooperate with one other for the common good or defect in pursuit of selfish short-term interests. This formulation exhibits the same dynamics as described above, with pure cooperation remaining an unstable equilibrium. As such, consistent mutual cooperation remains elusive.

However, cooperation may yet be fostered by introducing a sanctioning stage of the game in which players may punish one another, iteratively (Kandori, 1992; Sethi, 1996; Fowler, 2005). If a player chooses to punish, the punisher incurs a cost,  $c_p$ , where  $c_p > 0$ , while the punished player is harmed  $h$ , where  $h > c_p > 0$ . Thus, such sanctioning is referred to as costly punishment. The sanctioning stage facilitates two types of costly punishment: third party and higher order punishment. Third party punishment refers to the direct punishment of defectors. Higher order punishment refers to the indirect punishment of individuals who fail to punish defectors. In effect, higher order punishment establishes a recursive structure that motivates and sustains third party punishment. Panchanathan & Boyd (2004) demonstrate that costly punishment, when levied



against both defectors and free riders (bystanders that fail to punish defectors), is sufficient to sustain mutual cooperation in the iterated,  $n$ -person Prisoners' Dilemma.

Thus, the Norm Enforcement model may be conceptualized as two distinct phases: an iterated,  $n$ -person Prisoners' Dilemma followed by a sanctioning stage. The strategy of a given player thus has two parameters. First, players must select whether to cooperate or defect. Second, players must decide whether to punish one other. The model assumes perfect information, that is: if a player defects, all other players observe the defection and if a player punishes, all other players observe the punishment. The fundamental conclusion presented by Axelrod (1986) is that the dual strategy of punishing defectors (third party punishment) and passive bystanders (higher order punishment) is evolutionary advantageous, sufficient to produce and sustain norms without the intervention of a central authority. Such punishment mechanisms are able to bridge the gap between socially and individually optimal strategies, thereby inducing the maintenance of pro-social norms (Fehr and Gächter, 2002; Panchanathan & Boyd, 2004).

Building upon the Norm Enforcement model, research has been conducted to identify the essential properties of norms sustained in equilibrium. Examining the sanctioning stage of the model, Hoffman et al. (2018) mathematically demonstrate that small perceptible errors in observable magnitude impede coordinated sanctioning based on continuous variables. As such, sanctioning and costly punishment must condition on the type of transgression rather than the magnitude of its underlying continuous variable. Thus, Hoffman et al. (2018) assert that only categorical norms are viably sustained in equilibrium. Notable examples of this feature include the international norm against the use of chemical weapons as well as the "one drop rule" of the Jim Crow South, both of which transform underlying continuous measures into binary categorical variables.

Before advancing, it is valuable to assess the validity of underlying assumptions in the Norm Enforcement model. The model assumes a sufficiently long “shadow of the future”, ensuring that agents sufficiently value future payoffs (Axelrod, 1984). This assumption has been proven robust both mathematically and experimentally (Aumann, 1995; Dal Bó, 2005). Furthermore, the model assumes perfect information, such that all players observe the actions of their peers. This assumption merely serves to simplify the model. In fact, Axelrod (1986) probabilistically encodes observing peer actions and achieves the same fundamental dynamics. Finally, the model assumes costly punishment, stressing that the cost of exacting punishment is relatively less than the damage induced ( $b > c_p > 0$ ). Costly punishment is a realistic behavior, observed across a variety of cultures and societies (Henrich et al., 2006). Overall, the assumptions of the model are reasonable. Thus, under such realistic equilibrium conditions, the optimal strategy of agents to both punish defectors (third party punishment) and individuals that fail to punish defectors (higher order punishment) is able to promote and sustain norms.

Social, bilateral, and international norms all influence the Israeli-Palestinian conflict. Social norms in Israeli and Palestinian society reinforce societal polarization, punishing individuals who stray from socially acceptable attitudes and pursue interethnic compromise. Bilateral norms establish guidelines of conduct in the Israeli-Palestinian conflict, punishing individuals who perpetrate extreme violence and terrorism. International norms restrain Israeli and Palestinian national policy with varying success, punishing nations who violate the international acceptable norms governing domestic and foreign policy. In this section, I will leverage the Norm Enforcement model to investigate the efficacy and influence of such norms on the Israeli-Palestinian conflict.

