

Systemic Trends in War and Peace

Bear F. Braumoeller¹

Abstract. Despite having gained widespread acceptance, the decline of war thesis rests on a surprisingly thin evidentiary basis. The data that have been marshaled in its favor often do not reflect quantities of theoretical interest, a fact that can produce very misleading results. The near-absence of formal statistical tests makes it impossible to distinguish between real changes in conflict behavior and random noise—a problem that is especially acute when dealing with substantially non-Normal data distributions. I analyze the system-wide rate of international conflict initiation and demonstrate that, *contra* the decline of war theorists, no systematic decrease in countries’ propensity to use war against one another is in evidence prior to the end of the Cold War. I also outline a hypothesis that the complexities of international order provide a much better explanation for variation in the data than a decrease in humanity’s propensity for violence. I conclude with some thoughts on the implications for peace.

Version 2.0, October 15, 2016.

I Introduction

The decline of war thesis is an argument made by a growing number of social scientists, including Steven Pinker at Harvard, some of the researchers at Uppsala and PRIO, and my own colleague at Ohio State University, John Mueller. These scholars claim that, thanks to things like the gradual expansion of human empathy and the spread of norms of nonviolence, the frequency and intensity of war are in decline and have been in decline for many decades.

Despite the fact that all of the main authors in this debate marshal data in favor of their arguments, the evidentiary basis for the decline of war thesis remains surprisingly thin. This is in part due to persistent mismatches between the quantities of interest—the rate of conflict initiation and the deadliness of war—and the measures used to capture them. It is also due to the near-absence of formal and correct statistical tests.

When I started to use revised measures and tests to explore the argument that the institution of warfare is in decline and has been for some time, I soon came to the conclusion that I didn’t believe it. That conclusion prompted me to dig further, to look at different measures, and to learn new statistical methodologies and apply them to the task. Having done so, I still don’t believe it. So my first reaction to the invitation to be a part of this symposium was, “I can’t go to a Norwegian Nobel Institute symposium and say that peace isn’t breaking out!”

After a fair bit of reflection, I decided to come anyway, for two reasons. First, the decline of war thesis has achieved a nearly taken-for-granted status in the main-

stream press. A typical review concludes, “Pinker convincingly demonstrates that there has been a dramatic decline in violence, and he is persuasive about the causes of that decline.” (Singer, 2011) To the extent that this assessment is wrong, the record needs to be set straight. The stakes here are nontrivial: if such assessments make politicians and their publics complacent in the face of rising threats, for example, they could have the perverse effect of making the world less safe if they are incorrect.

My second reason for coming is that, as paradoxical as it may sound at first blush, I don’t think that the bad news about war is necessarily bad news about peace. In fact, I think that for much of the last two centuries we have seen both the spread of war *and* the spread of peace. The decline of war scholars may actually be correct when they say that the world is becoming a more peaceful place. But it has not become less warlike at the same time—in fact, just the opposite.

II The Decline of War Thesis

Let me start by discussing the decline of war thesis. I will focus on the three authors whose work is most closely associated with it.

John Mueller argues that the institution of war, like the institutions of dueling and slavery before it, is simply going out of style. In *Retreat from Doomsday*, he argued that this change in attitudes was taking place among developed countries. In his followup book, *The Remnants of War*, he argued that the normative prohibition against war, which was largely the product of the horrors of the first World War, has been spreading from developed countries to the rest of the world ever since. To the obvious question—Why was there a second World War?—Mueller argues that it was “fabricated almost single-handedly by history’s supreme atavism, Adolf Hitler.”

In *Winning the War on War*, Joshua Goldstein argues that the decrease in warfare is quite recent, and he does not argue that it is irreversible. He explicitly does not argue that the evolution of civilization has produced increasingly strong norms of nonviolence. Goldstein does argue that the end of the Cold War helps explain the reduction in violence after 1989, but he points to peacekeeping as the key causal variable: he argues that peacekeeping started having an impact on war in 1945 and accelerated after 1989, mostly due to the effect that peacekeeping has on the durability of postwar settlements.

Steven Pinker, in his bestselling book *The Better Angels of Our Nature*, argues that there has been a gradual decline in violence in general over the course of centuries, that both the frequency and intensity of international conflict have decreased since 1945, and that we now live in what is arguably the most peaceful period in history. He argues that three overlapping and somewhat irregular processes have driven this

decline: the pacification process (humanity's transition from hunter/gatherer societies to agricultural civilizations), the civilizing process (the gradual strengthening of domestic authority and growth of commerce), and the humanitarian revolution (the expansion of empathy that resulted in the abolition of slavery, dueling, and cruel physical punishment and an increase in pacifism).

While these arguments differ in terms of the reasons that they posit for a decline in warfare, the exact aspects of warfare that they think have declined, and the duration of that decline, it is possible to discern two core claims that make up the decline of war thesis, each of which is emphasized to different degrees by different authors:

1. States use force against one another less often than they did decades or centuries ago.
2. When wars do occur, fewer people die in them than in decades past.

These are fairly straightforward hypotheses. Unfortunately, very very few analyses that have been done to date contain a reasonable test of either one of them.

III Main Issues with Existing Analyses

Studies of the decline of war thesis to date exhibit a surprising number of theoretical and empirical pathologies. For the sake of space, I will focus on two of the most serious in the latter category: the use of measures that do not reflect the quantity of theoretical interest and the failure to use formal statistical tests that would separate real changes in that quantity from random variation.

III.I They Don't Measure the Quantity of Interest

When I started exploring the evidence presented in favor of these arguments, I discovered that these claims were based on surprisingly little data. This may seem like a bold statement, given that all three books contain data analysis of some sort. Steven Pinker's book alone is over 800 pages long and contains, by my count, 116 distinct figures. Most of these figures, however, contain data that relate to his larger claim that all forms of human violence are in decline: they chart changes in rates of homicide, judicial torture, spousal abuse, and so on—even spanking. The charts that relate to interstate warfare are located at the end of Chapter 5 and the beginning of Chapter 6.

Of these charts, very few actually show worldwide trends in warfare. Most show trends in warfare either within Europe or among the Great Powers, which are almost without exception European. Granted, both Pinker and Mueller argue that the

process of pacification began in the developed world, but they also argue that the process has spread far enough to the rest of the world that it's had an impact on war in general.

When I looked for data on trends in the rate or frequency of the use of force worldwide, however, I found not a single graph or table in any of the three books, or in the rest of the literature for that matter. The only exception is a 1999 conference paper written by Peter Brecke, who compiled a catalog of known conflicts with at least 25 fatalities from the 1400s to the present (Brecke, 1999). Pinker reproduces Brecke's Figure 2, which shows a general downward trend in the number of conflicts per year that were initiated in Europe since the 1400s, as Figure 5-17 in his book. He does *not* reproduce Brecke's Figure 1, which shows an even larger *upward* trend in the number of conflicts that were initiated worldwide in the same period (Figure 1). Unfortunately, the list of conflicts is very incomplete and missing data make it difficult to compare frequencies over time, so to my mind neither Figure is really very helpful for our purposes. Regardless, it makes little sense to argue that one is relevant and the other is not.

III.I.I Space: Defining the At-Risk Population

Even if we had a complete list of conflicts, Figure 1 would still be misleading because it does not take into account the increase in the number of conflict opportunities that has accompanied the growth of the international system over time. In other words, the *rate* of conflict onset, rather than the raw *frequency*, is the best measure of how often states use force against one another because it accounts for the growth over time in the number of states that *can* use force against one another.

Studies of fatalities, which do generally include all conflicts worldwide, also measure the deadliness of war in a misleading way: in battle deaths as a fraction of world population.² Why is this measure misleading? Clearly, some adjustment for population size is necessary: a loss of 1,500 soldiers means something very different to the Chinese than it does to the residents of the Bahamas.³ And we measure the deadliness of cancer, or heart disease, or pneumonia, as a fraction of world population. Why not wars?

