

EXPLAINING THE 1914 WAR IN EUROPE

AN ANALYTIC NARRATIVE

Frank C. Zagare

ABSTRACT

This essay constructs a theoretically rigorous explanation of the 1914 European war that involved Austria–Hungary, Germany, Russia, and France. It also serves to confirm Trachtenberg’s contention that ‘one does not have to take a particularly dark view of German intentions’ to explain the onset of war in 1914 and ‘question the “inadvertent war” theory’. A number of related questions about the Great War are also addressed within the context of a generic game-theoretic escalation model with incomplete information. The analysis suggests that general war broke out in Europe in 1914 because both Austria–Hungary and Germany believed that, when push came to shove, Russia would stand aside if Austria moved aggressively against Serbia. There is a sense in which the war can be said to be unintended but there is no sense in which it should be understood as accidental.

KEY WORDS ● analytic narrative ● escalation ● game theory ● July crisis
● World War I

1. Introduction

The outbreak of World War I remains one of the most perplexing events of international history. It should be no surprise, then, that rationalist interpretations of the July crisis are a diverse lot, ranging from the sinister on the one hand to the benign on the other. The dark view is that German leaders simply wanted a war in 1914; the less baleful interpretation is that the war was unintended and, at least in some sense, accidental. Somewhere in between are those intentionalist accounts that attempt to show how instrumentally rational agents were led to the choices that gave rise to an escalation spiral.

Levy’s (1990/1991) attempt at explanation, with preference assumptions that shade toward the sinister, but with conclusions that approach those of the inadvertent war school, is a good example of an in-between interpretation of the events

that led, eventually, to the First World War. Levy locates the cause of the war in those ‘economic, military, diplomatic, political, and social forces ... [that] ... shaped the policy preferences of statesmen and the strategic and political constraints within which they had to make extraordinarily difficult decisions’ (p.184).

But Levy’s rational choice explanation is, as are most explanations of the July crisis, theoretically *ad hoc*. It contains no formal structure, game-theoretic or otherwise, to demonstrate a direct mapping between postulated preferences and the eventual dénouement of the crisis. Moreover, its explanatory power is circumscribed by the absence from among the possible outcomes of the crisis of an outcome labeled ‘status quo’ – or an equivalent. The latter is a particularly problematic deficiency since the heart of any explanation of the start of the Great War must contain an explicit statement of exactly why the prevailing European state system failed to withstand challenge in early August 1914.

One purpose of this essay is to overcome some of the deficiencies of extant ‘in-between’ intentionalist accounts of the war’s outbreak, and to do so without taking the sinister view that Germany was simply an evil empire seeking expansion. That explanation, normally associated with the German historian Fritz Fischer (1967, 1975), is theoretically uncomplicated and logically straightforward. It suffers, however, from an almost exclusive focus on German policies and decisions. Today, most historians and political scientists regard Fischer’s argument as incomplete at best, misleading at worst (Langdon, 1991; Mombauer, 2002).

It is not my intention here to revisit the debate that the so-called Fischer thesis set off in the 1960s. Rather, my goal is more modest: I hope to demonstrate, formally, using an incomplete information game model that Trachtenberg’s (1991: 57) contention – that ‘one does not have to take a particularly dark view of German intentions’ to explain the onset of war in 1914 (and ‘question the “inadvertent war” theory’) – is logically correct, and to do this in a theoretically rigorous way.¹ Along the way I also hope to answer a number of related questions about the July crisis.²

Before proceeding, however, there is one important proviso. In what follows, I expressly do not attempt to offer an explanation of Britain’s entry into the war and its failure to deter a German attack on Belgium and France. As explained in Section 5, this question, which is addressed elsewhere (Zagare and Kilgour, 2006), is largely immaterial to my immediate purpose of constructing an explanation of

1. Snyder and Diesing’s (1977) game-theoretic summary of the July crisis is consistent with Fischer’s interpretation of German preferences. In addition to their analysis, Beckman (1984) is the only other study I have knowledge of that uses game theory to analyze the run-up to the Great War. Neither work, however, is intended as a full-blown explanation. (O’Neill (1989) calls Snyder and Diesing’s usage ‘proto-game theory’. He would probably put Beckman’s application in the same category.) The utter complexity of the events that led to the First World War is, probably, the reason why the formal apparatus of game theory has not been used more often to analyze this most important case.

2. The explanation I construct can be considered an ‘analytic narrative’ in the sense of Bates et al. (1998).

the escalation of the local contest between Austria–Hungary and Serbia to a strictly continental war that also involved Germany, Russia, and France.

2. Background

Archduke Franz Ferdinand, heir apparent to the Austro-Hungarian throne, was assassinated in Sarajevo on 28 June, 1914. By the end of the first week of July, German leaders had issued the so-called ‘blank check’, pledging unconditional support of Austria’s reactive decision to deal harshly with Serbia, in effect agreeing to a coordinated strategy that ceded control of some critical aspects of German foreign policy to decision makers in Vienna.

Even with Germany’s backing, though, Austria was slow to move. It was not until 23 July that Vienna delivered its humiliating ultimatum to Belgrade which, according to Farrar (1972: 8), signaled the beginning of the ‘European stage’ of the crisis. The next day the details of the ultimatum were formally conveyed to other European leaders including Russia’s Foreign Minister Serge Sazonov who, after consulting with both the French and British ambassadors, convened a meeting of the Russian Council of Ministers. As Spring (1988: 57) notes, this meeting was ‘the critical point for Russia in the July crisis’. The decisions reached that afternoon established the type of player Russia would be in the days that followed: Sazonov’s inclination toward a hard-line policy was supported by the rest of the government and, on the following day, ratified by the Tsar. The agreed-upon strategy was multifaceted; it covered a number of contingencies and revealed a clear hierarchy of objectives.

More than anything, the Russians wanted to defuse the crisis before it could further intensify. Accordingly, the Council of Ministers approved Sazonov’s proposal to ask Austria for an extension of the ultimatum’s deadline and to encourage Serbia to accede to as many of Vienna’s terms as possible. Of course, these measures could always fail. In this eventuality, Serbia was also to be urged not to resist an Austrian invasion. Needless to say, this latter suggestion was not well received by the Serbs (Stokes, 1976: 70).

The most important decision made on 24 July, though, concerned what Russia would do *if* Austrian troops marched against Belgrade. According to an internal Foreign Ministry memorandum ‘it was decided in principle’ to implement a *partial* mobilization of the Russian army and navy ‘and to take other military measures should the circumstances so require’ (Geiss, 1967: 190). The next day the Tsar formally endorsed this recommendation and agreed ‘to enforce throughout the entire Empire the order for the period preparatory to war’ (Geiss, 1967: 207). As Trachtenberg (1991: 76) notes, with this decision ‘the crisis had moved into its military phase’. Depending on circumstances, Russia was now prepared for either a limited response (i.e. a partial mobilization against Austria) or an escalatory response (i.e. a full mobilization against both Austria and Germany) should the need occur.

Even so, as late as 27 July, no irrevocable choices had been made by any European government. True, Austria–Hungary and Germany had decided on a joint course of action, and Austria had issued a demanding ultimatum, but no significant military steps had actually been taken. Similarly, Russia and France had decided to stand together, and Russia had developed a strategy that took account of various contingencies, but no overt military plan had in fact been implemented. In other words, neither side had as yet mobilized, either fully or partially, for war. But the status quo would not long endure. After all, the Austrian ultimatum had already expired; Serbia had rejected its most humiliating conditions; the German Foreign Office was still urging immediate action, and Vienna remained intent on crushing the Serbian ‘viper’.

The Austrian intent was realized at noon on 28 July when a telegram declaring war was sent to the Serbian government. The next morning, Austro-Hungarian gunboats opened fire on Belgrade. This was the first of four critical moves in a game that would, in short order, lead to a European war that pitted the Dual Alliance of Austria–Hungary and Germany against Russia and France.

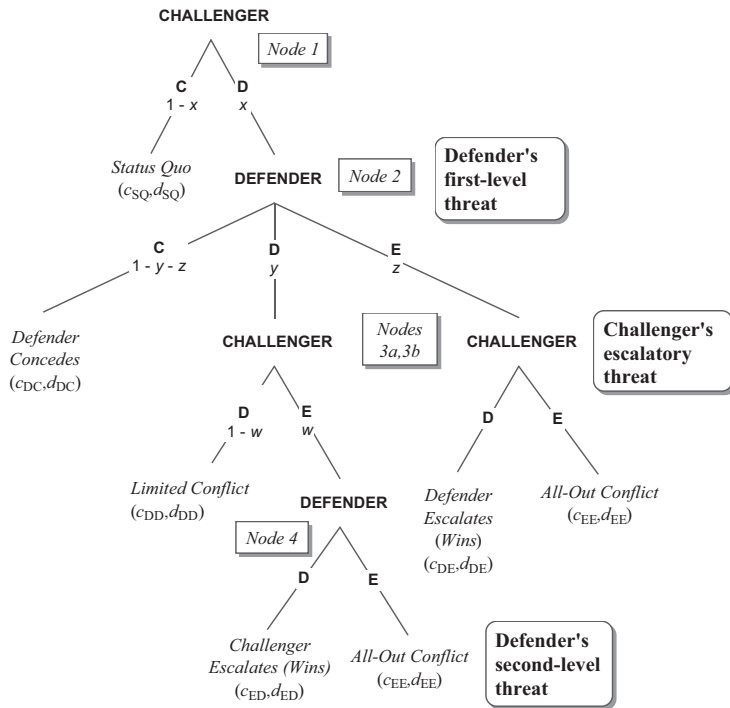
3. Asymmetric Escalation Game

To understand the dynamic process that eventually, albeit briefly, involved four of the European great powers in a continental conflict, consider now the *Asymmetric Escalation Game* depicted in Figure 1, which is analyzed with incomplete information. This general model was specifically designed by Zagare (1990) to gain insight into intense interstate disputes, such as the one under investigation, that involve at least two distinct levels of conflict, one limited and the other unlimited.³ The empirical fit between this model and the events that led to the European phase of the war is especially close. It is, therefore, a powerful tool for understanding the escalatory process that led, eventually, to the initiation of armed conflict by Germany in early August 1914.

The Asymmetric Escalation Game is a two-player non-cooperative game. In what follows, I associate Austria–Hungary and Germany with the player called *Challenger*⁴ and Russia and France with the player called *Defender*. The

3. In other words, the model was not developed with any specific real-world event in mind. It has, however, been applied to NATO’s 1999 war with Serbia over Kosovo (Quackenbush and Zagare, 2006). It has also been used to examine the effectiveness of competing extended deterrence deployment policies such as massive retaliation and flexible response (Zagare and Kilgour, 2000).