## 7.2 Social and Political Norms

As societies embroiled in intractable, interethnic conflict, Israeli and Palestinian national narratives and societal beliefs are imbued with notions of ethnocentric superiority, enemy vilification, and the veneration of national unity (Bar-Tal, 1996). Consequently, Israeli and Palestinian social norms exemplify such beliefs and ideals. In the following section, I will identify social and political norms in Israeli and Palestinian society that exacerbate ethnic tensions and inhibit interethnic cooperation, illuminating the mechanisms which sustain them as identified in the Norm Enforcement model.

### **7.2.1 Internalization**

Societal beliefs characteristic of a community embroiled in intractable conflict include ethnocentric superiority, vilification of the enemy, and the prioritization of domestic unity. Such beliefs are disseminated through a variety of familial and societal institutions, gradually transforming into robust social norms (Bar-Tal, 1996). Social norms define acceptable conduct of societal members, enforced and sustained by the mechanisms of punishment identified in the Norm Enforcement model. Yet, while third party and higher order punishment are the primary mechanisms through which norms are maintained, the evolutionary approach reveals further mechanisms that buttress societal norms, including internalization (Axelrod, 1986).

Internalization is an individual's acceptance of a set of norms and values through socialization (Scott, 1971). The internalization of social norms in Israeli and Palestinian society is widespread, as citizens strongly identify with their respective identities and national narratives (Bar-Tal, 1996; Brenick et al., 2010). Robust internalization ensures that violating an established social norm becomes psychologically painful, even when material payoffs for defection are positive. In the parlance of the Norm Enforcement model, internalization reduces the temptation to defect,  $T$ , such that  $T < R$ . As such, widespread internalization eliminates the incentive to defect and further stabilizes existing social norms. However, even with robust internalization, norms may not subsist

without mechanisms of punishment. Thus, we expect to observe internalization not only in the diminished incentive to defect, but also in an increased incentive to punish (Axelrod, 1986). In this manner, internalization simultaneously curtails defections while augmenting mechanisms of punishment, reinforcing social norms in Israeli and Palestinian society.

### **7.2.2 Israeli Norms**

The dominant narrative in Israeli society characterizes the Israeli-Palestinian conflict as a struggle between ethical, restrained Israelis and immoral, depraved Palestinians (Scham et al., 2005). As such, cooperating with or offering concessions to Palestinians is tantamount to national betrayal, formalized in the Norm Enforcement model as defection. Such defections are curtailed by robust social and political norms, themselves upheld by social ostracism, political attacks, and vigilante justice, all analogous to punishment in the Norm Enforcement model.

Social norms in Israeli society that inhibit defections of cooperation and compromise largely aim to marginalize and isolate the Palestinian community through systematic discrimination. Discriminatory social norms in Israeli society include boycotts of Palestinian goods and services, as well as prohibitions against selling property to or hiring Palestinians (Cook, 2018). Abundant anecdotal evidence verifies the prevalence of such norms. Plus, numerous Israeli Supreme Court rulings barring institutional and private practices of discrimination reveal the extent to which such biases pervade Israeli society (US Department of State, 2005). Such discriminatory social norms endure given the severe punishments and social sanctions that await the Israelis who dare violate them. Businesses that hire Palestinian workers may be subject to boycott. Families that sell property to Palestinians may be condemned and socially ostracized (Shpigel, 2018). Furthermore, citizens who fail to punish defectors may be subjected to similar punishment, treated akin to defectors themselves. Thus, fearing retaliation, Israelis abide by such discriminatory social norms and consistently punish defectors, as predicted by the Norm Enforcement model. Consequently,

discriminatory social norms are maintained despite numerous legal injunctions, exacerbating ethnic tensions in the Israeli-Palestinian conflict.

