Theory and Society
https://doi.org/10.1007/s11186-024-09558-3

Establishing an inverted U-shaped pattern of violence and war from prehistory to modernity: towards an interdisciplinary synthesis

Tibor Rutar[1]

Accepted: 11 April 2024

Abstract
How have broad patterns of violence and war changed from the dawn of humanity up to present time? In answering this question, researchers have typically framed their arguments and evidence in terms of the polarized debate between Hobbes (or hawks) and Rousseau (or doves). This article moves beyond the stalemated debate and integrates the most robust existing theoretical developments and empirical findings that have emerged from various disciplines over the past 20 years– primarily sociology, political science, anthropology, and archaeology– to answer the question. Drawing on carefully curated violent lethality data for pre historically appropriate hunter-gatherers, as well as historical pre-state and state societies, it shows that simple narratives of violence and war decreasing through history from ostensibly high levels in the human state of nature, on the one hand, and the obverse insistence that the once mostly peaceful communities became highly belligerent with the transition to modernity, on the other, are both wrong. Instead, multiple lines of existing evidence and theoretical perspectives suggest a complex, non-linear, Kuznets-style relationship between violence and the passage of history.

Keywords Prehistory of violence and war · History of violence and war · Long peace · New peace

Introduction

There is no one single simple theoretical prediction in the fields of sociology and political science as to how the dynamic of interactions between societies has played out, or will play out, over the course of human history. Certain old grand paradigms

✉ Tibor Rutar
Tibor.rutar@um.si

[1] Faculty of Arts, University of Maribor, Koroška cesta 160, Maribor 2000, Slovenia

Published online: 07 May 2024

in international relations, such as realism, clearly point in one direction: between societies, there has always been and always will be anarchy, which in turn means that conflict, disorder, and war are ineradicable features of intersocial life (Waltz, 1979; Mearsheimer, 2001). As Rosenberg (1994: 34) has characterized it from a critical perspective, realism as 'a rigorously interstate theory of international politics pushes this conception of anarchy to the fore, and blocks consideration of how much interstate behaviour is determined by– and is concerned with managing– other, domestic political processes.' Relations between societies are determined by intersocial characteristics, and according to realism, these are a constant– the constant of anarchy and consequent conflict.

According to other paradigms, mostly emerging out of sociology but also political science, such as liberalism (Russett & Oneal, 2001), constructivism (Wendt, 1992), feminism (True, 2004), and Marxism (Rosenberg, 1994; Teschke, 2009), there is much more room for heterogeneity when it comes to intersocial relations. That is so because on these latter accounts, interactions between societies are largely determined by what is going on *within*, not exclusively or even predominantly between, societies. And given that social contents– social structures, contexts, and ideas– have significantly changed throughout history, we should– in contrast to realism– not expect constancy in intersocial relations nor that one singular suprasocial variable, such as anarchy, is correctly predictive of the nature and dynamic of intersocial relations.

Surveying the whole field, Walt (1998: 30) offered the following succinct summary of the controversy in an oft-cited review paper,

> The study of international affairs is best understood as a protracted competition between the realist, liberal, and radical traditions. Realism emphasizes the enduring propensity for conflict between states [due to the perennial fact of intersocietal anarchy]; liberalism identifies several ways to mitigate these conflictive tendencies [due mostly to changes in intrasocial, domestic structures]; and the radical tradition describes how the entire system of state relations might be transformed [again, due mostly to the potential for radical future changes in intrasocial, domestic structures through, for instance, social or ideational revolution].

Mostly within the broad ambit of the more society-centred theoretical paradigms for explaining intersocietal relations, two related debates have been ongoing for centuries in the scholarly community, reigniting once again especially over the past two decades. First, there is the perennial question of the nature and state of violence, peace, and especially war in *human prehistory*. Was life in the human state of nature– before the emergence of agriculture and state-societies– brutish and warlike as Thomas Hobbes exclaimed and contemporaries like Pinker (2011) and Gat (2006) echo? Was it much more peaceful, as at least some renderings of the political thought of Jean-Jacques Rousseau would intimate (for an overview of varieties of 'Rousseauism' see Gat, 2015)? Or was it something in-between these two extremes (on this, see Boehm (2001) and the edited volume by Fry, 2013)?

Second, a different fundamental question has to do with how peace and war have evolved *after prehistory*, that is, since the emergence of settled life, agriculture and

centralized states. Hobbes and Rousseau again prove evocative, the former suggesting that the potential for peace had thereby increased, while the latter argues state-societies to be less amenable to peace and be more propitious towards violence. Furthermore, how has *industrial modernity* complicated any simple narrative of the historical transformation of violence and war? Are modern societies less or more violent in comparison to all that came before them?