The short answer is that wars are not diseases. Anyone could get pneumonia or cancer; but every person on Earth is *not* potentially at risk of death from a war fought between two small African nations. And deaths in war are not viruses or bacteria: they are the result of conscious human decisions to use force. And when we analyze decisions, it is essential to use measures that reflect concepts and ideas as people themselves understand them when they are making the decisions that we're trying to analyze.⁴

Take, for example, the Lopez War, named after the Paraguayan President who

Number of Conflicts per Decade

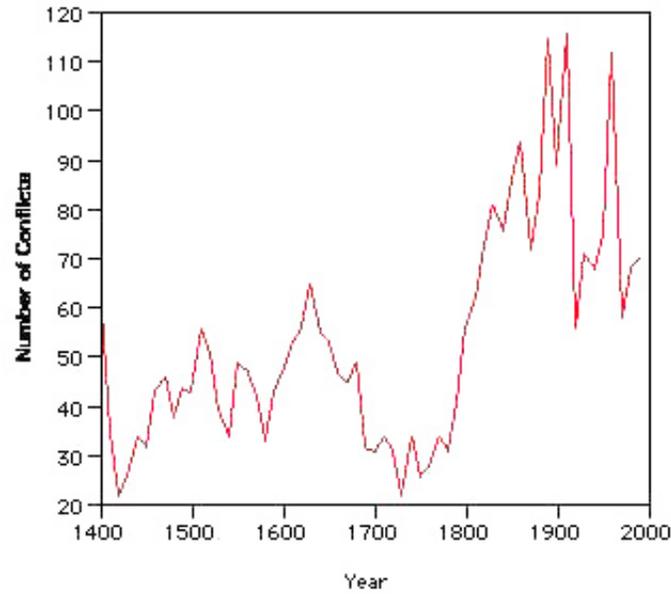


FIGURE 5-17. Conflicts per year in greater Europe, 1400–2000

Sources: Conflict Catalog, Brecke, 1999; Long & Brecke, 2003. The conflicts are aggregated over 25-year periods and include interstate and civil wars, genocides, insurrections, and riots. “Western Europe” includes the territories of the present-day U.K., Ireland, Denmark, Sweden, Norway, France, Belgium, Luxembourg, Netherlands, Germany, Switzerland, Austria, Spain, Portugal, and Italy. “Eastern Europe” includes the territories of the present-day Cyprus, Finland, Poland, Czech Republic, Slovakia, Hungary, Romania, the republics formerly making up Yugoslavia, Albania, Greece, Bulgaria, Turkey (both Europe and Asia), Russia (Europe), Georgia, Armenia, Azerbaijan, and other Caucasus republics.

Figure 1: Conflicts per decade worldwide (top) and in Europe (bottom). Sources: Pinker (2011) and Brecke (1999).

led his country into war against Argentina, Brazil, and Uruguay in the 1860s. The body count was nowhere near that of the first or second World War in absolute terms. As a percentage of world population, casualties were trivial. But it remains the bloodiest war in Latin American history. By some estimates, Paraguay lost 70% of its adult male population. These deaths were the result of conscious decisions—by the three Allies to establish war aims that would have resulted in the partition and absorption of Paraguay; by Argentinean President Bartolomé Mitre to continue to push for those war aims once Paraguay had lost; and of Paraguayan President Francisco Solano Lopez to wage guerrilla warfare in the countryside until his own death brought the war to a close. Those decisions were based, not on how many people would die relative to the populations of India and China, but rather on the likely costs to the societies of the combatants themselves. This better measure—battle deaths divided by the pooled population of the combatants, or what the Correlates of War project dubbed the “intensity” of war—has been widely used in studies of the lethality of armed conflict.⁵

III.I.II Time: Initiation vs. Duration

Both the data on conflict initiation and the data on fatalities suffer from another flaw: disaggregation across time. Instead of the number of conflicts initiated in a given year, for example, we are shown the total number of conflicts in a given year. Instead of the number of battle deaths in a given war, we are shown the number of battle deaths per year.

The problem is that the simple duration of a conflict is irrelevant to the question at hand. The Korean War resulted in just over 900,000 battle deaths over the course of just 3 years. The Iran-Iraq War resulted in roughly 1.25 million battle deaths over the course of almost 8 years. If deaths are measured on an annual basis, this looks like progress. But the Iran-Iraq War was not less bloody than the Korean War. It just killed people more slowly. And the decline of war thesis argues that we are killing fewer people than we used to—not that we are killing them more slowly.

The effects of this inferential muddle are especially pernicious in the case of a graph of country-war-years that has appeared multiple times in this literature (Figure 2). While the threshold for conflict differs,⁶ the general trends are remarkably similar.

The main problem in this case is that the “mountain” of civil conflicts prior to the end of the Cold War represents, not an increase in the rate of conflict initiation, but an accumulation of existing conflicts.⁷ By the same logic, the apparent decrease in civil war after the Cold War could represent a decrease in duration rather than in the rate of initiation.⁸ It’s hard to tell, of course, because measuring “country-years” of war conflates initiation with duration. And duration, strictly speaking, is

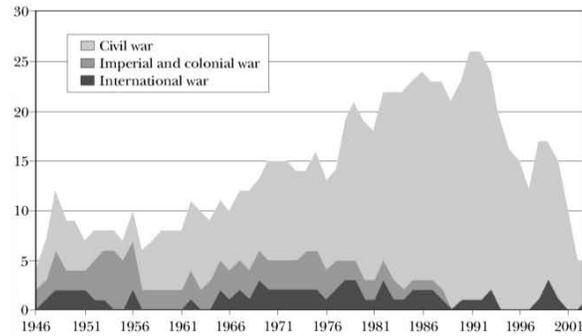


Fig. 3. Frequency of war, 1946–2003. The data are for violent armed conflicts that resulted in at least 1,000 military deaths over the duration of the dispute for international wars, an average of at least 1,000 military deaths per year for imperial and colonial wars, and at least 1,000 military and civilian (but battle-related) deaths per year for civil wars. *Source:* Gleditsch forthcoming.

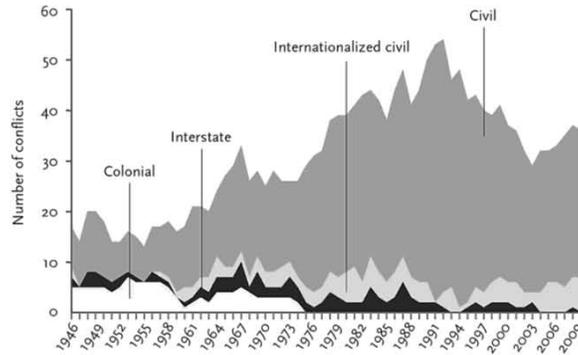


FIGURE 6-3. Number of state-based armed conflicts, 1946–2009

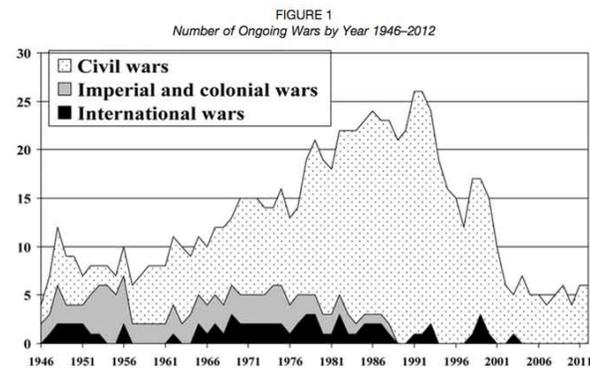


Figure 2: Number of violent armed conflicts worldwide, by year. *Sources:* top—Mueller (2007, 87). Middle—Pinker (2011, 304). Bottom—Mueller (2014, 46).