Israeli political norms further impede cooperation and compromise with the Palestinians. Employing rhetorical attacks and vigilante justice, Israelis punish politicians perceived as compromising with or conceding to the Palestinians. Examples abound in recent Israeli political history. In 1995, Likudniks condemned Prime Minister Yitzhak Rabin as a traitor to Israel and the Jewish people for signing the Oslo Peace Accords. Protestors marched through the streets chanting vitriol: “Rabin is a traitor”, “Rabin is a murderer”, and “Death to Rabin”. Shortly thereafter, Prime Minister Yitzhak Rabin was murdered by a right-wing activist for his “capitulation to Israel’s enemies”, gunned down for daring to compromise with the Palestinians (Ephron, 2015). The assassination was celebrated by ultranationalists and religious extremists, sects of Israeli society that venerated Rabin’s murderer as a national hero (Pedahzur, 2009). Israeli rhetoric has yet to be tempered. In 2014, Former Prime Minister Ariel Sharon fell into an extended coma and passed away. In memoriam, a right-wing Israeli remarked “God gave him what he deserved – a Jew should not force a Jew from Jewish land”, disparaging Sharon’s 2005 withdrawal of Israeli settlers from the Gaza Strip (Levin, 2014). Today’s Israeli elections have brought such dynamics to the fore yet again. Prime Minister Netanyahu is quick to deride critics and political opponents as “leftists”, a strategy many political pundits say has paid off, with the word now implying someone who puts the interests of Palestinians before those of Israelis (Morris, 2019). Thus, today in Israel, branding someone a “leftist” can carry near treasonous connotations. Thus, such political attacks and violent reprisals inhibit political compromise and negotiations in the Israeli-Palestinian conflict.

Both Israeli social and political norms are sustained by mechanisms of costly punishment, as well as widespread internalization. The primary mechanisms which sustain Israeli norms remain third party and higher order punishment. Instances of third party punishment abound in Israeli

society, manifest in the boycotts, rhetorical attacks, and vigilante justice unleashed upon defectors. Meanwhile, manifestations of higher order punishment (punishing those who do not punish defectors) are more subtle, surfacing as social ostracism, in-group shunning, and the celebration of vigilante justice. Widespread internalization merely buttresses existing social and political norms, manifest as implicit bias and explicit racism. Overall, the durability and authority of Israeli social and political norms indicates that the mechanisms sustaining such norms are robust, effectively preventing defections of cooperation and compromise with the Palestinians.

### **7.2.3 Palestinian Norms**

The dominant Palestinian narrative of the Israeli-Palestinian conflict characterizes Palestinians as an innocent, moral people maliciously and violently uprooted from their homeland by Zionist colonizers (Scham et al., 2005). As such, cooperating or even sympathizing with Israelis is tantamount to national betrayal, formalized in the Norm Enforcement model as defection. Such defections are curtailed by robust social norms, themselves upheld by social ostracism, vigilante justice, and show trials, all analogous to punishment in the Norm Enforcement model.

Social norms in Palestinian society that inhibit defections of cooperation or collaboration primarily intend to hamper Israeli economic growth and territorial expansion. Such social norms in Palestinian society include the boycott of Israeli products, the ban on land sales to Israelis, and the prohibition against cooperating with the Israeli military. Anecdotal and economic evidence of such Palestinian social norms abound. For instance, the Boycott, Divest, and Sanction (BDS) movement is an international boycott of Israeli products, recognized and supported by the Palestinian community. As participants, Palestinians are expected to refrain from purchasing Israeli products, an act equated to funding the oppressive colonizer. Defectors face ridicule and social ostracism, stamped as Zionist collaborators (Thrall, 2018). Furthermore, Palestinians are prohibited from selling land to Jewish or Israeli individuals, a social norm recently codified into

law by the Palestinian Authority. Defectors convicted of violating the prohibition face the death penalty. However, punishment is exacted upon defectors through both the judicial system as well as through vigilante justice. As recently as December 2018, a Palestinian man, having been convicted of selling property to a Jewish NGO, was shot and killed in an act of vigilante justice (Horovitz, 2018). The perpetrator has yet to be identified or detained, nor have Palestinian leaders condemned the attack. Thus, both the BDS movement and the prohibition on land sales to Jews are maintained through third party and higher order punishment, manifest as social ostracism, vigilante justice, and the celebration of violent reprisals.