4. Notice that Austria–Hungary is listed as the first (principal) member of the coalition. This is no accident. For all intents and purposes, the German government played a subordinate role in actual decision making prior to 4 August when it invaded Belgium. And by that time the die had already been cast. As Williamson (1991: 196) notes, ‘the steps that pushed Europe toward war were taken in Vienna. The support given by Berlin simply confirmed and assured that the Hapsburg decision to settle accounts would this time be a military solution rather than a diplomatic one’.



Key:

Challenger: C = Cooperate
 D = Demand
 E = Escalate

Defender: C = Concede
 D = Defy
 E = Escalate

x = probability Challenger initiates at node 1
 w = probability Challenger escalates at node 3a
 y = probability Defender responds in kind at node 2
 z = probability Defender escalates at node 2

Figure 1. Asymmetric Escalation Game

Source: Zagare and Kilgour (2000).

assignment of these roles to the two players is not difficult to justify. Clearly, the Austrian declaration of war against Serbia was seen, at least in St. Petersburg, as a direct challenge to Russia’s standing as a great power. Also, the first significant Russian decision was doubtless a defensive reaction to the Austrian declaration of war and the bombardment of Belgrade.

More difficult to justify, however, is the assumption that (a) Austria–Hungary and Germany constituted a single decision-making unit and (b) that Russia and France made concerted choices from 28 July onwards. Indeed, neither assumption is entirely consistent with the known facts. Decision makers in Vienna and

Berlin, for instance, had slightly different objectives,⁵ sometimes possessed private information that they did not share with each other, and were not always operating under the same set of constraints.⁶ Similarly, in the actual play of the game I examine presently, all of the critical choices made by Defender were made in St. Petersburg, not in Paris. In other words, France, which Remak (1971: 354) judges to be the nation ‘least responsible for the outbreak of the war’, was a relatively minor player during the most critical stages of the crisis.

Nonetheless, there are a number of good reasons for treating the two coalitions as a single player. One important justification is that members of both alliances had agreed on a joint strategy well before Austria’s declaration of war. As noted earlier, given German support, Austria–Hungary had decided to take a hard line approach toward Serbia. Similarly, with France’s backing, Russia was determined to stand firm and resist an Austrian challenge to Serbia’s political integrity.⁷ Additionally, by treating each alliance as a unit, the analysis that follows is simplified considerably. It should be noted that there is ample precedent for this particular player assignment. In their classic study of interstate crises, for instance, Snyder and Diesing (1977) view each coalition as a unified actor. And, in most empirical studies of interstate disputes, Austria–Hungary and Germany are grouped together as a single entity during the July crisis.⁸

On the other hand, there will be times when I will have to stand back from this simplifying assumption – just a bit – to get a firmer picture of how and why the game terminated as it did. As will be seen, this will especially be the case after 29 July when decision makers in Vienna and Berlin began to interpret the world differently and, in consequence, work at cross purposes.⁹ It was at this

5. Berlin’s goal was to preserve its alliance with Austria; Vienna’s to preserve its standing as a Great Power. Nonetheless, in the game they played with Russia and France, their preferences converged (see later).

6. Equally problematic is the assumption that the German government itself acted as a single unit throughout the crisis. But since the divergent tendencies and underlying preferences of Kaiser Wilhelm II, Chancellor Theobald von Bethmann-Hollweg, Foreign Secretary Gottlieb von Jagow, Chief of the General Staff Helmuth von Moltke (the Younger) and others surfaced when decision making was still centered in Vienna, the lack of coordination among German leaders is not particularly material to the present discussion.

7. This, and convention, are the primary reasons why France is considered a participant in the game. For all intents and purposes, this particular assumption is innocuous.

8. See, for example, Huth (1988) or Danilovic (2002).

9. This is not to say that their preferences diverged. In my opinion, Levy is correct (1990/1991: 162) when he concludes that Austria–Hungary and Germany had identical (ordinal) utility functions. It is clear, however, that despite a commonality of purpose, German leaders placed a much higher probability on the likelihood that Russia would intervene than did Austria–Hungary after Russia ordered partial mobilization on 29 July (see later). More technically, the (updated) beliefs of Germany’s leaders about Russia and France’s type differed from those held by Austria’s Foreign Minister Count Leopold Berchtold and other key decision makers in Vienna.

point in the game that Germany lost control of its ally and that critical decision making was thoroughly monopolized by the Hapsburg monarchy.

These reservations aside, the Asymmetric Escalation Game is particularly well suited for examining situations, like the one that took place at the end of July 1914, where more than one type of conflict outcome is possible. It is, therefore, a much more refined model than most other game-theoretic models of the escalation process.

In the Asymmetric Escalation Game with incomplete information, Challenger begins play at decision node 1 by deciding whether to initiate a crisis. If Challenger turns away from a confrontation (by choosing C), the *Status Quo* (SQ) obtains. But if Challenger initiates conflict (by choosing D), Defender decides (at node 2) whether to capitulate (by choosing C) or to respond, and if the latter, whether to respond in kind (by choosing D), or to escalate (by choosing E).

Capitulation ends the game at *Defender Concedes* (DC). If Defender responds, Challenger can escalate – or not – at nodes 3a or 3b. If Challenger is the first to escalate (at node 3a), Defender is afforded an opportunity at node 4 to counter-escalate. *Limited Conflict* (DD) occurs if Defender responds in kind and Challenger chooses not to escalate at node 3a. *Challenger Escalates/Wins* (ED) if, at node 4, Defender chooses not to counter-escalate. Similarly, the outcome is *Defender Escalates/Wins* (DE) if Challenger chooses not to counter-escalate at node 3b. *All-Out Conflict* (EE) results whenever both players escalate. As Figure 1 indicates, there are two distinct paths to *All-Out Conflict* in the Asymmetric Escalation Game.

The connection between the initial choice facing Austria–Hungary and Germany in late July 1914 and Challenger in the Asymmetric Escalation Game should be obvious. After Sarajevo, the Dual Alliance could either have accepted a humiliating status quo by doing nothing (i.e. by choosing C), or sought to modify it by choosing D and demanding its alteration. Austria's intent to contest the status quo was clearly signaled on 23 July, when it issued its ultimatum to Serbia, and realized on 28 July, when it finally declared war.

It is noteworthy that once Austria began to shell Belgrade on 29 July, decision makers in St. Petersburg faced a set of options that closely parallel the choices available to Defender at node 2 of the Asymmetric Escalation Game: Russia could have stood aside (C) and accepted the Austrian attempt at a *fait accompli*, it could have measured its response (D) with a *partial* mobilization directed only against Austria, or it could have significantly escalated (E) the conflict with a full mobilization of its army directed against both Austria and Germany.¹⁰ It was generally understood in St. Petersburg that an escalatory

10. Jannen (1996: 279) characterizes the Russian general mobilization as 'a major escalation of the crisis'. Langdon (1991: 60) and Trachtenberg (1991: 94) offer similar descriptions.

choice (i.e. full mobilization) was likely to lead to war with Germany (Trachtenberg, 1991: 77), whether that escalatory choice was made initially at node 2 or subsequently at node 4.

Unlike a full mobilization, however, a partial mobilization did not *necessarily* imply a war between Russia and Germany. On 27 July, Germany's Foreign Secretary Jagow told both the French Ambassador, Jules Cambon, and the British Ambassador, Sir Edward Goschen, that Germany would not mobilize against Russia if the Russian mobilization was directed only against Austria–Hungary, but that it would counter-mobilize if Russia subsequently mobilized against Germany as well (Geiss, 1967: 245, 253). In other words, the implications of a partial mobilization were unclear. What is clear, however, is that in the event of a partial mobilization, the Austrian response would be critical, which helps to explain why Vienna, and not Berlin, was the locus of decision making after the Tsar backed away from full mobilization on 29 July.

We know that, empirically, the partial-mobilization decision was implemented shortly after news reached the Russian capital that Austria–Hungary had declared war, and that there was a cause-and-effect relationship between these two events (Geiss, 1967: 262). Indeed, as indicated earlier, the decision to react in this way had been made in advance, at the meeting of the Russian Council of Ministers on 24 July. At this point, the choice facing Austria–Hungary was similar to the choice facing Challenger at node 3a of the Asymmetric Escalation Game. One option was simply to step back. For example, Austria–Hungary could have accepted a proposal made by the British Foreign Secretary, Sir Edward Grey, on 24 July that ‘the four nations not immediately concerned – England, Germany, France, and Italy – should undertake to mediate between Russia and Austria’ (Geiss, 1967: 184). Or Austrian leaders could have accepted the ‘Halt-in-Belgrade’ proposal made by the Kaiser on 27 July that Austria announce its intention to occupy the Serbian capital, but only temporarily until Serbia carried out the promises made in its response to the Austrian ultimatum (Geiss, 1967: 256). Or Austria could have taken Bethmann-Hollweg's strong hint on 29 July to defuse the crisis by entering into direct discussions with St. Petersburg (Geiss, 1967: 292–3). All of which indicates that, as late as 29 July, a *Limited Conflict* was a distinct possibility, that there was still a way out of the crisis if Austria–Hungary wanted one.

Of course, the Hapsburg Empire was not looking for an escape clause. Disregarding last-minute pleas from Berlin to accept mediation (Geiss, 1967: 305), Austria–Hungary decided to plow on. After learning of the Russian partial mobilization, it decided to mobilize against Russia. Meanwhile, it continued its advance toward Serbia. By resisting mediation and pushing forward militarily, Austria–Hungary clearly intensified the conflict. It did not take long for Russia to respond (see node 4). On 30 July, the Tsar consented to full mobilization of Russian forces against both Germany and Austria. As Trachtenberg (1991)

shows, the Russian mobilization decision was a war choice. Before long, German troops were marching into Belgium.¹¹

For generations, historians and political scientists have attempted to explain why. If a *Limited Conflict* was a distinct possibility, why did it fail to materialize? Was there an inevitable slide to an all-out war as Britain's Chancellor of the Exchequer, David Lloyd George, suggested after the war, or was the general European conflict preventable? What role did perceptions play in the way the game played out?¹² In what follows, I attempt to answer these and related questions by examining the equilibrium structure of the Asymmetric Escalation Game with incomplete information.¹³

4. Preferences

There are six possible outcomes of the Asymmetric Escalation Game. These outcomes, and the choices that led to them, are indicated both verbally and symbolically on the game tree of Figure 1. Note again that the model admits two distinct conflict outcomes. *Limited Conflict* occurs only when Challenger defects at node 1, Defender responds in kind at node 2, and Challenger chooses not to escalate at node 3a. *All-Out Conflict* occurs whenever both players escalate.

It is also worth pointing out once more that there are two distinct paths to *All-Out Conflict* in the Asymmetric Escalation Game. The first results when Defender escalates immediately at node 2 and Challenger retaliates at node 3b. The second path conforms to a classic escalation spiral: Challenger initiates at node 1, Defender responds in kind at node 2, Challenger escalates first at node 3a, and Defender counter-escalates at node 4.