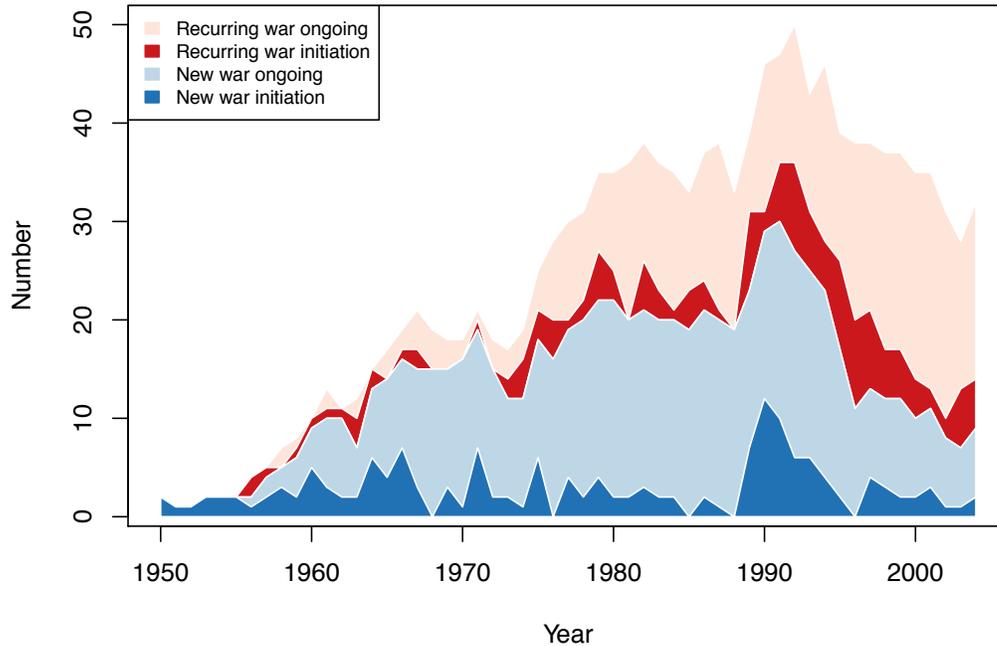


Figure 3: Number of civil wars worldwide, by year and type.

irrelevant: nothing in the decline of war thesis argues that wars should take less time than they used to—only that they should happen less often and/or kill fewer people.

In order to get a better sense of what the data tell us about changes in the rate of civil war initiation, I consulted a former graduate student of mine, Professor Benjamin Jones, whose dissertation on civil wars used the same dataset as the books by Pinker and Mueller. As part of his research on the dynamics of civil war initiation and termination, Jones distinguished between new and ongoing fighting in both new and recurring civil conflicts since 1950.⁹ I've plotted the result in Figure 3.

This Figure tells a very different story than the previous ones. While the number of recurring wars slowly increased over time, and in the case of new ongoing wars decreased after 1990, the raw frequency of conflict initiation actually increased a bit following the Cold War.

Of course, this only represents the frequency of civil war onset, not the rate: the number of opportunities for civil war to occur increased as the number of countries

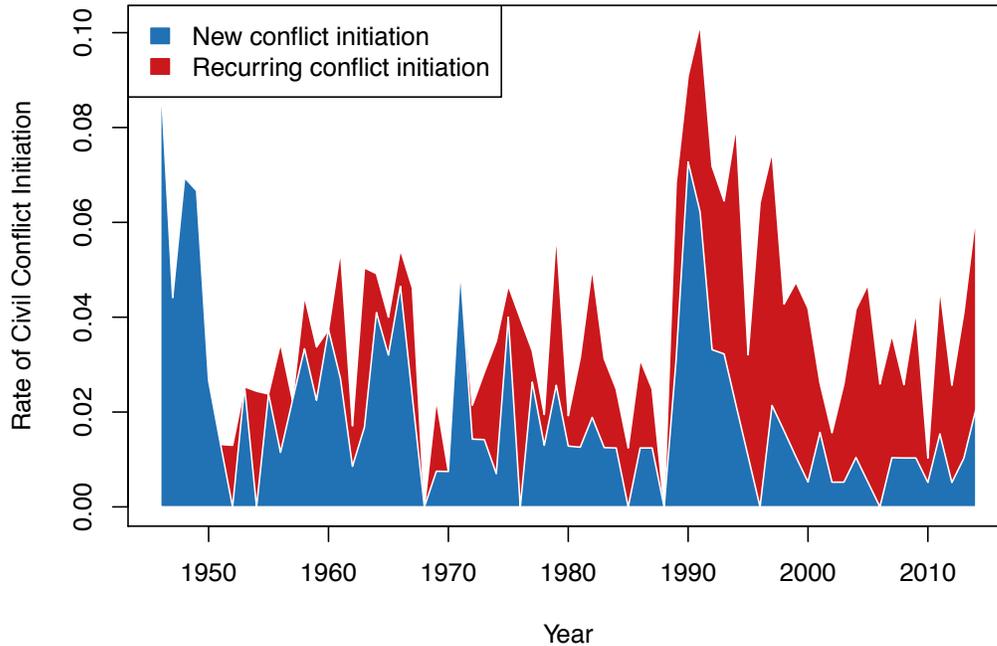


Figure 4: Rate of civil conflict initiation worldwide, by year and type.

in the international system increased. The easiest way to correct that problem is to assume that the number of possible civil wars in the international system at any given point in time is directly proportional to the number of countries in the system at that time, and simply divide the number of initiations by the number of countries. Doing so using the UCDP/PRIO Armed Conflict Dataset and eliminating ongoing wars produces the graph in Figure 4.

Even the most diehard optimist would find it difficult to construe Figure 4 as good news for the decline of war thesis. For the most part, it's hard to see a pattern at all during the Cold War, and to the extent that one can be discerned we actually see an *increase* rather than a decrease in the rate of civil conflict initiation after the fall of the iron curtain.¹⁰

III.II They Don't Use Statistics

Given that political scientists increasingly use statistics to test their arguments, this literature is remarkable for the paucity of formal statistical tests. Their near-absence is a problem when it comes to measuring the rate of conflict onset, because without them it's hard to know whether we're looking at a real change or at random fluctuation. It's a much worse problem when it comes to war intensity because war intensity follows a power-law distribution, meaning roughly that there are a lot of very small wars and a small number of very, very big ones. As Nassim Nicholas Taleb (2007) has pointed out, distributions like these make it extremely difficult to spot changes over time because our perception of the difference between time periods can be dramatically distorted by very large events. Even standard statistical tests give misleading answers because the small-sample properties of most tests when applied to data like these are unbelievably bad. So unless we use tests that are designed with the challenges of these distributions in mind, we are very, very likely, as Taleb puts it, to be "fooled by randomness."¹¹

Pinker's (2011, 200-210) discussion of the Long Peace—the 70-year absence of major war among the Great Powers in the wake of World War II—offers a very simple example of the value of statistical reasoning. The author himself goes into significant depth in this section on the implications of randomness for historical patterns of conflict. His goal is to demonstrate that the massive bloodlettings of the 20th century might have been nothing more than "a run of extremely bad luck" (209), which is a fair point. He does not, however, address the opposite possibility: that the 70 years of peace following World War II could be nothing more than a run of *good* luck.