Yet, the most striking incidents of norm enforcement occur in the Gaza Strip under the direction of Hamas. Hamas publicly and violently cracks down on individuals accused of cooperating with Israeli military intelligence. For instance, in May 2017, three men were dragged from their homes, detained, and charged with “collaborating with the Zionist enemy” (BBC, 2017). Within days, all three men were executed as traitors. Such show trials and extrajudicial executions are not uncommon in Gaza. In a December 2018 case, a young Palestinian man was reportedly executed by his own family, having been accused by Hamas of collaborating with Israeli military intelligence (Times of Israel, 2018). Evidently, the norm prohibiting Palestinians from collaborating or cooperating with Israel is maintained through the most violent means of third party punishment. Furthermore, bystanders that fail to condemn and punish defectors are frequently denounced as defectors themselves, subject to the same severe mechanisms of punishment. For Palestinians and Gazans in particular, the consequences for running afoul of social norms can be severe and even fatal. Yet, social and political norms are not the only norms that influentially shape the Israeli-Palestinian conflict.

### **7.3 Bilateral and International Norms**

The Israeli-Palestinian conflict does not occur in a vacuum. External actors profoundly shape the arc of the conflict. A simple modification of the Norm Enforcement model may best capture the dynamics of interethnic and international interactions observed in reality. Primarily, the modification categorizes individuals into distinct groups, such that individual defections only harm members of one's out-group. Third party punishment remains unchanged, but higher order punishment (punishment for not punishing defectors) is constrained, only able occur within groups (Axelrod, 1986). Thus, the Norm Enforcement model may be modified to most accurately capture interactions between multiple societies and nations.

Bilateral and international norms dramatically influence individual and collective action in the Israeli-Palestinian conflict. Bilateral norms are shaped by repeated interactions between Israelis and Palestinians, defining guidelines of acceptable conduct for interethnic interactions.

International norms are the informal rules and regulations determined by the international community that constrain sovereign domestic and foreign policy. In the following section, I will identify and investigate bilateral and international norms that shape the Israeli-Palestinian conflict, leveraging the Norm Enforcement model to assess their efficacy and influence.

### **7.3.1 Dominance**

Bilateral and international norms are the informal rules and regulations of acceptable interethnic and international behaviors, influencing the actions of individuals and nations alike. While third party and higher order punishment are the primary mechanisms through which such norms are sustained, the evolutionary approach reveals further mechanisms capable of inducing such norms, including group dominance (Axelrod, 1986). Dominance refers to the political, military, or economic supremacy of one group over another. Dominant groups and nations, by virtue of their hegemony, are able to unilaterally dictate and enforce norms in bilateral and multilateral settings. In the case of the Israeli-Palestinian conflict, Israel's military, political, and



economic dominance over the Palestinians allows Israel to dictate and enforce bilateral norms of conflict. Furthermore, the military, political and economic dominance of the United States in the international community dramatically influences international norms surrounding the conflict. Both bilateral and international norms, shaped by Israel and the United States respectively, impact individual behaviors and national policy in the Israeli-Palestinian conflict.

### **7.3.2 Bilateral Norms**

The military and political domination of Israel over the Palestinians results in certain norms of interethnic interaction unilaterally sustained by the Israeli state. Most notably, Israel enforces strict norms against the use of terrorism. Perpetrators of such heinous acts, whether Israeli or Palestinian, face severe consequences at the hands of the Israeli state. Israeli terrorists are typically tried for murder in Israeli courts and, if convicted, sentenced to life in prison (Pedahzur, 2009). Palestinian terrorists are either slain in self-defense or tried for murder in Israeli courts, facing life in prison if convicted. However, in punishing Palestinian defectors, the Israeli government also dispenses collective punishment, typically demolishing the family's home, forcible removing its inhabitants, and revoking social security and healthcare benefits from the defector's next of kin. Such powerful mechanisms of third party punishment administered by the Israeli state sustain the bilateral norm and dissuade would-be perpetrators of terrorism.