11. The alert reader will notice that, as drawn, the game tree of the Asymmetric Escalation Game provides Challenger with an opportunity to counter-escalate (at node 3b) should Defender escalate first at node 2. In the context of the events of July 1914, this decision node models a possible response to a full mobilization by Russia immediately after the Austro-Hungarian declaration of war against Serbia. By contrast, there is no analogous decision node for Challenger after Defender's escalatory choice at node 4. The implicit assumption in the latter instance is that a full Russian mobilization simply implies a (German) counter-mobilization and, hence, an *All-Out Conflict* between the Dual Alliance and Russia and France. This is clearly an inconsistency, but given the assumption (see later) that Challenger's threat to counter-escalate is highly credible, it is an inconsistency that is of no analytic import. The inconsistency could easily be eliminated either by adding another decision node after Defender's escalatory choice at node 4, or by eliminating Challenger's node 3b decision. But there are good reasons not to make these changes to the underlying game form. First, as noted, the inconsistency is in no way material. Second, eliminating the inconsistency would unduly complicate the narrative and the associated analysis. Finally, it would obscure the model's generality.

12. For early attempts to address this question empirically, see Holsti et al. (1968) and Zinnes (1968). See also Pool and Kessler (1965) and Hermann and Hermann (1967).

13. For the formal proofs, see Zagare and Kilgour (2000).

Table 1. Preference Assumptions for Asymmetric Escalation Game

Challenger	Defender
<i>Defender Concedes</i>	<i>Status Quo</i>
<i>Status Quo</i>	<i>Defender Escalates</i>
<i>Challenger Escalates</i>	<i>Defender Concedes or Limited Conflict</i>
<i>Limited Conflict</i>	<i>Challenger Escalates or All-Out Conflict</i>
<i>Defender Escalates or All-Out Conflict</i>	

The preference assumptions that guide the analysis of the Asymmetric Escalation Game are summarized in Table 1. For the most part, these assumptions are straightforward and non-controversial. For example, the preferences arrayed in Table 1 presume that both players prefer winning to losing. To reflect the costs of conflict, the players are also assumed to prefer to win or, if it comes to it, to lose at the lowest level of conflict. Thus Challenger prefers *Defender Concedes* (outcome DC) to *Challenger Wins* (outcome ED) – and so does Defender.

Notice that several critical preference relationships are left open in Table 1. These relationships are associated with threats that the players may or may not prefer to execute. Challenger has only one threat: to escalate or not at node 3b. Defender, by contrast, has two threats in the Asymmetric Escalation Game: a *tactical level* threat to respond in kind at node 2 and a *strategic level* threat to escalate at node 4.

Following convention, the preferences associated with these threats define each player's type. Since Challenger has only one threat, it may be one of two types: *Hard* Challengers are those that prefer *All-Out Conflict* to *Defender Escalates*; Challengers with the opposite preference are called *Soft*. Defenders, by contrast, are more difficult to typecast. A Defender who prefers *Limited Conflict* to *Defender Concedes* is said to be *Hard* at the first or tactical level while a Defender with the opposite preference is said to be *Soft* at the first or tactical level. Similarly, a Defender who prefers *All-Out Conflict* to *Challenger Escalates* is said to be *Hard* at the second or strategic level while a Defender with the opposite preference is said to be *Soft* at the second or strategic level. Thus, Defender may be one of four types: *Hard* at the first level but *Soft* at the second (i.e. type HS); *Soft* at the first level but *Hard* at the second (i.e. type SH); *Hard* at both level (i.e. type HH), *Soft* at both levels (i.e. type SS).

In the analysis that follows, all retaliatory threats are taken to be capable in the sense that the player who initiates conflict ends up worse off if and when the other player retaliates (Zagare, 1987). In terms of preferences, this means that both players prefer the *Status Quo* to *Limited Conflict*, and *Limited Conflict* to *All-Out Conflict*. This final assumption about preferences, however, is neither innocuous nor non-controversial – as I explain later.

5. Some Caveats

There are a few devils in the details of the preference assumptions I make that, perhaps, require exorcism. Before proceeding, however, it will be useful to comment briefly on the connection between the six theoretical outcomes of the Asymmetric Escalation Game and the real-world events they are meant to represent.

The outcome with the clearest meaning is the one labeled *Status Quo*, which I take to be the existing European order as of July 1914. As things stood shortly after Sarajevo, neither Austria–Hungary nor Germany placed a high value on this outcome, which provides further justification for the identification of the governments in Vienna and Berlin with the player called ‘Challenger’. Specifically, German leaders looked around and saw both a dominating Great Britain and a rising Russia – which was tied closely to France, a long-time rival. For their part, Austria’s policy makers feared that their polyglot empire would soon implode if Serbian subversives were not quickly eradicated. Clearly, both Austria–Hungary and Germany were dissatisfied powers as the July crisis unfolded.

Another outcome whose meaning should be clear is *Defender Concedes*. *Defender Concedes* is simply a more generic term for the outcome that Levy (1990/1991) calls ‘localized war’. *Defender Concedes*, therefore is intended to capture the dénouement of a war in the Balkans that pitted Austria–Hungary against ‘tiny Serbia’ (Geiss, 1967).

Defender Escalates/Wins and *Challenger Escalates/Wins* refer to one-sided victories for Defender and Challenger, respectively, that come about after an escalatory move by one player and capitulation by the other. In the context of the July crisis, Russia (i.e. Defender) would clearly have gained a political and diplomatic advantage had it implemented a full mobilization of its army and forced Austria–Hungary and Germany to back off. Similarly, Austria–Hungary and Germany (i.e. Challenger) would have gained the upper hand, and probably split the Entente, had the partially mobilized Russian army stood down as Belgrade was leveled and Serbia dismembered.

The remaining two outcomes of the Asymmetric Escalation Game have names that may mislead the reader. Within the context of this essay, *All-Out Conflict* corresponds to the outcome Levy (1990/1991) refers to as a ‘continental war’, that is, a war in which only the four major continental European powers and Serbia are involved. Though it did not long last, it is the war that actually broke out in Europe after Germany declared war on Russia on 1 August.

The final outcome of the Asymmetric Escalation Game, *Limited Conflict*, requires a particularly careful exegesis. Normally, this term is reserved for an actual war in which two or more nations fight but at least one has either a limited objective or fails to use all the weapons at its disposal. However, this is not the sense of the term here, where *Limited Conflict* refers to any outcome that comes about after Challenger contests the status quo, Defender measures its response,

and Challenger decides not to escalate. In 1914, for example, a *Limited Conflict* would have evolved had Austria–Hungary agreed to mediate its dispute with Serbia after Russian troops were mobilized in the Balkans. The broad outlines of this outcome, therefore, correspond closely to the outcome Levy (1990/1991) identifies as ‘negotiated peace’.

All this said, one might well ask whether the preference assumptions summarized in Table 1 stand up to empirical scrutiny. After all, these are generic preferences that were developed to represent an interesting and important general case. It is more than possible, therefore, that there are some critical differences between these (posited) preferences and those of the actual players during the July crisis.

For example, the Defender in the model strictly prefers the *Status Quo* to any other outcome. But was Russia truly a satiated power in 1914? Schroeder (1972: 335) makes a compelling case that it was not, that it had designs on large swaths of Austrian territory, and that it was simply waiting for the aging Emperor’s death to annex Galicia and other parts of Franz Joseph’s sure-to-disintegrate empire. Clearly, Russia was also a dissatisfied power on the eve of World War I.

On the other hand, for our purposes, Russia’s territorial ambitions are largely immaterial. One reason is that, in the Asymmetric Escalation Game, Defender never makes a choice between the *Status Quo* and any other outcome, so that its relative ranking is theoretically irrelevant. Additionally, unless one wishes to argue that Russia and France deliberately provoked the crisis in order to humiliate Austria–Hungary and Germany by forcing the Dual Alliance to back down, thereby implying that Defender preferred *Defender Escalates/Wins* to the *Status Quo*, the assumption that Russia and France’s highest-ranked outcome was the *Status Quo* is entirely defensible within the confines of the Asymmetric Escalation Game and the set of outcomes associated with it. Theoretically or empirically, there is simply no other outcome that could be ranked above it.

Fischer (1967, 1975), though, would most certainly object to the relatively low ranking of *All-Out Conflict* (i.e., a continental war) by Challenger (see Table 1). In Fischer’s opinion, Germany deliberately provoked war in 1914 in a bid for world power. If Fischer is correct, and there are some who believe he is, *All-Out Conflict* was Germany’s highest-ranked outcome.¹⁴ In consequence, deterrence by Russia and France (without the assistance of Great Britain) would have been impossible. In other words, Fischer’s assumption about German preferences, in and of itself, constitutes a sufficient condition for the outbreak of war in Europe on 1 August.

Both Schroeder (1972: 336–7) and Remak (1971: 361), however, agree that Fischer’s argument is not necessary for an explanation of the escalation spiral

14. Copeland (2000: 57), for example, argues that Germany ‘preferred major war to even a localized war or a negotiated solution’.

that led, eventually, to World War I. I hope to demonstrate below why they are correct. But for now, in the tradition of William of Ockham, I simply adopt the less demanding assumption.

Levy's (1990/1991) contention that both Austria–Hungary and Germany preferred *All-Out Conflict* (i.e. a continental war) to *Limited Conflict* (i.e. a negotiated peace) also runs counter to the preference assumptions arrayed in Table 1.¹⁵ With respect to Austria–Hungary, Levy's conclusions are debatable but difficult to establish. To be sure, as the crisis intensified, Vienna did everything it could to avoid mediation. But was this because it preferred a continental war or, as suggested later, and as Jannen (1996) forcefully argues, because it did not believe that Russia would intervene? With respect to Germany, Levy's conclusions are even more problematic – unless one is willing to discount completely the sincerity of Bethmann-Hollweg's frantic, last-ditch effort to moderate Austria–Hungary's behavior (discussed later). Even Immanuel Geiss (1967: 88), Fischer's student and disciple, is unwilling to go that far.

Some may also find fault with the fact that the Asymmetric Escalation Game, and the outcomes associated with it, do not include Great Britain as a player and the possibility of the wider, world war that eventually broke out when Britain declared war on Germany. One reason why I have chosen not to model Great Britain's choices in this essay is that my purpose is to explain, in the simplest possible way, the escalation spiral that led to the outbreak of war on the continent. Including Great Britain among the players would unnecessarily complicate matters. Additionally, the game played between Great Britain and Germany in 1914 is analyzed elsewhere (Zagare and Kilgour, 2006). It would be a straightforward exercise to include that game as proper subgames of the Asymmetric Escalation Game.¹⁶ But doing so would not alter the argument I make here.

Finally, Challenger's postulated preference for the *Status Quo* over a *Limited Conflict* (i.e. a negotiated peace) also runs counter to Fischer's (and presumably Levy's) assessment of Austro–Hungarian and German preferences. As noted earlier, in the analysis of the Asymmetric Escalation Game, I assume that both Challenger and Defender possess capable threats at every level of play. Consistency with this assumption requires that Challenger prefer the *Status Quo* to *Limited Conflict*.