Although the inferential issues surrounding the Long Peace can be fairly complex (Taleb, 2012), even very simple statistics should give us pause. If we look at the record of major Great Power wars over the past five centuries (Levy, 1983; Goldstein, 1988, 146), we find an average of about two per century prior to the 20th century. Based on historical precedent, then, let's take the probability of a systemic war breaking out in any given year to be 0.02.¹² We can calculate the probability of seeing a given number of wars over a given period of time by using the binomial distribution—the same distribution used by introductory statistics students to calculate the probability of observing "heads" in five successive flips of a coin. Here, we can use it to get a sense of just how unlikely a Long Peace of 70 years' duration really is.¹³

Figure 5 uses the binomial distribution to compare the probability of observing no wars in the 70 years since World War II with the probabilities of observing one, two, three, or more wars in the same time period, assuming that the probability of systemic war has not deviated from its historical average of two per century. As we

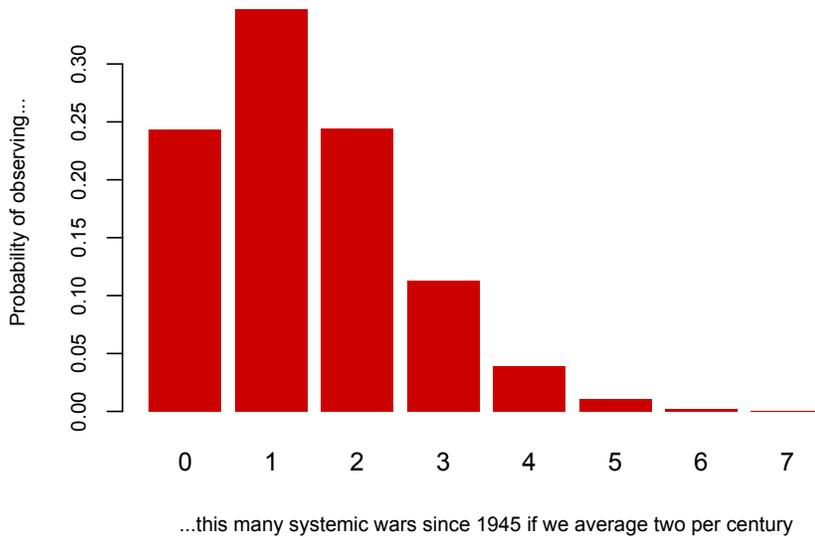


Figure 5: *The entirely-probable Long Peace*

can see, if 50 years go by on average between major Great Power wars, the passage of 70 years without one should not in and of itself be very surprising.

IV Analysis: The Rate of the Use of Force

What happens when we rectify these problems? Having nearly completed the book that gave rise to this article,¹⁴ I can say that the short answer is that not much support remains. The patterns that emerge from the data do, however, support some interesting alternative interpretations. Because the lethality of war has been debated previously¹⁵ and will be discussed elsewhere in this volume,¹⁶ I focus on the other quantity of interest for the decline of war thesis: the rate at which force is used between countries in the international system.

In order to do so, I first examined the frequency with which military force was used by one country against another, as captured by the Correlates of War's Militarized Interstate Dispute data. I should emphasize that these are officially authorized uses of force, not just border skirmishes: someone in a position of authority on one side or the other has to give the order to use force. This strikes me as the most reasonable point at which to draw the big red line that, according to the decline of war theorists, humanity is increasingly unwilling to cross.

I then measured the annual rate of the use of force by dividing the frequency by the number of opportunities for conflict, as measured by the number of so-called

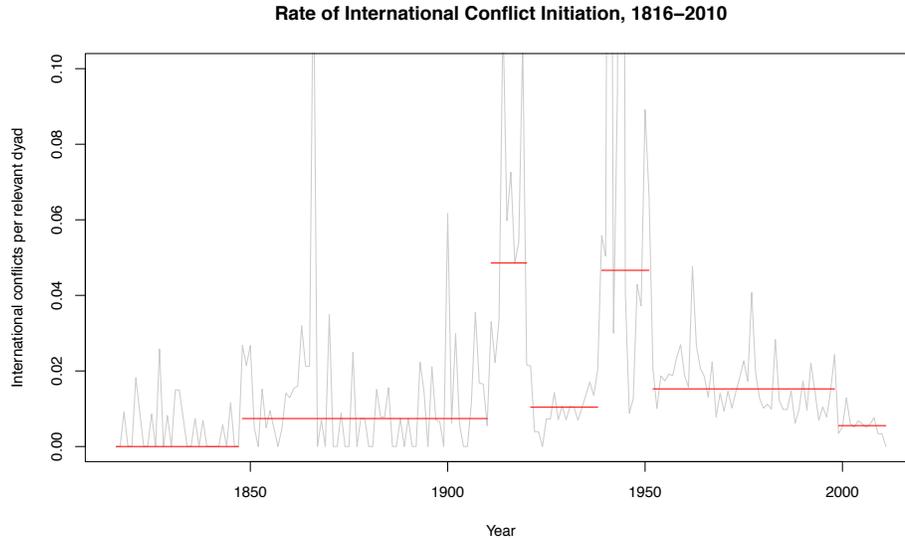


Figure 6: Change point analysis of Correlates of War use of force data, 1816-2014, with Y -axis truncated to make trends more visible. The light grey trend line charts the rate at which force was used between countries; the horizontal red lines indicate medians. Breaks between the horizontal lines indicate points at which the change in the overall trend is larger than one could reasonably expect by chance.

“politically relevant” pairs of states in the international system. In the most straightforward definition, a pair of states is politically relevant if the states are contiguous or if at least one of the states is a major power. I used a slightly more complex measure,¹⁷ but the basic idea is very similar, and the choice of which one to use doesn’t matter much for the results. I also looked at the intensity of warfare, as measured by battle deaths divided by the pooled population of the combatants.

I ran these data through a nonparametric, hierarchical change-point detection algorithm.¹⁸ The algorithm is designed to separate signal (real changes in the rate of the use of force) from noise (random variation). It is very robust, because it doesn’t rely on distributional assumptions. Because it is built on permutation tests, it is also very powerful.

The good news is that there was, in fact, a significant drop in the rate of conflict initiation just after the end of the Cold War. That part of the decline of war argument holds up to scrutiny.

The bad news is that that’s the only good news.

There has been no significant decline in the rate of international conflict initiation since the end of the Cold War. What is worse, leaving aside the spikes in

conflict initiation that characterized the two World Wars, the end of the Cold War represents the first significant decline in the rate of international conflict initiation for nearly 200 years. Even worse, the period between the Napoleonic Wars and the end of the Cold War is characterized by a steady series of *increases* in the rate of the use of force worldwide.

Figure 6 tells the story: in the first third of the century following the Napoleonic Wars the median rate of conflict initiation was zero: the majority of years were characterized by no conflicts at all. In the last two-thirds of that period the median rate of conflict initiation was 7 uses of force per 1,000 relevant dyads per year. During the interwar period the median was 10 uses of force per 1,000 relevant dyads per year. During the Cold War, the median was 15 uses of force per 1,000 relevant dyads per year. And after the Cold War, the median rate of conflict drops very significantly, back down to 6 uses of force per 1,000 relevant dyads per year.

So, far from representing progress toward peace, the Cold War was the most violent period on record except for the two World Wars.

This result is, of course, not remotely consistent with the hypothesis that humanity's steadily growing aversion to war has led to a decline in war over time, even when we take random fluctuations into account. It is also somewhat difficult to square with Joshua Goldstein's thesis that peacekeeping is a major driver of overall rates of conflict initiation: the Cold War wasn't especially peaceful, and the decrease in conflict after the Cold War is actually so big—a two-thirds reduction!—that I find it difficult to believe that peacekeeping deserves all of the credit.

This conclusion might also, at first blush, seem to be at odds with the finding of ?, who conclude that the inter-arrival time of major conflicts does not support the claim that violence has become less frequent. The authors argue, for example, that

the absence of a conflict generating more than—say—20 million casualties in the last 20 years is highly insufficient to state that its occurrence probability has decreased over time, given that the average inter-arrival time is 252 years (73 for rescaled), with a MAD of 267 (86 for rescaled) years! Unfortunately, we still have to wait quite some time to say that we are living in a more peaceful era.