Despite such severe penalties heaped upon terrorists by the Israeli state, acts of atrocious violence still occur with some frequency in the Israeli-Palestinian conflict, predominantly perpetrated by Palestinians. Studied through the lens of the Norm Enforcement model, the persistence of such terrorism may be credited to the absence of robust third party and higher order punishment within Palestinian society. In contrast, mechanisms of third party and higher order punishment are robust in Israeli society. Israeli terrorists are tried and prosecuted in Israeli courts, condemned by the vast majority of Israeli society as pariahs and extremists (Kubovich & Berger,

2019). Notably, robust third party and higher order punishment of terrorists remains absent in Palestinian society. In fact, terrorism is regularly celebrated by citizens and political leaders in the Palestinian community. To this day, the Palestinian Liberation Organization, closely affiliated to the Palestinian Authority, administers the Martyr Fund, providing monthly stipends to the families of Palestinians killed, injured, or imprisoned for their involvement in terrorism targeting Israelis (Kessler, 2018). Without robust in-group enforcement of the norm prohibiting terrorism, heinous acts of extreme violence and terrorism will continue to haunt both communities, reinforcing interethnic hatred and out-group vilification.

### **7.3.3 International Norms**

International norms are the shared expectations and standards governing sovereign policy and interstate interactions. The purpose of intergovernmental organizations such as the UN, is to codify and enforce such international norms, policing the domestic and foreign policy of sovereign states. However, the UN realizes little success in constraining the domestic and foreign policy of sovereign actors due to the organization's inability to reliably produce consensus and its lack of effective mechanisms for punishment. Thus, the failure of the UN to enforce international norms is well explained by the missing mechanisms critical to the Norm Enforcement model.

Since the passage of Resolution 181 on November 29, 1947, the United Nations has been intimately intertwined in the Israeli-Palestinian conflict. Today, the UN regularly addresses the conflict by condemning Israel's domestic policy and security strategy in the West Bank and Gaza. Yet, despite the incessant resolutions and denunciations, the UN has had little to no impact on Israeli policy. For instance, Resolution 2334, adopted on December 16, 2016 by the Security Council, states that Israel's settlement activity constitutes a "flagrant violation" of international law and demands that Israel immediately cease settlement construction and expansion (United Nations, 2016). Nevertheless, Israel has since continued to pursue aggressive settlement expansion

throughout the West Bank and Jerusalem, undeterred by international condemnation (United Nations, 2018). Examined through the lens of the Norm Enforcement model, the UN's failure to impact Israeli policy and security strategy may be credited to its inability to produce consensus and its lack of effective norm enforcement mechanisms.

The UN has consistently shown an inability to foster international consensus in its condemnations of Israel. UN resolutions censuring Israel and demanding adherence to international norms typically fail to attain complete unanimity and are most often vetoed by the United States. Thus, failing to achieve consensus, the UN feasible mechanisms of third party and higher order punishment deteriorate. Instead, subsets of the international community act independently, attempting to enforce international norms to no avail. Thus, efforts by the UN to impact the Israeli-Palestinian conflict are severely undercut by the more influential United States, which routinely dissents in the condemnations of Israel by the international community.

Even when the UN is able to muster near unanimity, such as in the case of Resolution 2334, the intergovernmental organization lacks effective mechanisms to materially punish Israeli violations of the international norm proscribing settlement expansion. Thus, few viable mechanisms of third party punishment exist for stemming the construction and expansion of Israeli settlements. Consequently, the Israeli government has no external incentive to enforce any such norm internally. Without the Israeli government or civilian public sanctioning perpetrators of settlement expansion, no viable mechanism of higher order punishment exists within Israeli society. Thereby, with neither third party nor higher order punishment mechanisms sustaining the international norm prohibiting settlement expansion, the practice persists unabated.