How critical is this assumption? In the analysis that follows, it plays a relatively minor role. After all, in the end the crisis escalated to the highest level, suggesting that Challenger's *relative* ranking of these two outcomes was of little moment. On the other hand, it has important implications for how a hypothetical

15. Levy (1990/1991: 162) claims that Fischer would also argue that both Austria–Hungary and Germany preferred *All-Out Conflict* to *Limited Conflict*.

16. Notice the plural. To completely extend the Asymmetric Escalation Game, the game analyzed in Zagare and Kilgour (2006) would have to be substituted for Challenger's node 3b decision and appended subsequent to Defender's decision at node 4.

question about the inevitability of conflict in 1914 is answered. This question will be addressed later (see section 7.2).¹⁷

6. Analysis

With two players, each with at least two moves, and six outcomes, the Asymmetric Escalation Game with incomplete information can have many variants. To gain tractability, I focus on the special case in which Challenger is likely *Hard*, that is, when Challenger's threat to counter-escalate at node 3b is highly credible.

This special-case analysis is easy to justify. First, although this assumption vastly simplifies the analysis of the Asymmetric Escalation Game, it does so with no serious loss of information. True, the absolute number of perfect Bayesian equilibria are fewer in the special-case analysis, but that is the point.¹⁸ All distinct equilibrium forms of the general case are represented in the special-case analysis. Also, the equilibria that arise when Challenger is likely to be *Hard* exist under conditions that fully exemplify the existence conditions in the general case. In other words, there is little to be gained theoretically by examining the Asymmetric Escalation Game in the absence of this simplification.

The more important justification, however, is empirical. The assumption that Challenger is likely *Hard* is entirely consistent with the facts on the ground at the end of July 1914. According to Berghahn (1993: 197), the 'hard liners' were in control in Germany. As the crisis unfolded, both the Russians and French took it for granted that (a) Austria–Hungary had Germany's backing and (b) a full Russian mobilization implied a general European war. Neither would be reasonable inferences if Challenger (i.e. Austria–Hungary and Germany) was seen as likely *Soft*.

With these justifications in hand, I proceed now to analyze the equilibrium structure of the Asymmetric Escalation Game with incomplete information. As I hope to demonstrate, the theoretical characteristics of the perfect Bayesian equilibria (see Table 2) that exist when Challenger is likely *Hard* will enable us to address a number of interesting questions about the events that led to the outbreak of war in Europe in early August.

As Table 2 reveals, there are six rational behavioral possibilities when it is highly likely that Challenger is *Hard*. These six perfect Bayesian equilibria can be conveniently placed into three major groups. The first is a family of several

17. Parenthetically, it should be noted that the assumption stacks the deck against an easy explanation of the conflict. The higher the ranking of *Status Quo* relative to *Limited Conflict* and *All-Out Conflict*, the more difficult the explanation, and conversely.

18. There are 16 rational behavioral possibilities when no restriction is placed on Challenger's type, but only 6 in the special case. The reader interested in an analysis of the general case should consult Zagare and Kilgour (2000). See also Kilgour and Zagare (2007).

Table 2. Equilibria of the Asymmetric Escalation Game when Challenger Has High Credibility¹

	Challenger					Defender						
	x		w		q _{HH}	y		z				r
	x _H	x _S	w _H	w _S		y _{HH}	y _{HS}	z _{HH}	z _{HS}	z _{SH}	z _{SS}	
<i>Escalatory Deterrence Equilibria (typical)</i>												
<i>Det</i> ₁	0	0	1	1	Small	0	0	1	1	1	1	≤ d ₁
<i>No-Response Equilibrium</i>												
<i>NRE</i>	1	1	Large		Small	0	0	0	0	0	0	p _{Ch}
<i>Spiral Family of Equilibria</i>												
<i>Det</i> ₂	0	0	0	0	p _{Str Tac}	1	1	0	0	0	0	≥ d ₂
<i>Det</i> ₃	0	0	d*/r	0	c _q	1	v	0	0	0	0	≥ d ₂
<i>CLRE</i> ₁	1	1	0	0	p _{Str Tac}	1	1	0	0	0	0	p _{Ch}
<i>ELRE</i> ₃	1	1	d*/p _{Ch}	0	c _q	1	v	0	0	0	0	p _{Ch}

Source: Zagare and Kilgour (1998).

¹Table 2 is excerpted from Table A8.1 in Zagare and Kilgour (2000: App. 8), which should be consulted for details of definitions and interpretations. Definitions of the strategic and belief variables appearing in Table 2 are summarized here for convenience.

The probability that Challenger initiates at node 1 of the Asymmetric Escalation Game is denoted x. In fact, this probability can depend on Challenger’s type – if Challenger is *Hard*, the initiation probability is x_H; if *Soft* x_S. Likewise, w_H and w_S are the probabilities that *Hard* and *Soft* Challengers, respectively, escalate at node 3a. At node 3b, Challenger always chooses E if *Hard* and D if *Soft*.

Similarly, Defender chooses D at node 2 with probability y, E with probability z, and C with probability 1 · y · z. Again, these probabilities can depend on Defender’s type, so they are denoted y_{HH}, z_{HS}, etc. It can be proven that y_{SH} = y_{SS} = 0 at any perfect Bayesian equilibrium. At node 4, Defender chooses E if strategically *Hard* (type HH or SH), and chooses D otherwise.

Finally, players revise their initial probabilities about their opponent’s type as they observe the opponent’s actions. Of these revised probabilities, the only two that are important to the equilibria are shown in Table 2. Defender’s revised probability that Challenger is *Hard*, given that Challenger initiates, is denoted r. Challenger’s revised probability that Defender is of type HH, given that Defender chooses D (response in kind) at node 2, is denoted q_{HH}. For the most part, the specific value of the probabilities given in the table (e.g., d₁ or c_q) do not enter into the analysis that follows. The exception is p_{Str|Tac} which is the conditional probability that Defender is *Hard* at the second level given that it is *Hard* at the first level.

equilibria called the *Escalatory Deterrence Equilibria*. But since all members of this family are based on beliefs that are implausible, they will be ignored.¹⁹ This leaves only five possible solutions of the game: the *No-Response Equilibrium*, which always exists, and the four members of the *Spiral Family*, of which

19. For a detailed explanation, see Zagare and Kilgour (1998: 73–4).

precisely one will always co-exist with the No-Response Equilibrium. Next I briefly describe the defining characteristics of the remaining rational strategic possibilities.

6.1 No-Response Equilibrium

The first plausible equilibrium form of the Asymmetric Escalation Game with incomplete information is the *No-Response Equilibrium*. Under the *No-Response Equilibrium*, Challenger always initiates and Defender always capitulates – as the Russians did in 1909 at the conclusion of the Bosnian crisis. Defender gives in because Challenger is very likely always *Hard* and therefore prone to escalate first at node 3a or to counter-escalate at node 3b. To support its choice at node 3a, however, Challenger must believe that a Defender who unexpectedly *responds in kind* at node 2 is more likely to be of type HS than of type HH. This is a plausible belief since, *ceteris paribus*, type HH Defenders are more likely to *escalate* than type HS Defenders.

6.2 The Spiral Family

The Spiral family contains four perfect Bayesian equilibria. Two are deterrence equilibria; there is also one member of the *Constrained Limited-Response Equilibrium* (or CLRE) group, and one representative of the *Escalatory Limited-Response Equilibrium* (or ELRE) group. The members of this set are mutually exclusive. As noted earlier, at most one member of the Spiral Family may exist at any one time in the Asymmetric Escalation Game with incomplete information.

The two closely related deterrence equilibria in the Spiral Family (Det_2 and Det_3) are called the *Limited-Response Deterrence Equilibria*. Under either equilibrium form, Challenger never initiates and the outcome of the game is always *Status Quo*. As their name implies, equilibria of this category do not require Defender to escalate first. In fact, the form of deterrence that emerges under either Det_2 or Det_3 rests *entirely* on the more limited threat of responding-in-kind at node 2. This characteristic alone sets the Limited-Response Deterrence Equilibria apart from all Escalatory Deterrence Equilibria. Additionally, since the Limited-Response Deterrence Equilibria are based on plausible beliefs, they are not so easy to dismiss. Indeed, one would expect that, over time, one or the other of these equilibria would come into play in the Asymmetric Escalation Game with incomplete information. Det_2 , however, is much more likely.

The existence of a Limited-Response Deterrence Equilibrium depends solely on Challenger's beliefs about Defender's type. (Defender's *a priori* beliefs are completely immaterial to their existence.) Specifically, for Det_2 or Det_3 to exist, both Defender's first- and second-level threats must be highly credible: Challenger must believe it quite likely that Defender is tactically *Hard*, and given that Defender is tactically *Hard*, Challenger must place a fairly high probability on

Defender being strategically *Hard* also.²⁰ Given these beliefs, Challenger generally intends not to escalate at node 3a because it believes that Defender will likely counter-escalate at node 4; and because Challenger believes that Defender will almost certainly respond in kind at node 2 – most likely forcing Challenger to back down at node 3a – Challenger decides *not* to initiate at node 1.

The third member of the Spiral Family, $CLRE_1$, is the only form of *Constrained Limited-Response Equilibrium* that exists when Challenger is likely *Hard*. Under this equilibrium, the *Status Quo* never obtains; Challenger *always* initiates. For its part, Defender responds in kind if it is tactically *Hard* (i.e. of type HH or HS). Otherwise, Defender capitulates. Since this member of the Spiral Group of perfect Bayesian equilibria exists only when Defender is likely *Soft* at the first level, the most likely outcome of play under $CLRE_1$ is *Defender Concedes*. Thus, when Challenger chooses D at node 1, it does so with the expectation that its demands will almost certainly be met.

Put in another way, should Defender respond in kind, Challenger will be surprised. In this unlikely event, Challenger will be forced to update its beliefs about Defender's type. Clearly, Challenger will conclude that Defender is tactically *Hard*, since only tactically *Hard* Defenders can rationally choose D at node 2. Moreover, under any Constrained Limited-Response Equilibrium, if Defender is *Hard* at the first level, then it is also likely *Hard* at the second level as well, i.e. more likely to be of type HH than of type HS. Fearing this possibility, Challenger is, understandably, deterred from escalating at node 3a; instead, it always chooses D at node 3a, settling for a *Limited Conflict*.

The Constrained Limited-Response Equilibrium group is strategically significant, if only because a *Limited Conflict* is most likely when a member of this group is in play. In the next section, particular attention is paid to the conditions under which $CLRE_1$ exists. For now, I simply observe that the existence of a Constrained Limited-Response Equilibrium may help to explain why, at times, states abruptly shift gears and adjust their behavior in mid-crisis, an explanation that is fully consistent with Snyder and Diesing's (1977: 397) empirical observation that 'strategy revision is initiated when a massive input of new information breaks through the barrier of the image and makes a decision maker realize that his diagnosis and expectations were somehow radically wrong and must be corrected'.