The main difference between the two studies lies in the granularity of the data: Cirillo and Taleb examine very large international wars—those with 500,000 fatalities or more—while I examine international uses of force. They conclude that there isn't enough evidence to support the thesis that the frequency of major wars has changed. Nothing in this study contradicts that conclusion.

IV.I Robustness

I carried out a wide range of checks to assess the robustness of these findings, including the use of different measures, different data, different levels of the use of force, and different measures of political relevance. None of these analyses revealed a sustained decline in the rate of conflict initiation. Most revealed just the opposite.

While space precludes discussion of all of these threats to inference, one is worth discussing in detail—the possibility that a lot of older militarized interstate disputes were not recorded and did not show up in the data. To the extent that the data suffer from this sort of bias, the 19th century might appear more peaceful than it really was because we don't have a complete record of 19th-century conflicts.

There are a few reasons to be skeptical of this claim. First, the data only include actual uses of force by one government against another. Lower-level disputes, such as threats and displays of force, are those most likely to be missed in previous centuries. And even a quick glance at the sources used by the Correlates of War project¹⁹ for coding militarized interstate disputes reveals an impressively comprehensive array of source materials: far from just relying on the *New York Times* and Facts on File, the Correlates of War project has delved into an impressive array of histories, biographies, notes, memoranda, military and political encyclopedias, and foreign-language sources. It's possible for an armed clash to go unrecorded in *any* of these sources, of course, but the scholars at the Correlates of War project have certainly done due diligence in minimizing that possibility. Given that effort, the burden of proof lies on skeptics to unearth sources and conflicts that they have missed.

Second, the trend in the data is very consistent with the mainstream historical record, which portrays the 19th century as a remarkably peaceful one and the Cold War as being very conflictual. The Concert of Europe period from the early-to-mid 1800s was remarkable for the degree to which the Great Powers joined together to manage conflict. The latter half of the 19th century saw some conflict among Great Powers over colonies as well as a rash of militarized disputes in Latin America following the dissolution of the Spanish Empire in the Americas. The interwar period witnessed continued conflict in the far East and ongoing instability in Europe that snowballed in the 1930s. And the Cold War was the first period in which two superpowers fought proxy wars across the globe. The sudden collapse of the Soviet Union transformed the context within which international politics played out and in so doing rendered such conflicts meaningless.²⁰

If the thoroughness of the data-gathering effort and the high degree of correspondence with the historical record aren't totally convincing, the question then becomes this: how many militarized disputes would have to have been missed for us to believe that the world is actually getting more peaceful?

A good, rough-and-ready way to answer this question is to add hypothetical conflicts to the most conflictual part of the 19th century, the second half, until the change-point algorithm tells us that its rate of conflict is significantly *greater* than that of the Cold War. When I did so, I found that the median rate of conflict would have to be about 2.5 times as high as its historical value before we could reasonably believe that peace broke out during the Cold War. In other words, the Correlates of War project would have had to have missed about *three uses of force out of every five* for this argument to hold water. That's a *lot* of missing data—so much so that I find it to be an awfully implausible claim. And since the first half of the 19th century is the more peaceful of the two, this is the best-case scenario for anyone who wants to claim that missing data are masking a real decline in the rate of the use of force.

V War and Positive Peace

These results set up an interesting question. The central people in the decline of war literature are very smart. Their work is cited often. Their books are actually bought by people who aren't academics. It might seem implausible that they could have been entirely wrong on such a straightforward question.

In fact, I suspect they're not. I do believe that they are mistaken when it comes to trends in warfare. But I also suspect that they made the arguments that they made because they failed to differentiate carefully enough between war and peace.

In order to make sense out of that statement, I have to go back to the beginning of the peace science movement and the scholarship of Johan Galtung, the Norwegian sociologist and mathematician who founded PRIO and the *Journal of Peace Research*. In a 1967 manuscript titled "Theories of Peace," Galtung makes an important distinction between what he calls "negative peace" and "positive peace." Negative peace is the absence of organized collective violence. This is the sort of peace that countries like North and South Korea have experienced following the cease-fire that ended their hostilities in the Korean War: they're not actively killing one another, but that's about the best you can say about the situation.

Positive peace, according to Galtung, is quite different. As he puts it: "This is peace as a synonym for all other good things in the world community, particularly cooperation and integration between human groups, with less emphasis on the absence of violence. [T]he concept would exclude major violence, but tolerate occasional violence."

Galtung clearly sees positive peace as being the more profound and meaningful form of peace—a positive and cooperative relationship, rather than the simple absence of a negative one. It's important to note, however, that because peace is not the same thing as the the absence of war, the spread of peace—of positive peace,

Figure 3.4: The Evolution of Interstate War Compared to Positive Peace and Rivalry Over Time, 1946-2011



Figure 7: Trends in positive peace, rivalry, and interstate war, from Goertz, Diehl and Balas (2016).

that is—does not necessarily imply the diminution of war.

In fact, as my colleagues Gary Goertz, Paul Diehl, and Alexandru Balas have shown in their new book, *The Puzzle of Peace*, peaceful relationships in the positive-peace sense have been on the rise throughout the Cold War and into the post-Cold War period. By their measure, the relationships of 7.2% of all politically relevant states could be characterized by positive peace at the beginning of the Cold War. By the end of the Cold War, the percentage had more than doubled, to 16.6%. After the end of the Cold War, the percentage remains roughly the same, but of that 16% a majority of states transition from “warm peace” (the lowest level of positive peace, characterized among other things by the absence of war plans against one another and the presence of significant commonalities of interest) to a Deutschian security community, in which we see a degree of integration, coordination, and dependable expectation of peaceful change (Figure 7).

I think they’re largely correct in that assessment.²¹ But precisely because peace is not synonymous with the absence of war, it is possible for these two trends—the spread of peace and the spread of war—to coexist. The big question is, “How?”

This question poses real challenges for existing perspectives on peace. A betterment of human nature or human institutions, or the spread of liberal ideology, might explain the spread of peace but not the spread of war.²² They arguably do a better job of explaining peace within Europe during the last 70 years, which is probably the best case that one can make for the decline of war argument.

As historians well know, however, the Western liberal order is hardly unique. Attempts to create international order—by which I mean a set of coercive laws and practices, reflective of an underlying principle of legitimacy and balance of power, to which some set of powerful states submits in exchange for security²³—date back at least to the Persian Empire under Cyrus the Great.²⁴ It is inherent in such orders to quell violence among their constituent units—that is, to create negative peace. International orders aimed specifically at the promotion of positive peace are a more recent development, but even at a conservative estimate they’ve been around for over 200 years.²⁵

To date, however, most studies of the relationship between international order and peace have focused on the prospects for building peace *within* international orders rather than the potential for conflict *across* international orders. I now turn to a brief (and, if truth be told, preliminary and rather speculative) discussion of the tension between the two.

VI International Conflict and International Order?

As the sociologist Charles Tilly famously wrote, “War made the state and the state made war” (Tilly 1992, ch. 3). In its most general form, this is an elegant statement of a near-truism: warfare was part of the process of the formation of political order within modern states—an order that was synonymous at least with negative peace and ideally with positive peace. Once those states had formed, however, they used war to survive and thrive in the larger system of states.

My hypothesis is that Tilly’s insight applies to international political orders as well, and that the creation of international political orders and their relationship to one another is largely responsible for the patterns of violence that we see over the past two centuries.

International orders, for the most part, decrease the incidence of violence within their sphere. On the other hand, when competing international orders collide, they encounter a new issue—the nature of the political ordering principles to which states should subscribe—that has the potential to generate conflict where none had previously existed. Conflict over the nature of international order is especially pernicious because principles of legitimacy are generally indivisible: there is no way to “divide the pie” and arrive at a compromise. For that reason, the most peaceful periods on

record are periods in which one international order is largely uncontested.