In contrast to the UN and international community writ large, the United States maintains significant military and financial leverage over both the Israeli government and Palestinian Authority. Wielding viable mechanisms of third party punishment, such as the revocation of

financial aid, military assistance, and international legitimacy, the US is able to unilaterally dictate and enforce norms in the Israeli-Palestinian conflict. Fearing retaliation for defection, Israeli and Palestinian leaders cooperate with such norms. Furthermore, such mechanisms of third party punishment incentivize Israeli and Palestinian political leaders to enforce norms internally, policing their own citizens through legal enforcement and higher order punishment. The impact of external pressure by the United States is evident, for instance, in the fluctuating rates of Israeli settlement construction. As American pressure to curtail settlement expansion eased under the Trump administration, Israeli construction efforts surged. In 2018, nearly 7,000 new settlement homes were built, nearly triple 2016 construction levels (Federman, 2019). Thereby, wielding effective mechanisms of third party punishment, the United States is able to unilaterally maintain norms in the Israeli-Palestinian conflict, exerting significant influence over Israeli and Palestinian public policy.

## **7.4 Policy Implications**

As we have seen, the Norm Enforcement model presents a valuable framework for analyzing the influence of social, bilateral, and international norms in the Israeli-Palestinian conflict. As such, the model provides meaningful insights for policy makers and political leaders working to craft public policy to dismantle harmful norms and strengthen constructive ones. In this section, I offer policy recommendations to reform Israeli and Palestinian social norms while strengthening international norms which moderate Israeli and Palestinian domestic and foreign policy.

Israeli and Palestinian social norms are influential in dictating individuals' behaviors, preventing defections through mechanisms of third party and higher order punishment, as identified in the Norm Enforcement model. However, Talleyrand famously quipped that "treason is ultimately a social construct ... definitions vary with circumstances and collaboration is

in the eye of the beholder” (Cooper, 1932). On the account of both Israeli and Palestinian social norms, Talleyrand’s statement could not have been more accurate. Social norms, even those deeply entrenched with Israeli and Palestinian society, are subjective and malleable. Policy makers and political leaders must focus their attention to dramatically reshaping the social norms imbedded in Israeli and Palestinian society in their pursuit of lasting peace.

Israeli and Palestinian social norms are founded upon mutual notions of ethnocentric superiority and enemy vilification, internalized by familial and societal institutions (Bar-Tal, 1996). In order to align incentives against interethnic discrimination and segregation, policy makers must begin by undermining such divisive notions. Thus, policy must seek to connect individuals and communities across interethnic divides, humanizing and demystifying the vilified “other”, particularly among the impressionable youth. As such, Israeli and Palestinian policy makers must support and expand networks of interethnic communities and integrated schools. There may be no more powerful mechanism to bridge the interethnic divide than by bringing Israeli and Palestinian children together into the same classrooms to learn and play side-by-side (Brenick et al., 2010). Hand in Hand is an organization doing precisely that, currently operating six integrated schools throughout Israel and educating over 1,500 Israeli and Palestinian students. Both the Israeli government and Palestinian Authority should expand similar projects to dismantle destructive social attitudes of interethnic hatred, combating and preventing the internalization of racial bias. Such a mechanism would be tremendously influential on the individual level, yet its impact may be confined by selection bias. Thus, policy leaders must also seek to transform social norms on a larger scale.

Coordination in the sanctioning stage of the Norm Enforcement model is crucial for the maintenance of norms (Dalkiran et al., 2012). In the same manner, coordination is crucial for dismantling harmful norms and generating new, productive ones in their place. Common

knowledge is a potent mechanism for facilitating coordination (Chwe, 1998). A fact or event is common knowledge among a group if everyone knows it, everyone knows that everyone knows it, and so on and so forth. Public information establishes common knowledge and facilitates coordination by both impacting personal beliefs and shaping a community's understanding of shared beliefs (Morris and Shin, 2002). As such, mechanisms capable of fostering common knowledge and facilitating coordination, such as public announcements and the media, are effective tools for reshaping social norms (Chwe, 2001).