Limited Conflict is also possible under $ELRE_3$, the only form of *Escalatory Limited-Response Equilibrium* that exists when Challenger is likely *Hard*, but the possibility is remote, at best. In fact, the most likely outcome of a game played under this equilibrium form is, once again, *Defender Concedes*.

Whenever $ELRE_3$ is in play, Challenger, whatever its type, always chooses D at Node 1, thereby upsetting the *Status Quo*. What happens next depends on Defender's type. Under $ELRE_3$, Defender is likely to be tactically *Soft* (i.e. of type SS or

20. More technically, p_{StrFTac} must be large.

SH). Such Defenders *always* concede at node 2, which is why the *Defender Concedes* outcome is the most likely outcome under any Escalatory Limited-Response Equilibrium. In the less likely event that Defender is *Hard* at the first level, it would respond in kind, with certainty if it is also *Hard* at the second level (i.e. of type HH) and probabilistically if it is *Soft* at the second level (i.e. of type HS). Given the probabilities, however, a response in kind will once again surprise Challenger.

Up to this point of surprise, behavior and expectations are similar under $ELRE_3$ and $CLRE_1$. What separates these two equilibria are Challenger's expectations should Defender unexpectedly choose D at node 2. Recall that under $CLRE_1$, Defender responds in kind only if *Hard* at the first level, and that if Defender is *Hard* at the first level, then it is likely *Hard* at the second level as well. This is why Challengers never escalate first under a Constrained Limited-Response Equilibrium. Under $ELRE_3$, though, a Defender who responds in kind is much more likely to be of type HS than of type HH. For this reason, a *Hard* Challenger, the focus of our attention, often escalates at node 3a. If it does and it so happens that Defender is actually strategically *Hard*, the heretofore limited conflict then spirals to the highest level. In other words, $ELRE_3$ describes one possible path to *All-Out Conflict* in the Asymmetric Escalation Game. When Challenger is likely *Hard*, it is the *only* way this outcome can occur.

7. Discussion

Up to this point I have described the perfect Bayesian equilibria of the Asymmetric Escalation Game with incomplete information for the special case when Challenger is likely to be *Hard*. Next I use the equilibrium structure of the game to address a number of questions about the outbreak of war in Europe in early August 1914.

7.1 What Were They Thinking?

One question that arises immediately concerns the expectations of both Austria and Germany during the period immediately following the Hoyos mission on 6 July (when the blank check was issued) and the delivery of the Austrian ultimatum on 23 July. What, in other words, were the leaders in Vienna and Berlin thinking during the so-called silent period of the crisis? The equilibrium structure of the Asymmetric Escalation Game with incomplete information gives a very strong suggestion about the likely content of their thoughts.

We know that, in the wake of the Archduke's assassination, Austria requested and received a strong commitment of support from Germany. We also know for a fact that the German promises played a major role in Vienna's decision, reached at a meeting of the Austro-Hungarian Common Ministerial Council on 7 July, to

pursue a hard-line policy toward Serbia. Thus, it seems safe to conclude that, once the blank check was issued, there was little or no chance that Vienna would not cash it. All of which implies that, after Sarajevo, neither of the two plausible deterrence equilibria were likely to come into play.

Once these deterrence equilibria are eliminated as empirically unlikely, there are only three theoretical options, one of which is the *No-Response equilibrium*. There is a strong possibility that leaders at both the Ballhausplatz and the Wilhelmstrasse anticipated that play would occur under this equilibrium form. Were that the case, they would have fully expected a one-sided victory. Recall that *Defender Concedes* is the only possible outcome under the *No-Response equilibrium*. But much the same could be said for the two remaining theoretical possibilities, $CLRE_1$ and $ELRE_3$. Under either of these two perfect Bayesian equilibria, *Defender Concedes*, though not certain, is the most likely outcome.

To put all this in a slightly different way, regardless of which of the three non-deterrence equilibria Austria–Hungary and Germany believed to be in play, one would expect, theoretically, that leaders in both Vienna and Berlin would have had the clear expectation that Russia and France were unlikely to offer any meaningful resistance. Of course, empirically, we know that this was indeed their expectation, at least initially, so this answer should come as no surprise. Still, it is encouraging to know that the equilibrium structure of the Asymmetric Escalation Game with incomplete information is fully consistent with the facts as they are known. Were this not the case, the explanatory and predictive power of the model would be more than suspect.

7.2 Was War Avoidable?

A second important question is whether or not the crisis in Europe was inevitable, whether Austria–Hungary and Germany could have been deterred from instigating a crisis in Europe toward the end of July 1914. This is a difficult question to answer, though, like many others, I shall attempt to do so.

One answer is that, after the blank check was issued, the die had been cast, that the prevailing status quo was no longer sustainable. But to accept this answer one must also hold the view that in the period before Austria–Hungary finally issued its ultimatum, no new information about Russia's, France's, and perhaps Great Britain's attitude could have stayed the Dual Alliance from its appointed rounds. Needless to say, this is a difficult position to sustain.

Assuming, then, that Austro–Hungarian and German perceptions were subject to revision, the answer is clear. The existence of two distinct Limited-Response Deterrence equilibria in the Asymmetric Escalation Game attests to the theoretical *possibility* that the crisis could have been averted. Of course, what is theoretically possible is not necessarily likely. Such is the case in the Asymmetric Escalation Game when Challenger is likely *Hard*.

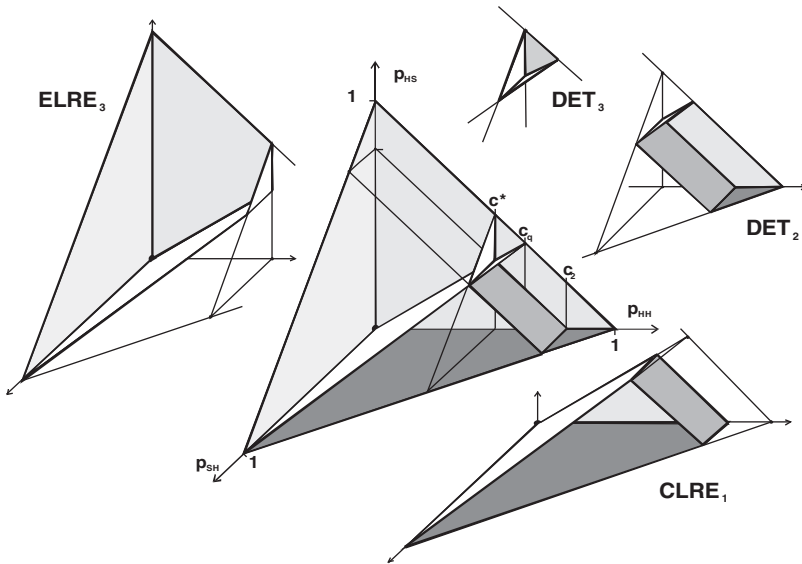


Figure 2. Existence Regions for Equilibria of the Spiral Family

Source: Zagare and Kilgour (1998).

To understand why, consider for now Figure 2 which depicts in three-dimensional space the existence conditions associated with the Spiral Family of perfect Bayesian equilibria. Recall that, along with the *No-Response equilibrium*, exactly one member of this family will exist at any one time.

Defender's credibilities determine which Spiral Family equilibrium exists. In Figure 2, every possible combination of Defender's credibilities is represented as a point in the tetrahedron shown in the center of this figure. The right horizontal axis represents the probability that Defender is of type HH, the lower-left (horizontal) axis the probability that Defender is of type SH, and the vertical axis the probability that Defender is of type HS. Thus, any point in the three-dimensional triangle, or simplex, has a combination of non-negative co-ordinates (p_{HH}, p_{HS}, p_{SH}) , with a sum less than or equal to 1. The fourth credibility, p_{SS} , equals the difference between this sum and 1; this amount is also the (perpendicular) distance between the point (p_{HH}, p_{HS}, p_{SH}) and the front face of the tetrahedron. For example, the point $(0,0,0)$ represents the combination $p_{HH} = p_{SH} = p_{HS} = 0, p_{SS} = 1$.

Speaking more informally, Figure 2 can be visualized as a corner of a room with two walls and a floor, all at right angles – the fourth face of the simplex is the downward sloping plane. The side wall is light gray, the back wall is medium gray, and the floor is dark gray. Of course, to enable us to peer into this corner, the front face must remain transparent.

Observe that the two Limited-Response Deterrence equilibria occupy a relatively small area of the simplex. Thus, *ceteris paribus*, it is not all that likely that either would come into play in the Asymmetric Escalation Game.²¹ Of course, not all things were equal in 1914, so we are led to follow up. Given that deterrence was theoretically possible in July, what would have had to occur for this possibility to become a reality? The conditions associated with the existence of Det_2 and Det_3 provide a succinct answer.

Notice from Figure 2 that the two closely related Limited-Response Deterrence equilibria occupy a small region in the right-hand side of the tetrahedron, where p_{HH} is large, p_{HS} is not too large, and p_{SH} and p_{SS} are small. In this region Defender is likely tactically *Hard*; this explains its propensity under either Det_2 or Det_3 to respond in kind at node 2, whatever its actual type. But this tendency alone is not sufficient to deter Challenger. Defender's willingness to respond in kind also rests on its ability to dissuade Challenger from escalating at node 3a. For this to occur, Defender's second-level threat must be highly credible as well; in other words, for deterrence to succeed under either Det_2 or Det_3 , Defender must likely be both strategically and tactically *Hard* – i.e. p_{HH} must be large, and *both* of Defender's threats must be fairly credible.

It is clear, however, that this condition, which is necessary for deterrence success in the Asymmetric Escalation Game, was not satisfied during the July crisis. There is ample documentary evidence that both German and Austro-Hungarian leaders formulated their policies with the expectation that Russia, even with the backing of France, would not offer anything but token resistance if and when Austria moved against Serbia. The Kaiser, for example, initially believed that the risk of a war was minimal since neither Russia nor France was prepared for one (Geiss, 1967: 71, 77 ; Massie, 1991: 862). Bethmann-Hollweg (1920: 126) shared the Kaiser's opinion.

Vienna's views were similar. According to the Italian Ambassador in St. Petersburg, by mid-July Austria 'was capable of taking an irrevocable step with regard to Serbia based on the belief that, although Russia would make a verbal protest, she would not adopt forcible measures for the protection of Serbia against any Austrian attempts' (Albertini, 1952, II: 184). Astonishingly, not even the full mobilization order issued by the Tsar on 30 July would alter Vienna's expectations. In a telegram that Franz Conrad von Hötzendorf, the Chief of Austria's General Staff, sent to his German counterpart, Helmuth von Moltke, on the night of 31 July, Conrad matter-of-factly observed that the Austrian leadership was 'not sure yet whether Russia is merely threatening, therefore we could not allow ourselves to be diverted from the action against Serbia' (quoted in Fischer, 1975: 507).