The Cold War is an outstanding example of this interplay between internal peace and external conflict. The Western liberal international order did not, of course, exist in a vacuum: its formation was greatly aided by the existence and likely expansionist tendencies of another international order, based in Moscow, that saw itself as the inevitable successor to the liberal, capitalist West. As Professor Sir Michael Howard put it in his brilliant little book, *The Invention of Peace*, it was “a confrontation between two sides with incompatible visions of world order, each believing that peace ultimately could be established only by the elimination of the other.”

At the same time, and partly as a result, peace spread *within* the Western camp as the North Atlantic security community formed and solidified. The Soviet Union managed conflict within its own sphere as well: although the result was not quite as peaceful, Goertz and coauthors still cite the Warsaw Pact as an example of positive peace.

Here, then, are the two faces of international order: peace was fostered within international orders, while conflict was fostered across them, each process in some measure abetting the other.

Other periods in the 19th and 20th centuries follow a similar logic. The Concert of Europe was forged in the aftermath of the Napoleonic Wars. It remained entirely unopposed by any other scheme for producing international order, and while it operated warfare was all but absent from the continent. After the first World War, another order was born, a liberal one grounded in the League of Nations, but it was soon opposed by two revisionist international orders arising from Nazi Germany and imperial Japan. The resulting “broken balance”²⁶ was characterized by extreme uncertainty and volatility. The post-Cold War world has witnessed a remarkable reduction in conflict, not only because of the existence of the Western liberal order, but because that order has been unopposed in any meaningful way since the late 1980s.

It is tempting to portray this as a narrative that pits the Enlightenment, as the side of peace, against successive resurgences of bellicose counter-Enlightenment thinking. To do so, however, would be gravely ahistorical. The international order constructed by Castlereagh, Metternich, and the other architects of the Vienna settlement was anything but liberal. The Concert of Europe, which was formed to preserve a conservative order and prevent liberal uprisings in the wake of the French Revolution, owed more to Edmund Burke than to Immanuel Kant.

Told from this perspective, the story of the decline in warfare following the Cold War takes on an entirely different hue. The hero is not Kant, or an increasingly enlightened human race, but rather Mikhail Gorbachev—a fact recognized, and recognized wisely I think, by the Nobel Institute in 1990.

VII Implications

If this perspective is correct—and I am increasingly convinced that it is—, what are the implications for minimizing or eradicating warfare as an instrument of national policy going forward? At the risk of compounding speculation with futurism, I can offer a few tentative thoughts.

First of all, it's not clear that we can count on the Western liberal world order to continue to expand the zone of peace that it created over the course of the last half-century. Indeed, it may be reaching the limits of its own attractiveness to the rest of the world. If the recent surge in the popularity of populist politicians in countries like Austria, France, Poland, Switzerland, and the United States is any indication, it may even be beginning a slow backward slide.²⁷ It's not clear how long Americans will continue to see value in the present degree of integration, or whether Europeans will want to remain tethered to, in Professor Lundestad's memorable caricature of the European perspective, "vulgar, gas-guzzling, hormone-eating supporters of the death penalty" (Lundestad, 2003, 18).²⁸ In other words, if this is indeed an American "empire by invitation," we might be wearing out our welcome. The erosion or dissolution of the Atlantic community could well reverse the impressive trend toward peace that characterized its growth and maturation.

At the same time, as I hope to have made clear, the widespread belief that humanity is on the threshold of perpetual peace and that we need to do little save bask in our own goodness in order to enjoy it is almost certainly unfounded. Moreover, if this belief forms the basis of policy, it might actually be dangerous: if it prompts us to ignore a rising threat, or contributes to the sentiment that the growth of international order is superfluous, the belief that mankind is becoming more peaceful could, perversely, make the world a more dangerous place.

That said, I do think the historical record confirms the viability of the idea of an international order in which war plays no part. We've managed to create multiple working prototypes over the past 200 years. Importantly, we've shown that they can be based on very different ideas of political legitimacy. At the same time, the record seems to indicate that international orders based on different principles coexist tenuously at best, catastrophically at worst. And although the Kantian peace is founded on cosmopolitan principles, in practice its core has been Western liberal democracies, with a broad range of shared values, culture, and history. We don't really know whether or how well it can be extended to the rest of the world.

All of this leaves us with a set of hard questions, to which the data really cannot speak:

- What are the limits of a cosmopolitan international order?

- What degree of order can reasonably be sustained outside of the common ideology and culture of the North Atlantic community?
 - Can we even maintain international order in the long run within the North Atlantic community, in the absence of external threats?
 - If we cannot, to what extent would Europe play an independent role in building order? Would it work to maintain and expand its zone of peace, or would there continue to be a “consensus-expectations gap”²⁹ that will undermine Europe’s ability to act as a Great Power?
- Is the current Western liberal order a help or a hindrance to the project of a more universal order? That is, if the West is satisfied with our current “two-tiered” international order—crudely, NATO and the EU for us, the UN for everyone else—where is the incentive for the major powers to deepen and strengthen global institutions?
 - If we do face “the end of American world order” (Acharya, 2014), with multiple regional orders—in the Middle East, Asia, and perhaps in a more independent Europe—evolving to take its place, can we successfully manage their interactions? Or will tensions among them usher in a new era of large-scale warfare? More broadly, will it be possible for institutions to preserve cooperation “after hegemony” Keohane (1984), or will the existence of a hegemon prove to be a necessary condition for world order?
 - Finally, it seems clear that support for building international order was very strong following the three major Great Power wars since the late 1700s.³⁰ Is the converse also true? Does the drive to maintain international order weaken as the memory of cataclysmic war fades into the past?

As the reader might have guessed, I am pessimistic about the answers to many of these questions. But if our goal is to reduce war as well as spread peace, we cannot simply rely on human nature. We should instead maintain as our aim, as a recent Nobel Laureate put it, “a gradual evolution of human institutions”³¹ that will move us toward a more inclusive international order, built by consensus and in our own self-interest, to protect each of us from all of us.

Notes

¹Department of Political Science, The Ohio State University, Columbus. This paper is an extended and revised version of a lecture presented at the Nobel Peace Prize Research and Information summer seminar series on May 26, 2016. I am grateful to the Nobel Institute for hosting me during the preparation of that lecture and to the audience for exceptionally useful feedback.

²Here, see also Lacina, Gleditsch and Russett (2006), Gohdes and Price (2012), and Lacina and Gleditsch (2012).

³In fact, it would represent the complete destruction of the armed forces of the Bahamas.

⁴Uslaner (1976).

⁵See e.g. Small and Singer (1982); Roberts and Turcotte (1998); Newman (2005); Clauset, Shalizi and Newman (2009).

⁶Pinker includes both minor armed conflicts (between 25 and 999 battle-related deaths in a given year) and wars (1,000 or more battle-related deaths), while Mueller focuses only on the latter.

⁷See Fearon and Laitin (2003, 77) and Hegre (2004, 243-244).

⁸See Kalyvas and Balcells (2010) for an argument to this effect.

⁹See Jones (2013). I haven't done the same for other kinds of wars, mostly because the trends in civil conflict dominate these graphs.

¹⁰Getting ahead of myself slightly, the change-point algorithm that I describe below confirms that the increase is significantly greater than what one would expect to see by chance.

¹¹Taleb (2005). I have been able to find only one analysis of the deadliness of war that involves a useful test of change over time: Cederman, Warren and Sornetto (2011). That article shows an *increase* in the deadliness of war at about the time that Napoleon revolutionized warfare by introducing the *levee en masse*. It finds no significant decline in war severity after that point. Lacina, Gleditsch and Russett (2006) does include a regression analysis of battle deaths per capita worldwide on time; I have already pointed out issues with the per-capita-worldwide measure, and Taleb (2012) critiques the use of standard statistical tools like regression in the

context of thick-tailed distributions like war deaths. Cirillo and Taleb (2016), which introduces a new methodology for analyzing empirical power-law relationships with infinite means in situations in which the data are bounded, uses large-scale international warfare as an example. Although the paper does not offer a formal test of change in the power-law exponent over time, the authors argue based on their results that the observed change following World War II is very plausibly the result of chance.