Recognizing the influence of public signals, political leaders and policy makers must leverage public announcements and the media in reshaping social norms in Israeli and Palestinian society. By design, public statements are public signals, able to induce common knowledge, facilitate coordination, and reshape social norms. As such, public announcements by religious, cultural, and political leaders denouncing ethnic discrimination and interethnic violence may undermine existing social norms and produce a significant effect on individuals' behavior. In an effort to establish new, productive social norms, Israeli and Palestinian leaders might also launch a social norms marketing campaign. Leaders may broadcast, publicize, and venerate instances of interethnic cooperation, both at the individual and governmental level. Israeli and Palestinian leaders themselves may participate, broadcasting their constructive interethnic interactions. All such public-sector mechanisms set a powerful example for the Israeli and Palestinian public, reshaping common knowledge and shifting social norms.

Public media and the private sector also have a key role to play in the reform of Israeli and Palestinian social norms. Media, by its nature, is a public signal capable of dramatically reshaping common knowledge and informing social norms. For instance, despite the critical acclaim and overwhelming popularity of Israeli television series *Fauda*, the series undoubtedly reinforces preexisting, harmful stereotypes of Palestinians (Serhan, 2018). Public media and private sector

actors, comprehending their profound influence over social norms, may produce “edutainment”: entertainment media imbued with education value. Edutainment campaigns have been shown to effectively reshape individuals’ perceptions of social norms, producing desirable behavioral change in interethnic trust, empathy, and cooperation (Paluck, 2009; Paluck & Green, 2009). Riveting television and media can attract viewers and reap profits while also challenging existing social norms. Through the broadcast of edutainment programming, content creators and media executives would be able to significantly disrupt entrenched social norms. With a concerted effort by political leaders and media executives, public signals may be leveraged to dramatically reform Israeli and Palestinian social norms, producing more tolerant and integrated societies.

The Norm Enforcement model suggests that it is possible for bilateral and international norms to significantly influence national policy. However, as previously discussed, the UN fails to dictate and enforce norms in the Israeli-Palestinian conflict due to the organization’s inability to produce international consensus and lack of effective punishment mechanisms. By identifying the failures of the UN using the framework of the Norm Enforcement model, policy makers may leverage these insights to ameliorate such shortcomings. I propose that to ensure consensus and acquire viable mechanisms of punishment, the UN and US must coordinate to effectively dictate and enforce a few mutually-agreeable norms, curtailing Israeli settlement activity and Palestinian terrorism.

Without UN-US agreement, international consensus is unattainable and thus, mechanisms of third party and higher order punishment deteriorate. So long as the United States maintains significant military and financial leverage over the Israeli government and Palestinian Authority, the nation may effectively dictate and enforce norms in the Israeli-Palestinian conflict. In concert with the political influence and legitimacy of the UN, a coordinated intervention may be capable of instituting and enforcing international norms that otherwise remain ineffective. To ensure such

coordination, the UN and US must pursue mutually-agreeable norms. I propose that such intervention focus on curtailing Israeli settlement activity and Palestinian terrorism, relatively uncontroversial policy objectives in the Israeli-Palestinian conflict.

Today, Israeli settlement expansion is accelerating, unabated by international condemnations. In order to enforce the international norm prohibiting settlement expansion, UN resolutions must be accompanied by financial penalties administered by the US. Together, the UN and US must clearly condemn the “creeping annexation” of the West Bank and install a categorical norm against the expansion of settlements in the West Bank and Jerusalem. An oversimplified proposal for such a policy might be that for every year Israel constructs a new settlement or outpost beyond the Green Line, US military assistance is reduced by \$1 billion (2.5% of current aid of \$38 billion). Fearing the revocation of US financial aid and military assistance, Israeli leaders will be incentivized to curtail settlement expansion. Furthermore, as the impact of reduced aid harms the safety and security of Israeli citizens, the policy fosters an incentive for civilians to uphold the norm as well. In tandem, governmental and social enforcement may sustain a new norm prohibiting settlement expansion, in turn influencing individuals’ actions and curtailing settlement activity.