21. To see this, simply compare the relative size of the cutouts associated with the two Limited-Response Deterrence equilibria with that of $CLRE_1$ and $ELRE_3$.

To summarize: deterrence was a distinct, but not highly likely, possibility in July 1914. An overly aggressive act against Serbia could have been averted, at least in theory. But, and this is a big ‘but’, given that Russian and French credibility was negligible, the theoretical possibility could not be realized. Thus, while a European war was certainly not inevitable, the status quo was not very likely to survive, even in the short run.

Parenthetically, it should be noted that this conclusion rests directly on the assumption, discussed previously, that each member of the Dual Alliance preferred the *Status Quo* to *Limited* and *All-Out Conflict*; that is, that both threats of Russia and France were capable. Of the two, Austria–Hungary’s and Germany’s preference for the *Status Quo* over *Limited Conflict* is the more problematic. Would Austria–Hungary and Germany still have provoked a crisis if they believed (a) that they could avoid a continental war but (b) that the issues that separated Vienna from Belgrade would be subject to multilateral mediation? If one concludes, as does Fischer (1967) and, by extension, Levy (1990/1991) that the status quo was ranked relatively low by both Austria–Hungary and Germany, the answer would have to be ‘yes’. Most revisionist historians, including those who hold that World War I was in some sense inadvertent, would strongly disagree.

7.3 Why Did It Happen?

Finally, I ask, why did the policies of Germany and Austria–Hungary, coordinated at the onset of the crisis, diverge so dramatically after the Russian announcement of its intent to implement a partial mobilization on 28 July? To address this question I refer once again to the evolving beliefs of the leadership groups in Vienna and Berlin and to the equilibrium structure of the Asymmetric Escalation Game with incomplete information.

The common policy, reached early in July after the Kaiser, with Bethmann-Hollweg’s concurrence, issued the blank check, is easy to explain. As noted above, both the Wilhelmstrasse and the Ballhausplatz initially believed that Russia was unlikely to respond if Austria moved aggressively against Serbia. To be sure, German leaders preferred that Austria–Hungary act quickly. (In the Kaiser’s words, it was ‘now or never.’) But they did so precisely because they also believed that any delay would decrease the probability that a *fait accompli* could be pulled off successfully. In consequence, as the days passed in July, Berlin continued to press Vienna to act – not that it mattered. While Austria was determined to strike, it was also determined to strike at a time and at a place of its own choosing. Timing aside, however, both members of the Dual Alliance preferred action to inaction and were clearly intent on taking it. Until mid-July, the policies and expectations of Germany and Austria–Hungary were, for all intents and purposes, identical. (All of which helps to explain why, in 1914, these two German-speaking nations are generally considered a single unit in the theoretical and empirical literature of international relations.)

The commonality of purpose and expectations, however, would not hold forever. As rumors of Austria's intentions began to circulate in European capitals, German officials started to fear that Austria might not be able to have its way with Serbia before Russia could react (Berghahn, 1993: 210). The equilibrium structure of the Asymmetric Escalation Game with incomplete information helps to explain what happened next.

Previously it was suggested that of the five plausible perfect Bayesian equilibria in the Asymmetric Escalation Game, the two Limited-Response Deterrence Equilibria were inconsistent with German and Austrian expectations and, therefore, were not likely to come into play. The same, however, cannot be said of the remaining three rational strategic possibilities.

The three still viable perfect Bayesian equilibria share a number of important characteristics. Whether play takes place under a No-Response equilibrium, under $CLRE_1$, or under $ELRE_3$, Challenger always begins play by initiating at node 1. In other words, under any of the three, Challenger's action choice is always the same. Furthermore, there is also no chance that Defender will respond by escalating immediately (i.e. $z_{HH} = z_{HS} = z_{SH} = z_{SS} = 0$) at node 2. And finally, a one-sided victory (i.e. *Defender Concedes*) is the most likely outcome under each equilibrium form. This means that, under most real-world circumstances, it may not be possible to determine, empirically, which of the three had actually come to define play.

There is, however, one critical difference that may sometimes provide a clue – even before the game is actually played out. Recall that under the No-Response equilibrium, Defender never intends to respond, either in kind or by escalating, regardless of its type. By contrast, under either $CLRE_1$ or $ELRE_3$, tactically *Hard* Defenders always respond in kind when they are strategically *Hard*, and sometimes or always respond-in-kind when they are strategically *Soft*.²² All of which means that up to the point at which German leaders came to fear that Russia *might* act to protect Serbia, the No-Response equilibrium was the only perfect Bayesian equilibria consistent with the expectations of the decision makers in Berlin (and Vienna). And had the events of July 1914 unfolded as both Germany and Austria–Hungary initially hoped, World War I would have never occurred; rather, the third Balkan war would have been a localized conflict between Austria–Hungary and Serbia.

Of course, everything did not go according to plan. As Austria fiddled about, German beliefs about Russian intentions changed. These expectations are clearly inconsistent with the existence of the No-Response equilibrium – which can now confidently be eliminated as a potential descriptor of the events of late July. This leaves (for now) just two theoretical possibilities, $CLRE_1$ and $ELRE_3$. As shall be seen, until 30 July, each provide a plausible explanation of the unfolding crisis. In fact, until push came to shove, German leaders acted as if $CLRE_1$ were actually in

22. Tactically *Soft* Defenders never respond in kind.

play. Unfortunately, the beliefs and action choices of Austria's leaders were consistent with the existence of *ELRE*₃. The contention here is that, had this not been the case, the crisis would have been resolved differently. Next, I explain why.

Once German leaders began to become concerned about the possible involvement of other powers, they intensified their pressure on Austria to act. It should also be no surprise to learn that, at the same time, they also made a concerted effort to deter Russian interference. For example, on 19 July, Germany's Foreign Minister, Gottlieb von Jagow placed a notice in the *North German Gazette*, a quasi-official publication, that expressed his government's position that 'the settlement of differences which may arise between Austria-Hungary and Serbia should remain localized' (Geiss, 1967: 142). The notice should be interpreted as a thinly veiled threat directed at the Entente: Germany would back Austria in a war with Russia and France.

The note in the *North German Gazette* was followed up on 21 July with a cable from Bethmann-Hollweg to Germany's ambassadors in Russia, France, and Great Britain that instructed them to convey the same message officially. The cable reiterated the Chancellor's desire for 'localization of the conflict' which was a euphemism for the *Defender Concedes* outcome, that is, a bilateral war between Austria-Hungary and Serbia.

The dispatch was quite revealing. Implicit in it was the notion that Vienna was finally about to take an irrevocable step. As the Chancellor explained to his ambassadors, Austria 'had no other course than to enforce its demands upon the Serbian Government by strong pressure, and if necessary, to take military measures'. But a localized conflict also required that other governments remain uninvolved. To make this more likely, Bethmann-Hollweg instructed his ambassadors to warn, this time less subtly, that 'the intervention of any other Power would, as the result of the various Alliance obligations, bring about inestimable consequences' (Geiss, 1967: 150). Clearly, German policy now focused on precluding intervention in, and deterring escalation of, the dispute. It would remain so for the rest of the month.

Two days after this broadside, at 6pm on 23 July, the ultimatum that was designed to be rejected was delivered to authorities in Belgrade by Austria's Ambassador to Serbia. Not only were the terms of the ultimatum harsh; its deadline was exceedingly short. Serbia would have two days, just 48 hours, to respond. It is noteworthy that on 25 July, the day the ultimatum was set to expire, Germany's Foreign Secretary was still of the opinion that 'neither London, nor Paris, nor St. Petersburg wants war' (Pogge von Strandmann, 1988: 102). Jagow's strong belief helps to explain the continuing pressure the German foreign office put on Vienna to take decisive action.

Diplomatic and political foreplay came to an end on 28 July when Austria finally declared war – much to the relief and the surprise of the German government. Whether it was the result of wishful thinking or of a sober calculation that simply turned out to be misguided, the leaders of both German-speaking powers

still believed that localization of the conflict remained the most likely outcome; that is, that a *fait accompli* could still be accomplished. Their illusion, however, would not last very much longer. Later that day, Russia informed Germany and the other powers that ‘in consequence of Austria’s declaration of war on Serbia’, it would declare a partial mobilization ‘in the military districts of Odessa, Kiev, Moscow and Kazan tomorrow’, 29 July. Significantly, the partial mobilization announcement also underscored ‘the absence of any intentions of a Russian attack on Germany’ (Geiss, 1967: 262).

The Russian response, while a direct consequence of Austria–Hungary’s challenge to the status quo, was clearly measured. As Fromkin (2004: 190–1) explains,

‘partial mobilization’ consisted of a number of measures, some feasible and others not, none of which would have significantly helped to defend Russia and most of which put Russia in a less advantageous position than before. It was an essentially political concept, muddled and unclear, intended to convey the message that Russia was resolved to act if necessary, but did not wish to alarm or provoke Germany or Austria as a full mobilization – a real mobilization – would have done.

To put this in a slightly different way, the intent of the Russian decision to respond in kind (i.e. to choose D at node 2) was deterrence (Fay, 1966: 439; Trachtenberg, 1991: 80). The Russian leadership wanted to send the message that, if necessary, it was prepared to escalate the conflict, that it was not only tactically *Hard* but strategically *Hard* as well. The message was received loud and clear, at least in Berlin, where the Russian decision came as a shock (Williamson, 1991: 208). As Massie (1991: 870) concludes,

Germany now faced the growing likelihood of war with Russia. German policy had been to encourage a localized Balkan war, punish a regicide state, and restore the fortunes of a crumbling ally. Russian intervention had been discounted. The Tsar’s army was considered unready and the Kaiser and his advisors had expected Russia to give way, as she had five years earlier in the Bosnian crisis. The prospect was glittering: localization accomplished; general war avoided; Serbia crushed; Austria reborn; Russia stripped of her status as a Great Power; the balance of power in the Balkans and Europe realigned. Russian mobilization against Austria demolished this dream.

Not surprisingly, the Russian partial mobilization brought about a stunning reversal of Germany’s approach to the crisis.²³ Whereas, previously, Bethmann-Hollweg sought to localize the conflict by (a) encouraging Austria–Hungary to move against Serbia and (b) discouraging other powers from intervening, he now began to urge restraint on his ally and to encourage a political (i.e. a negotiated) resolution of the crisis.