¹²It's possible to use different time periods, of course: to assume that the probability of a systemic war breaking out in a given five-year period is 0.1, or that the probability in a given day is 0.000054757. Doing so makes little difference.

¹³The probability of seeing k "successes" (wars) in n "trials" (years) given an underlying probability of success p is given by the probability mass function of a binomial distribution, $Pr(X = k) = \binom{n}{k} p^k (1 - p)^{(n-k)}$.

¹⁴Braumoeller (2016).

¹⁵Lacina, Gleditsch and Russett (2006); Cederman, Warren and Sornette (2011); Gohdes and Price (2012); Lacina and Gleditsch (2012); Taleb (2012); Pinker (2012); Fazal (2014); Cirillo and Taleb (2016).

¹⁶Cirillo and Taleb, citation needed.

¹⁷The general idea behind the measure is that political relevance should be estimated rather than assumed. See ? for details. The Braumoeller-Carson measure of political relevance can be generated quite easily using variables from the Correlates of War dataset. To do so, I used their formula and estimated coefficients: $\Lambda(4.801 + 4.50 \times \text{contiguity} - 1.051 \times \log(\text{distance}) + 2.901 \times \text{major power})$, where Λ denotes a standard logistic curve with equation $f(x) = 1/(1 + e^{-x})$ and contiguity, distance, and major power status are defined as in Maoz and Russett (1993).

¹⁸More specifically, I've chosen an algorithm that does a hierarchical divisive estimation of change points using a permutation test, one that is contained in the `ecp` package in the R statistical language; for details see James and Matteson (2014), in which the authors demonstrate the strong consistency of the change point estimates given independent observations. The permutation test allows for a powerful test with minimal distributional assumptions.

¹⁹See <http://cow.dss.ucdavis.edu/data-sets/MIDs>.

²⁰For general diplomatic histories, the indispensable starting point is Paul Schroeder's

The Transformation of European Politics, which chronicles the underappreciated transition from balance-of-power politics to collective international governance following the Napoleonic Wars. The old Harper & Row series entitled *The Rise of Modern Europe*, comprising 20 volumes by prominent historians and spanning seven centuries, is a treasure if it can be found in the dusty shelves of a used bookstore. René Albrecht-Carrié's *Diplomatic History of Europe Since the Congress of Vienna*, a standard for many years, is a bit long in the tooth, as is A. J. P. Taylor's *Struggle for Mastery in Europe*, though both are still useful. F. R. Bridge and Roger Bullen's *The Great Powers and the European States System 1814-1914* remains a remarkably accessible history of the long 19th century as a whole. Gordon Craig and Alexander George's *Force and Statecraft*, a too-rare collaboration between an historian and a political scientist, is a succinct and thoughtful gem of a book: the chapter on the 19th century especially stands out. John Lewis Gaddis' *The Cold War: A New History* is a reasonably comprehensive history written for a general audience. Geoffrey Blainey's *A Short History of the 20th Century* is lucid and brisk, while Martin Gilbert's *A History of the Twentieth Century* is more comprehensive.

²¹The trend in warfare from 1950 to 2010 that they chart seems roughly consistent with my own findings of a significant drop around 1990 but no obvious trend before or after, though I have not yet undertaken a thorough examination of the similarities and differences in coding rules.

²²Given the number of trees felled in the 1980s and 1990s to address this topic, nothing like a complete list of citations is possible, but some of the more cited works include Lake (1992); Russett (1993); Maoz and Russett (1993); Schultz (1999); Bueno de Mesquita, Morrow, Siverson and Smith (1999); Russett and Oneal (2001); Cederman (2001); Huth and Allee (2002).

²³This definition is my own, though it's a bit of an amalgam. The requirement that laws and practices be coercive is from Kant (2003), the commingling of power and legitimacy is a major theme in Kissinger (2014), and the idea that the resulting hierarchy represents a "functional bargain" came together as I was reading Bially Mattern and Zarakol (forthcoming). I should note that, in some cases, this bargain itself is coercive in nature.

²⁴See e.g. Finer (1997) and Kissinger (2014).

²⁵Howard (2000).

²⁶Taliaferro (2012).

²⁷On the West's rightward slide, see Pearce, Aisch and Rousseau (2016) and Bit-

tner (2016); on NATO's struggle to remain credible, see Erlanger (2016).

²⁸He left out “deniers of anthropogenic climate change.”

²⁹Toje (2010).

³⁰See e.g. Ikenberry (2001, 2014).

³¹Obama (2009). The phrase is from President John F. Kennedy's Spring Commencement address at American University, June 10, 1963. President Kennedy argued that peace must be “based not on a sudden revolution in human nature but on a gradual evolution in human institutions—on a series of concrete actions and effective agreements which are in the interest of all concerned. ... World peace, like community peace, does not require that each man love his neighbor—it requires only that they live together in mutual tolerance, submitting their disputes to a just and peaceful settlement.”

References

- Acharya, Amitav. 2014. *The End of American World Order*. Cambridge Malden, MA: Polity. OCLC: 889720649.
- Albrecht-Carrié, René. 1958. *A Diplomatic History of Europe Since the Congress of Vienna*. New York: Harper & Brothers.
- Bially Mattern, Janice and Ayşe Zarakol. forthcoming. “Hierarchies in World Politics.” *International Organization* .
- Bittner, Jochen. 2016. “Is This the West’s Weimar Moment?” *The New York Times* p. A23. May 31, 2016. <http://www.nytimes.com/2016/05/31/opinion/is-this-the-wests-weimar-moment.html>
- Blainey, Geoffrey. 2006. *A Short History of the 20th Century*. Chicago: I.R. Dee.
- Braumoeller, Bear F. 2016. Systemic Theories of International Politics. Technical report. <http://www.oxfordbibliographies.com/display/id/obo-9780199756223-0173>
- Brecke, Peter. 1999. “Violent Conflicts 1400 A.D. to the Present in Different Regions of the World.” Paper prepared for the 1999 Meeting of the Peace Science Society (International) on October 8-10, 1999, Ann Arbor, Michigan. http://web.archive.org/web/20121023154335/http://www.inta.gatech.edu/peter/PSS99_paper.html
- Bueno de Mesquita, Bruce, James D. Morrow, Randolph M. Siverson and Alastair Smith. 1999. “An Institutional Explanation for the Democratic Peace.” *American Political Science Review* 93(4):791–807.
- Cederman, Lars-Erik. 2001. “Back to Kant: Reinterpreting the Democratic Peace as a Macrohistorical Learning Process.” *American Political Science Review* 95(1):15–31.
- Cederman, Lars-Erik, T. Warren and Didier Sornette. 2011. “Testing Clausewitz: Nationalism, Mass Mobilization, and the Severity of War.” *International Organization* 65(04):605–638.
- Cirillo, Pasquale and Nassim Nicholas Taleb. 2016. “On the Statistical Properties and Tail Risk of Violent Conflicts.” *Physica A: Statistical Mechanics and its Applications* 452:29–45.