Even just a brief perusal of notable recent works relating to both questions suffices to demonstrate the disarray and the absence of a consensus in the popular and scholarly literature. On one side, Pinker (2011, 2018), Gat (2013, 2015, 2017) and MacMillan (2020) all claim the evidence quite unambiguously shows that humans and their intersocial relations were once– virtually from time immemorial and definitely before the emergence of states– violent and warlike, only becoming more (though definitely not completely) pacified as millennia have passed. With the spread of commerce, capitalism, democracy and international institutions, relative peace flourished as well. On the other side, Sapolsky (2017), Bregman (2020) and Dwyer and Micale (2021) insist on the opposite, claiming that there is virtually no evidence of the modal prehistorical social form, namely nomadic hunter-gatherers (HGs), engaging in war. Throughout most of the time since anatomically modern *Homo sapiens* appeared, war had been absent or merely an exotic aberration. Instead, they suggest, historic state-societies and modernity have seen much more calamity and bloodshed.

The purpose of the present article is to intervene in these debates, shed new light and nuance on the seeming stalemate, help dissolve the polarized terms of the debate and push it towards a constructive new synthesis, both theoretically and empirically. Relying on the latest evidence from anthropology, archaeology, political science, and sociology, I argue for the existence of a non-linear overarching relationship between violence (and specifically war) and human history. Specifically, there exists an inverted U-shaped pattern of human violent lethality (already gestured towards by Fry, 2013, who spoke of an *n*-shaped curve; see more below), characterized by three prominent inflection points. There seems to have been a low point in most (though not all) of human prehistory, a high point with the complexification of the modal prehistorical social form and attendant sedentism, and again a relatively low point with the consolidation of historic and especially modern state societies. In economics, this inverted U-shaped pattern is known as the Kuznets curve (see, for example, Acemoglu & Robinson, 2002), originally meant as depicting the inverted U-shaped relationship between economic development and income inequality.

The article is structured as follows. In the first section, I summarize the existing contemporary disagreement about violence and war in prehistory. I suggest how the disagreement can (at least partially) be resolved and what part of the debate legitimately remains open to question and further research. In the second section, I lay out the broad case for inverted U-shaped historical pattern of violence. In doing so, I also present and compare several widely used sets of data on violent lethality– one characterizing various pre-state societies, one containing only pre historically appropriate hunter-gatherers (HGs), and another accounting for (early-modern and modern) state societies– that go significantly beyond the more narrow and thus inferentially limited samples used by, for example, Gat (2006) or Pinker (2011). In the third section, I focus specifically on the modern period and ask whether the additional, ostensibly

Table 1 Findings in Gat's (2013) state-of-the-art review of the scientific literature on pre-historical violence and war

(1) Chronology	Violence and war were already present in pre-state societies both before as well as after the Neolithic revolution. More specifically, we can infer that violence, and even war, had been occurring throughout the pre-Neolithic period in the Upper and Middle Palaeolithic (between 200,000 and 10,000 years ago) with ubiquity (Keeley, 1996; Gat, 2006, 2015; Bowles, 2009; Pinker, 2011).
(2) Frequency and mortality	Pre-state societies have a higher frequency of warring and a larger violent mortality rate, on average, than historic and especially modern state societies (Ember and Ember 1997; Wrangham et al., 2006; Pinker, 2011).
(3) Evidentiary sources and methods	Both archaeological and ethnographic evidence is ostensibly clear on this (Bowles, 2009; Pinker, 2011; Gat, 2015).

Table 2 Findings of Gat's and Pinker's anthropological and archaeological critics

(1') Chronology	Human interpersonal violence indeed has a long chronology, occurring even before the Neolithic with some frequency (Fry, 2013; Fry & Söderberg, 2013); war, however, is either impossible this early (if narrowly defined to resemble largescale organized violence) or else (if broadly defined as including smaller-scale coalitionary killing) is quite rare, even potentially non-existent, in most instances of the modal type of human communities before the Neolithic, that is nomadic HGs (Fry, 2013; Fry & Söderberg, 2013; Ferguson, 2013b).
(2') Frequency and mortality	Inegalitarian, semi-sedentary, and sedentary pre-state societies are indeed highly bellicose, but this is irrelevant for assessing whether either the frequency of war or war mortality has gone down throughout history *since the pre-Neolithic period* (Fry & Söderberg, 2013; Lee, 2018).
(3') Evidentiary sources and methods	Archaeological data have been misused when arguing for a (on average) positive and even high frequency and lethality of war in prehistory (Ferguson, 2013a; Haas & Piscitelli, 2013). Moreover, an important part of the ethnographic evidence used to draw inferences about prehistoric human societies is tainted, for example, by modern colonial pressures (Haas & Piscitelli, 2013), or is cherry-picked, or simply irrelevant to determining whether (and how much) nomadic HGs, as distinct from more complex foragers and tribal societies, fought in prehistory (Fry, 2007).

unprecedented decline in violence and war since the mid-twentieth century (called the 'long peace') is real. The fourth and final section then examines the theoretical and empirical case for and against the argument (again famously exemplified by Pinker and other decline-of-war proponents) that the long and new peace are robust, structurally rooted trends and not merely happenstance occurrences that will soon end.

The existing disagreement about violence and war in human prehistory, and how to move beyond it

In his state-of-the-art literature review a decade ago, Gat (2013) suggested that three fundamental clusters of claims regarding violence and war in prehistory constitute an emerging consensus. These claims are reported in Table 1.