23. Fay (1966: 402–16) traces this turnaround to the late afternoon of 27 July.

To this end, the first in a series of what Fischer (1975: 495) calls the ‘world-on-fire’ telegrams was sent to Count Heinrich von Tschirschky, the German Ambassador to Austria, on 28 July at 10:15pm Berlin time. In this message Bethmann-Hollweg urged Austria to moderate its policy lest it ‘incur the odium of having been responsible for a world war’. He specifically asked that Vienna accept the Kaiser’s ‘Halt-in-Belgrade’ proposal, made earlier in the day, by announcing (a) that it had no interest in acquiring Serbian territory and (b) that its occupation of Belgrade was temporary and contingent on Serbian compliance with the terms of the ultimatum. At the same time, the German Chancellor wanted it made clear, probably because he was in the process of attempting to do it himself, that Tschirschky was ‘to avoid very carefully giving rise to the impression that we wish to hold Austria back’ (Geiss, 1967: 259–60).²⁴

Albertini (1952, II: 477–9), Fischer (1975: 72), and Geiss (1967: 223) interpret this telegram (#174) in the worst possible light, claiming that Bethmann-Hollweg’s motivation was simply to place the blame for war, should it come, on Russia.²⁵ They argue that the Chancellor had delayed transmitting the Kaiser’s proposal to Vienna and that he had intentionally undermined it by subtly altering its substance. But as Kagan (1995: 200) notes, ‘that judgment seems unduly harsh’. Although Bethmann-Hollweg’s injunction to Tschirschky may have lacked a sense of urgency, most historians now hold that his efforts on the night of 28 July to moderate Austria’s behavior were sincere (Langdon, 1991: 180).

In any event, Bethmann-Hollweg shortly thereafter followed up with another telegram (# 192) that was less ambiguous. This telegram, transmitted at 2:55am Berlin time, ‘urgently and impressively’ urged Vienna to enter into direct negotiations with Russia. Five minutes later, after learning that this suggestion had once before been rejected by Vienna, he again telegrammed Tschirschky, in apparent desperation, reiterating that a ‘refusal to hold any exchange of opinion with St. Petersburg’ would be a ‘serious error’ and a ‘direct provocation’ of Russia. He concluded by directing his Ambassador to ‘talk to Count Berchtold at once with all impressiveness and great seriousness’ (Geiss, 1967: 291–3).

Some have attributed this dramatic policy shift to a strong warning from the German Ambassador in London, Prince Karl von Lichnowsky, that Great Britain was very unlikely to stand aside in any war that involved France. (See, for example, Albertini, 1952, II: 520–2; Massie, 1991: 871.) But Trachtenberg (1991: 86) argues persuasively that ‘it was the news from Russia about partial mobilization that played the key role in bringing about the shift in Bethmann’s attitude’. As Trachtenberg goes on to note, ‘the evidence strongly suggests that the decisive

24. Some (e.g. Geiss, 1967: 223) have pointed to this injunction as conclusive evidence of Bethmann-Hollweg’s disingenuousness. But in a memorandum to Grey on 30 July, the British Ambassador in Berlin reported that the German Chancellor was concerned that too much pressure on Vienna might make matters worse (Gooch and Temperley, 1926, I: 221).

25. See also Schmitt (1930: 171).

change took place *before* the Chancellor learned of Grey's warning, but *after* he had found out about Russia's partial mobilization' (emphasis in original).

In the terms of the model, Germany had on 28 July updated its prior estimate of Russia's type. Until Russia announced its partial mobilization, both Berlin and Vienna were operating on the premise that Russia would almost certainly capitulate, as it had in 1909; that is, that it was *Soft* at both the tactical and strategic levels. The Russian partial mobilization, however, is inconsistent with this assessment. In the Asymmetric Escalation Game with incomplete information, only tactically *Hard* defenders rationally respond in kind. It should come as no surprise, then, that both Germany and Austria would revise their initial beliefs in light of the new information obtained.

At this point it should be emphasized that this pattern of surprise and re-evaluation is consistent with the existence of either of the two remaining solution candidates, $CLRE_1$ and $ELRE_3$. As Figure 2 suggests, both $CLRE_1$ and $ELRE_3$ exist only when the credibility of Defender's first level threat is insufficient to sustain either of the two Limited-Response Deterrence equilibria. In both cases, this reduction in Defender's credibility gives even a *Soft* Challenger an incentive to initiate at node 1. After all, since Defender believes that Challenger is likely *Hard*, Defender is completely deterred from escalating first (under any perfect Bayesian equilibrium of the Spiral Family, including $CLRE_1$ and $ELRE_3$). Challenger, therefore, calculating that Defender is likely to concede at node 2, takes decisive action. It is in this sense that a response in kind will come as a surprise to Challenger regardless of which of these two perfect Bayesian equilibria are actually in play.

What distinguishes $CLRE_1$ from $ELRE_3$, however, is the inferences that are made when Defender unexpectedly responds. Notice from Figure 2 that the upper face of the $CLRE_1$ region slopes upward away from the bottom edge of the left side wall. This sloping 'ceiling' means that, under this equilibrium form, the probability that Defender is of type HS is always small relative to the probability that it is of type HH. By contrast, under $ELRE_3$, Defender is less likely to be of type HH, and much more likely to be of type HS than of type HH, than under $CLRE_1$. These critical differences lead to different behavioral patterns whenever Defender unexpectedly responds in kind.

Under $CLRE_1$, Challenger believes it more likely than not that Defender will counter-escalate at node 4. This explains why Challenger never escalates first under this equilibrium form and why *Limited Conflicts*, if they occur at all, are most likely to occur under the conditions associated with the existence of $CLRE_1$. Play under $ELRE_3$, however, is another story. Here, since Challenger believes that it is unlikely that Defender will counter-escalate at node 4, it may rationally decide to escalate at node 3a.²⁶ If Challenger's belief is incorrect, the

26. Unless it is *Soft*, which is unlikely.

result will be tragic, and the escalation spiral complete. In the Asymmetric Escalation Game with incomplete information, then, the conditions that support the existence of *ELRE*₃ uniquely describe the path to *All-Out Conflict*.

What is striking about the re-evaluation process in 1914 is that German and Austrian leaders drew diametrically opposite conclusions from the measured Russian response. German leaders looked into the abyss and did not like what they saw. The 29 July warning from London may have had an impact here. But it was probably the Russian response in kind that was critical. After all, unless the Russians further pressed the issue, the question of what Britain would do was moot. In any event, after the Russian partial mobilization, Bethmann-Hollweg came to believe that Russia would not back down if Austria proceeded with its invasion. He also realized that, to protect its western flank, Russia would also have to implement a general mobilization, which would clearly threaten Germany. And if Russia mobilized against Germany, Germany would be compelled to mobilize as well, and any German mobilization implied a two-front war against both Russia and France. Of course, an attack against France might bring Great Britain into the conflict too and, as Grey had just warned, this would bring about 'the greatest catastrophe that the world has ever seen' (Geiss, 1967: 289). Bethmann-Hollweg considered the latter eventuality as nothing less than a 'leap into the dark'.

All of which is to say that, after the partial mobilization, German political leaders concluded that Russia was not only tactically *Hard*, but likely strategically *Hard* as well, and they drew the proper inferences from this new assessment of Russia's type. Accordingly, consistent with the defining characteristics of a Constrained Limited-Response Equilibrium, Bethmann-Hollweg quickly reversed course and urged moderation on Germany's only real ally. His purpose was clearly to avoid the consequences of the escalation spiral that is implied by play under an Escalatory Limited-Response Equilibrium such as *ELRE*₃.

It is unfortunate, indeed, that on 29 July the critical decisions were not being made in Berlin. At this time, the locus of decision making was in Vienna, and Bethmann-Hollweg obviously realized it. Hence the desperate tone of his telegrams to Tschirschky. Significantly, the reaction in Vienna to the Russian partial mobilization was starkly different from the reading in Berlin. The Austrian leadership in general, but Berchtold in particular, did not believe that Russia would further escalate the conflict. As Vienna saw things, while the partial mobilization revealed that Russia was tactically *Hard*, it did not follow that it was strategically *Hard* as well. In fact, the Austro-Hungarian leadership drew exactly the opposite conclusion (Albertini, 1952, II: 338). According to Jannen (1996: 263, 249), 'the Austrians simply did not take the threat of Russian intervention seriously'. At the height of the crisis, 'Berchtold continued to believe that he could keep Russia talking while Conrad crushed Serbia'. In consequence, policy makers in Vienna

acted as if Russia did not exist. Possibly they were overconfident about the deterrent effect of Berlin's 'blank check'; possibly they exaggerated Romanov adherence to

the principle of monarchical solidarity and the need to avenge the Sarajevo murders. Certainly they failed to pay even elementary attention to the danger signals of Russian military response. Until late in the whole process, the senior leadership blissfully directed its attention only southward . . . Berchtold, Conrad von Hötzendorf and the others, now programmed for action against Serbia, disregarded any information that might require them to modify their plans – and ambitions. They would do what they wanted and, of course, preferred to do: fight Serbia. (Williamson, 1983: 27)²⁷

Based on his belief that Russia would stand aside, Berchtold decided to deflect all of Bethmann-Hollweg's frantic last-minute injunctions. When beseeched by Tschirschky to 'be satisfied by the occupation of Serbian territory' (Geiss, 1967: 308), he delayed by claiming that he would have to consult with Franz Joseph before replying. And, with respect to Grey's proposal for four-power mediation, he accepted Count Tisza's suggestion that he should say that he was 'ready to approach it in principle but only on the condition that [Austrian] operations in Serbia be continued and the Russian mobilization stopped' (Geiss, 1967: 321). As Albertini (1952, II: 677) observes, 'this was tantamount to outright rejection'.

Berchtold was clearly drawing a line in the sand. On 30 August, he approached the Emperor for permission to proceed toward general mobilization which, when carried out, would directly threaten Russia. This, according to Albertini (1952, II: 659), was 'another big step in the direction of war'. All the while he insisted that all Austrian 'demands must be accepted integrally and we cannot negotiate about them in any way' (Geiss, 1967: 320). In essence, by failing to moderate his government's policy, Berchtold escalated the conflict.

Of course, since Berchtold's beliefs about Russia's likely response were incorrect, the results of his hard-line policy were entirely predictable.²⁸ Throughout the crisis, Russia had been on the verge of a general mobilization. On 29 July, for example, the same day that the partial mobilization was implemented, the Tsar had in fact agreed to a full mobilization, only to rescind his order after learning that the Kaiser was attempting to mediate the dispute. But by the next day Nicholas could no longer resist the pressure from his Foreign Minister.

It is very likely, as Turner (1968: 85–6) contends, that it was (a) the news that Austria was shelling Belgrade and (b) Bethmann-Hollweg's warning on 29 July to stop mobilizing that turned Sazonov around and prompted him to push for full mobilization. But in his telegram to the Kaiser the next day justifying the action (Geiss, 1967: 323), the Tsar, whose consent was critical, tied his decision to sign the general mobilization ukase directly to his mistaken belief that Austria had already mobilized against Russia (Albertini, 1952, II: 576). Berchtold's

27. Albertini (1952, II: 686) expresses a similar view.

28. In one sense Berchtold was in fact right. Discussions with St. Petersburg would continue until 6 August when Austria finally declared war on Russia.

inflexible hard-line policy, lacking as it did any conciliatory gestures, had made it all too easy for the Tsar to believe the worst about Austrian behavior.²⁹

As the saying goes, the rest is history. At 5pm on 30 July, an hour after the Tsar had given his consent, the orders calling for a general mobilization were issued. At noon the next day, Austria–Hungary, following suit, mobilized against Russia. Shortly thereafter, Germany issued ultimata to Russia and France, demanding that all of their mobilization efforts be canceled. Of course, neither St. Petersburg nor Paris responded in the affirmative. Consequently, on 1 August 1914, Germany declared war on Russia and, two days later, on France. Continental Europe was now at war. The theoretical characteristics of *ELRE*₃ help to explain why.