- Clauset, Aaron, Cosma Rohilla Shalizi and M. E. J. Newman. 2009. "Power-Law Distributions in Empirical Data." *SIAM Review* 51(4):661–703.
- Craig, Gordon A. and Alexander L. George. 1983. *Force and Statecraft: Diplomatic Problems of Our Time*. New York: Oxford University Press.
- Erlanger, Steven. 2016. "Tested by Russia, NATO Struggles to Stay Credible." *The New York Times* p. A4. June 1, 2016. <http://www.nytimes.com/2016/06/01/world/europe/nato-russia.html>
- Fazal, Tanisha M. 2014. "Dead Wrong?: Battle Deaths, Military Medicine, and Exaggerated Reports of War's Demise." *International Security* 39(1):95–125.
- Fearon, James D. and David Laitin. 2003. "Ethnicity, Insurgency, and Civil War." *American Political Science Review* 97(1):75–90.
- Finer, Samuel E. 1997. *The History of Government from the Earliest Times*. Oxford: Oxford University Press.
- Gaddis, John Lewis. 2005. *The Cold War: A New History*. New York: Penguin Press.
- Galtung, Johan. 1967. "Theories of Peace: A Synthetic Approach to Peace Thinking." Manuscript, International Peace Research Institute, Oslo, Norway. https://www.transcend.org/files/Galtung_Book_unpub_Theories_of_Peace_-_A_Synthetic_Approach_to_Peace_Thinking_1967.pdf
- Goertz, Gary, Paul F. Diehl and Alexandru Balas. 2016. *The Puzzle of Peace: The Evolution of Peace in the International System*. New York: Oxford University Press.
- Gohdes, Anita and Megan Price. 2012. "First Things First: Assessing Data Quality before Model Quality." *Journal of Conflict Resolution* 57(6):1090–1108.
- Goldstein, Joshua S. 1988. *Long Cycles: Prosperity and War in the Modern Age*. New Haven: Yale University Press.
- Hegre, Håvard. 2004. "The Duration and Termination of Civil War." *Journal of Peace Research* 41(3):243–252.
- Howard, Michael. 2000. *The Invention of Peace: Reflections on War and International Order*. New Haven: Yale University Press.
- Huth, Paul K. and Todd L. Allee. 2002. *The Democratic Peace and Territorial Conflict in the Twentieth Century*. Cambridge: Cambridge University Press.

- Ikenberry, G. John. 2001. *After Victory: Institutions, Strategic Restraint, and the Rebuilding of Order after Major Wars*. Princeton, NJ: Princeton University Press.
- Ikenberry, G. John, ed. 2014. *Power, Order, and Change in World Politics*. Cambridge ; New York: Cambridge University Press.
- James, Nicholas A. and David S. Matteson. 2014. "Ecp: An R Package for Non-parametric Multiple Change Point Analysis of Multivariate Data." *Journal of Statistical Software* 62(7):1–25. <http://www.jstatsoft.org/v62/i07/>
- Jones, Benjamin Thomas. 2013. *The Past Is Ever-Present: Civil War as a Dynamic Process*. PhD thesis The Ohio State University. http://rave.ohiolink.edu/etdc/view?acc_num=osu1374173688
- Kalyvas, Stathis N. and Laia Balcells. 2010. "International System and Technologies of Rebellion: How the End of the Cold War Shaped Internal Conflict." *American Political Science Review* 104(03):415–429.
- Kant, Immanuel. 2003. *To Perpetual Peace: A Philosophical Sketch*. Indianapolis, IN: Hackett Pub.
- Keohane, Robert O. 1984. *After Hegemony: Cooperation And Discord In The World Political Economy*. Princeton, NJ: Princeton University Press.
- Kissinger, Henry. 2014. *World Order*. New York: Penguin Press.
- Lacina, Bethany and Nils Petter Gleditsch. 2012. "The Waning of War Is Real: A Response to Gohdes and Price." *Journal of Conflict Resolution* 57(6):1109–1127.
- Lacina, Bethany, Nils Petter Gleditsch and Bruce Russett. 2006. "The Declining Risk of Death in Battle." *International Studies Quarterly* 50(3):673–680.
- Lake, David A. 1992. "Powerful Pacifists: Democratic States and War." *American Political Science Review* 86(1):24–37.
- Levy, Jack S. 1983. *War in the Modern Great Power System, 1495-1975*. Lexington: University Press of Kentucky.
- Lundestad, Geir. 2003. *The United States and Western Europe Since 1945: From 'Empire' by Invitation to Transatlantic Drift*. Oxford ; New York: Oxford University Press.
- Maoz, Zeev and Bruce Russett. 1993. "Normative and Structural Causes of Democratic Peace, 1946-1986." *American Political Science Review* 87(3):624–638.
- Mueller, John. 2007. *The Remnants of War*. Ithaca, New York: Cornell Univ. Press.

- Mueller, John. 2014. "Did History End? Assessing the Fukuyama Thesis." *Political Science Quarterly* 129(1):35–54.
- Mueller, John E. 1989. *Retreat from Doomsday: The Obsolescence of Major War*. New York: Basic Books.
- Newman, M. E. J. 2005. "Power Laws, Pareto Distributions and Zipf's Law." *Contemporary Physics* 46(5):323–351.
- Obama, Barack H. 2009. "A Just and Lasting Peace." Nobel Peace Prize Lecture, Oslo, Norway, December 10, 2009. https://www.nobelprize.org/nobel_prizes/peace/laureates/2009/obama-lecture_en.html
- Pearce, Gregor, Adam Aisch and Bryant Rousseau. 2016. "How Far Is Europe Swinging to the Right?" *The New York Times*. May 22, 2016. <http://www.nytimes.com/interactive/2016/05/22/world/europe/europe-right-wing-austria-hungary.html>
- Pinker, Steven. 2011. *The Better Angels of Our Nature: Why Violence Has Declined*. New York: Viking Adult.
- Pinker, Steven. 2012. "Fooled by Belligerence: Comments on Nassim Taleb's 'The Long Peace Is a Statistical Illusion'." Online manuscript. http://stevenpinker.com/files/comments_on_taleb_by_s_pinker.pdf
- Roberts, D. C. and D. L. Turcotte. 1998. "Fractality and Self-Organized Criticality of Wars." *Fractals* 06(04):351–357.
- Russett, Bruce. 1993. *Grasping the Democratic Peace: Principles for a Post-Cold War World*. Princeton: Princeton University Press.
- Russett, Bruce and John R. Oneal. 2001. *Triangulating Peace: Democracy, Interdependence, and International Organizations*. New York, NY: Norton.
- Schroeder, Paul W. 1994. *The Transformation of European Politics*. Oxford: Clarendon Press.
- Schultz, Kenneth. 1999. "Do Democratic Institutions Constrain or Inform? Contrasting Two Institutional Perspectives on Democracy and War." *International Organization* 53(2):233–266.

- Singer, Peter. 2011. "Is Violence History?" *The New York Times* p. BR1. October 9, 2011. <http://www.nytimes.com/2011/10/09/books/review/the-better-angels-of-our-nature-by-steven-pinker-book-review.html>
- Small, Melvin and J. David Singer. 1982. *Resort to Arms: International and Civil Wars, 1816-1980*. Beverly Hills: Sage Publications.
- Taleb, Nassim Nicholas. 2005. *Foiled by Randomness: The Hidden Role of Chance in Life and in the Markets*. 2nd ed., updated ed. New York: Random House.
- Taleb, Nassim Nicholas. 2007. *The Black Swan: The Impact of the Highly Improbable*. 1st ed. New York: Random House.
- Taleb, Nassim Nicholas. 2012. "The 'Long Peace' Is a Statistical Illusion." Online manuscript. <https://web.archive.org/web/20121117225617/http://www.foiledbyrandomness.com/longpeace.pdf>
- Taliaferro, Jeffrey W. 2012. *The Challenge of Grand Strategy: The Great Powers and the Broken Balance Between the World Wars*. Cambridge: Cambridge Univ. Press.
- Taylor, A. J. P. 1954. *The Struggle for Mastery in Europe, 1848-1918*. New York: Oxford University Press.
- Tilly, Charles. 1992. *Coercion, Capital, and European States, AD 990-1992*. Cambridge, MA: Blackwell.
- Toje, Asle. 2010. *The European Union as a Small Power: After the Post-Cold War*. New York: Palgrave Macmillan.
- Uslaner, Eric M. 1976. "The Perils of Per Capita." *American Journal of Political Science* 20(1):125-133.