In 2018, 55 terrorist attacks occurred in Israel, perpetrated by Palestinians originating from the West Bank and East Jerusalem (Israeli Intelligence and Terrorism Information Center, 2019). Officials within the Palestinian Authority continue to indirectly encourage such violence by celebrating its perpetrators and providing terrorists and their families with generous pensions and financial aid (Kessler, 2018). Despite repeated condemnations by the international community, terrorism and incitement endure. In order to enforce the international norm prohibiting terrorism and incitement, UN resolutions must be accompanied by financial penalties. Together, the UN and US must clearly condemn Palestinian terrorism and political incitement, declaring a clear



categorical norm against such actions. An oversimplified proposal for such a policy might be that for every Palestinian terrorist attack, financial aid to the Palestinian Authority will be reduced by \$1 million. Furthermore, for public statements of incitement by PA officials, financial aid will be reduced an additional \$1 million. Fearing the revocation of financial aid, Palestinian leaders will be incentivized to curtail terrorism and incitement. Furthermore, as the impact of reduced aid harms the public services and livelihood of ordinary Palestinians, the policy fosters an incentive for citizens to uphold the norm as well. In tandem, governmental and social enforcement may maintain a new norm forbidding terrorism and incitement, in turn influencing individuals' actions and curtailing such violence.

A cursory analysis of the Israeli-Palestinian conflict reveals that the current status quo of creeping Israeli annexation of the West Bank and persistent Palestinian terrorism is unsustainable and damaging to the prospects of lasting peace. Applying the insights of the Norm Enforcement model, it is evident that existing social, bilateral, and international norms prop up this damaging status quo. Leveraging the influence of public signals and international enforcement, policy makers and political leaders may yet be able to stem the tide of Israeli settlement expansion and Palestinian terrorism, altering the trajectory of the Israeli-Palestinian conflict.

## 8 Discussion

The Israeli-Palestinian conflict is among the most contentious and controversial issues in our modern world. Not only is the conflict incredibly complex and multifaceted, but it is also extraordinarily emotional and meaningful for those invested in its outcome. As such, game theory lends a valuable perspective as it drives toward the fundamental dynamics at play, abstracting away distracting and emotionally charged details. As Professor Aumann expresses, “some things are

better from a distance ... the coalitional form of a game, by abstracting away from details, yields valuable perspective” (Eatwell, Milgate, & Newman, 1989).

Humanity is wired for tribalism. The Hawk-Dove, Evidence Games, and Norm Enforcement models enable us to take a game theoretic approach to uncovering the fundamental, tribal dynamics of the Israeli-Palestinian conflict. The Hawk-Dove model provides a fundamental explanation for the foundations of the conflict and lends insight into the core issues that perpetuate its violence. The Evidence Games model unveils the mechanisms through which both factions argue their case of legitimacy and rightful ownership, internalizing biased beliefs and polarizing their societies in the process. The Norm Enforcement model yields an understanding of the normative infrastructure that perpetuates the conflict, precluding interethnic cooperation, collaboration, or concessions. Altogether, these three models provide insight into the fundamental dynamics shaping the Israeli-Palestinian conflict. Such insights are not merely academically relevant, but more significantly may be leveraged by policy makers to enact substantive progress towards reconciliation and peace.

A two-state solution is the only viable option to achieve Palestinian statehood and a democratic, Jewish Israel. Setting their sights on a viable two-state solution, Israeli and Palestinian leaders must single-mindedly pursue policy in service of that goal. Insights from game theory may be helpful in this pursuit. I propose that unilaterally dictating a national border between Israel and Palestine will fundamentally shift the trajectory of the Israeli-Palestinian conflict. Supported by concerted norm reform and media regulation, Israeli and Palestinian leaders must craft a new national narrative in unwavering support of a two-state solution. Under such policy, reconciliation and a lasting peace are possible.

As we have seen, the Hawk-Dove, Evidence Games, and Norm Enforcement models provide an intriguing lens through which to study conflict. As such, the game theory approach

presents a productive lens through which to explore a variety of foreign policy challenges around the globe. From interethnic conflict in Yemen and Syria to American political polarization, the game theoretic approach presents a novel method through which to discern the fundamental, casual dynamics of such conflicts. Only once such ultimate incentives have been identified may policy makers craft effective, targeted public policy to truly ameliorate conflict.

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