War broke out in Europe in 1914 because both Austria–Hungary and Germany believed that Russia would stand aside when Austria moved aggressively against Serbia. Localization was not only their objective; it was also their firm hope and expectation. Of course, both members of the Dual Alliance were mistaken. Russian policy makers had already decided that Russia could not abandon Serbia and still survive as a Great Power. But, fearing war, they declined to escalate the crisis. Instead, Russian leaders settled on a limited response, a partial mobilization against Austria, which was intended to serve as a warning: ‘stop or we will shoot!’ Decision makers in Berlin quite clearly got the message. Unfortunately, their counterparts in Vienna did not. And it was in Vienna that the crucial choice not to pull back was made. By refusing to compromise, Austrian leaders escalated the crisis. Russia responded by mobilizing the rest of its forces against Germany. It was well understood in St. Petersburg that this act of counter-escalation ‘almost certainly meant war’ (Fay, 1966: 479). Sadly, this was just about the only belief confirmed by events.

To conclude, it should be noted that *ELRE*₃ is the only perfect Bayesian equilibrium of the Asymmetric Escalation Game that is consistent with both the initial expectations and the action choices of the key players in July 1914, and with the updated beliefs in Vienna after the Russian partial mobilization was announced. Several outcomes, including a one-sided victory (i.e. localization) and a limited conflict (i.e. a negotiated settlement) are possible under this equilibrium form. Unfortunately, escalation spirals are also real and distinct possibilities. Testimony to this distressing fact is the continental war that broke out in early August 1914, *la guerre européenne*.

29. Sazonov’s (1928: 203) memoirs confirm the importance the Tsar placed on the untenable position he believed Russia to be in as a consequence of Austria’s (as yet still undeclared) general mobilization. It is unclear exactly how the Tsar came to be misinformed. But there is no indication that Sazonov went out of his way to set the record straight. In his foreword to the diary of Baron Schilling (1925: 9), the Head of the Chancellery in the Russian Foreign Ministry, Sazonov cites the fact that ‘Austria’s mobilization was in full swing’ as one of several factors that led to Russia’s general mobilization. It is clear that here Sazonov was carefully phrasing his words. Russia was the first major power to fully mobilize.

8. Coda

The war was no accident. In 1915 Bethmann-Hollweg explained it by noting that a number of factors had forced Germany 'to adopt a policy of utmost risk, a risk that increased with each repetition, in the Moroccan quarrel, in the Bosnian crisis, and then again in the Moroccan question' (Jarusch, 1969: 48). Clearly the German Chancellor had come to realize that he had rolled the dice one time too many. As Joachim Remak (1971: 366) has insightfully observed, sometimes, 'it happens'. The laws of probability guarantee it.

REFERENCES

- Albertini, Luigi (1952) *The Origins of the War of 1914*. 3 vols. Oxford: Oxford University Press.
- Bates, Robert H., Avner Greif, Margaret Levi, Jean-Laurent Rosenthal and Barry R. Weingast (1998) *Analytic Narratives*. Princeton, NJ: Princeton University Press.
- Beckman, Peter R. (1984) *World Politics in the Twentieth Century*. Englewood Cliffs, NJ: Prentice-Hall.
- Bethmann-Hollweg, Theobald von (1920) *Reflections on the World War*. London: Butterworth.
- Berghahn, V. R. (1993) *Germany and the Approach of War in 1914*. New York: St. Martin's.
- Copeland, Dale C. (2000) *The Origins of Major War*. Ithaca, NY: Cornell University Press.
- Danilovic, Vesna (2002) *When the Stakes Are High: Deterrence and Conflict among Major Powers*. Ann Arbor, MI: University of Michigan Press.
- Farrar, L.L. Jr. (1972) 'The Limits of Choice: July 1914 Reconsidered', *Journal of Conflict Resolution* 16: 1–23.
- Fay, Sidney Bradshaw (1966) *The Origins of the World War*. New York: Macmillan.
- Fischer, Fritz (1967) *Germany's Aims in the First World War*. New York: Norton.
- Fischer, Fritz (1975) *War of Illusions: German Policies from 1911 to 1914*. New York: Norton.
- Fromkin, David (2004) *Europe's Last Summer: Who Started the Great War in 1914?* New York: Knopf.
- Geiss, Imanuel (ed.) (1967) *July 1914: The Outbreak of the First World War – Selected Documents*. New York: Scribner's.
- Gooch, G. P. and Harold Temperley (eds) (1926) *British Documents on the Origins of the War: 1898–1914*, vol. IX. London: His Majesty's Stationery Office.
- Hermann, Charles F. and Margaret G. Hermann (1967) 'An Attempt to Simulate the Outbreak of World War I', *American Political Science Review* 61: 400–16.
- Holsti, Ole R., Robert C. North and Richard A. Brody (1968) 'Perception and Action in the 1914 Crisis', in J. David Singer (ed.) *Quantitative International Politics: Insights and Evidence*. New York: Free Press.
- Huth, Paul K. (1988) *Extended Deterrence and the Prevention of War*. New Haven, CT: Yale University Press.
- Jannen, William Jr. (1996) *The Lions of July: Prelude to War*. Novato, CA: Presidio Press.
- Jarusch, Konrad H. (1969) 'The Illusion of Limited War: Chancellor Bethmann-Hollweg's Calculated Risk, July 1914', *Central European History* 2: 48–76.
- Kagan, Donald (1995) *On the Origins of War and the Preservation of Peace*. New York: Doubleday.
- Kilgour, D. Marc and Frank C. Zagare (2007) 'Explaining Limited Conflicts', *Conflict Management and Peace Science* 24: 65–82.
- Langdon, John W. (1991) *July 1914: The Long Debate, 1918–1990*. New York: Berg.

- Levy, Jack S. (1990/1991) 'Preferences, Constraints, and Choices in July 1914', *International Security* 15: 151–86.
- Massie, Robert K. (1991) *Dreadnought: Britain, Germany, and the Coming of the Great War*. New York: Ballantine Books.
- Mombauer, Annika (2002) *The Origins of the First World War: Controversies and Consensus*. London: Longman.
- O'Neill, Barry (1989) 'Game Theory and the Study of Deterrence of War', in Paul C. Stern, Robert Axelrod, Robert Jervis and Roy Radner (eds) *Perspectives on Deterrence*. New York: Oxford University Press.
- Pogge von Strandmann, Hartmut (1988) 'Germany and the Coming of War', In R. J. W. Evans and Hartmut Pogge von Strandman (eds) *The Coming of the First World War*. Oxford: Clarendon Press.
- Pool, Ithiel de Sola and Allen Kessler (1965) 'The Kaiser, the Tsar, and the Computer: Information Processing in a Crisis', *The American Behavioral Scientist* 8: 31–8.
- Quackenbush, Stephen L. and Frank C. Zagare (2006) 'A Game-theoretic Analysis of the War in Kosovo', in Jennifer Sterling-Folker (ed.) *Making Sense of IR Theory*. Boulder, CO: Lynne Rienner.
- Remak, Joachim (1971) '1914 – The Third Balkan War: Origins Reconsidered', *Journal of Modern History* 43: 353–66.
- Rich, David Alan (2003) 'Russia' in Richard F. Hamilton and Holger H. Herwig (eds) *The Origins of World War I*. New York: Cambridge University Press.
- Sazonov, Serge (1928) *The Fateful Years, 1909–1916: The Reminiscences of Serge Sazonov*. New York: Frederick A. Stokes.
- Schilling, M. F. (1925) *How the War Began in 1914*. London: George Allen.
- Schmitt, Bernadotte E. (1930) *The Coming of the War, 1914*. New York: Scribner's.
- Schroeder, Paul W. (1972) 'World War I as Galloping Gertie: A Reply to Joachim Remak', *Journal of Modern History* 44: 319–45.
- Snyder, Glenn H. and Paul Diesing (1977) *Conflict Among Nations: Bargaining, Decision Making and System Structure in International Crises*. Princeton, NJ: Princeton University Press.
- Spring, D. W. (1988) 'Russia and the Coming of War', in R. J. W. Evans and Hartmut Pogge von Strandman (eds) *The Coming of the First World War*. Oxford: Clarendon Press.
- Stokes, Gale (1976) 'The Serbian Documents from 1914: A Preview', *Journal of Modern History* 48: 69–83.
- Trachtenberg, Marc (1991) *History and Strategy*. Princeton, NJ: Princeton University Press.
- Turner, L. C. F. (1968) 'The Russian Mobilization in 1914', *Journal of Contemporary History* 3: 65–88.
- Williamson, Samuel R. Jr. (1983) 'Vienna and July 1914: The Origins of the Great War Once More', in Samuel R. Williamson and Peter Pastor (eds) *Essays on World War I: Origins and Prisoners of War*. New York: Columbia University Press.
- Williamson, Samuel R. Jr. (1991) *Austria–Hungary and the Origins of the First World War*. London: Macmillan.
- Zagare, Frank C. (1987) *The Dynamics of Deterrence*. Chicago: University of Chicago Press.
- Zagare, Frank C. (1990) 'The Dynamics of Escalation', *Information and Decision Technologies* 16: 249–61.
- Zagare, Frank C. and D. Marc Kilgour (1998) 'Deterrence Theory and the Spiral Model Revisited', *Journal of Theoretical Politics* 10: 59–87.
- Zagare, Frank C. and D. Marc Kilgour (2000) *Perfect Deterrence*. Cambridge: Cambridge University Press.
- Zagare, Frank C. and D. Marc Kilgour (2006) 'The Deterrence-vs.-Restraint Dilemma in Extended Deterrence: Explaining British Policy in 1914', *International Studies Review* 8: 623–41.

Zinnes, Dina A. (1968) 'The Expression and Perception of Hostility in Prewar Crisis: 1914', in J. David Singer (ed.) *Quantitative International Politics: Insights and Evidence*. New York: Free Press.

FRANK C. ZAGARE is UB Distinguished Professor of Political Science at the University at Buffalo, SUNY. His main research interests lie in the nexus between security studies and game theory. Professor Zagare's theoretical work has focused on deterrence, crises, conflict escalation, and bargaining and negotiation. He is the author, co-author, or editor of five books including *Perfect Deterrence* (with D. Marc Kilgour), *The Dynamics of Deterrence*, and *Game Theory: Concepts and Applications*. ADDRESS: Department of Political Science, University at Buffalo, SUNY, 520 Park Hall, Buffalo, NY 14260, USA. [email: fczagare@buffalo.edu]