Gat (2013) presented this as an emerging consensus, but in fact many of these claims are moderately to strongly disputed if a broader view of the literature is taken (see Rutar, 2023). Table 2 reports contrary views.

Can we move beyond the two seemingly completely polarized sides of the debate? As I argue below, a constructive synthesis is both needed and possible.

Note, first, that some key claims on both sides are, in fact, already mutually compatible. To take one important example, the claim that pre-state societies were familiar with war and were, on average, very violent is in principle compatible with the claim that the modal pre-state society, that is, nomadic HGs, which represents the broad sweep of human prehistory from roughly 200,000 BC to 10,000 BC, rarely engaged in war and did not suffer high casualties. The claims are compatible because the first groups together all different types of pre-state societies, such as nomadic HGs, semi-sedentary and sedentary, complex HGs and horticultural tribes, while the other focuses only on one, nomadic type. To take another example, there is broad agreement in the literature that pre-state societies in general, and nomadic HGs in particular, experienced relatively frequent interpersonal violence (Fry, 2013; Gat, 2015; Lee, 2018). Thus, if one collapses the distinction between interpersonal violence– namely, murder– and intergroup violence– namely, warfare– one can say that violence was present and relatively high in human prehistory.

Second, I suggest that where claims do indeed clash, we can and should examine the methodology, definitions, and theoretical approaches behind the conflicting evidence and decide to make our inferences only on the best available evidence. Rutar (2023) has shown that, when it comes to inferring the presence and lethality of *war* (not just interpersonal violence) *over the long stretch of human prehistory* (not just in the several millennia before the emergence of state societies), so-called Hobbesians seem to be farther from the truth. Relying on systematic sampling methods, instead of selective choosing and picking, and first-best, instead of second-best, ethnographic sources, both anthropological and archaeological research points more towards war being a minority affair (or even absent), depending on whether we use a broad or a narrow definition (see Table 2). Examinations of the whole archaeological record reveal, with only a few exceptions, a profound absence of intergroup conflict (Ferguson, 2013b; Haas & Piscitelli, 2013). Likewise, anthropological examinations of contemporary nomadic HGs show warfare to be practised only in a minority of groups and being comparatively much less lethal than in complex pre-state societies (Fry, 2007; Fry & Söderberg, 2013). The documented level of overall lethal violence among (prehistorical) nomadic HGs is in line with the human phylogenetic rate of violence (namely, 2% of all deaths), with the rate being exceeded only in later complex pre-state societies (Gómez et al., 2016), which makes sense due to radically changing environments and selection pressures. Lastly, both anthropological and archaeological analyses of societies and sites from across the world largely demonstrate that war had significantly increased when nomadic HGs started becoming more sedentary, complex, hierarchical and populationally dense (Fry et al. 2020), which should again be theoretically interpreted in light of drastic ecological shifts.

There are, however, two potential complications to this attempt at synthesis; two complications that have not yet been resolved. First, Gat (2015) rightly emphasizes the importance of anthropological and archaeological evidence coming out of Aboriginal Australia, which he calls a pristine 'laboratory.' Before being colonized by the British in the 18th century, but millennia after state societies had already started emerging elsewhere in the world, Australian bands and tribes ostensibly held

on to their pristine, nomadic social organization, and were not tainted by the presence of social complexity, agriculture, or states. Evidence shows, Gat (2015) argues (although this is disputed by Fry, 2007), that Aboriginal Australia was quite violent and warring over this period. If this is true, then the conclusion from the preceding paragraph becomes less firm. Additional research tied specifically to this issue is needed to arrive at more reliable conclusions.

Second, one could potentially doubt the typically unquestioned premise that, before 10,000 BC, most human societies were simple nomadic HG societies (Singh & Glowacki, 2022; Graeber and Wengrow 2021). If this premise turns out to be wrong, then we cannot necessarily rely on the infrequency of war among either contemporary or prehistoric nomadic HGs to argue that *in the modal human society between 200,000 BC and 10,000 BC*, war was likely absent and violent lethality relatively low. Perhaps nomadic HGs were not the modal prehistorical society. Given existing evidence, this seems unlikely, though Singh and Glowacki (2022) have recently argued that, according to their ethnographic re-evaluation specifically tailored to the issue of pre historical living, 'non-agricultural peoples *often* live in groups that are more sedentary, unequal, large, [and] politically stratified.' (Ibid., 418; emphasis added) Their 'diverse histories' model of course acknowledges 'that some humans lived in societies similar to recent mobile, egalitarian foragers but posits that these represented one of many social outcomes' in pre history (Ibid., 426). They conclude that complex foragers might have 'plausibly represented a considerable proportion of total human population,' during the Late Pleistocene, though even they do not suggest this 'considerable proportion' to have approached either the majority or the mode (Ibid.). In any case, currently, this modified view does not yet enjoy widespread consensus (Fry et al., 2020, 303). Nevertheless, more research is clearly needed as indicated by the provocative new agenda outlined by Singh and Glowacki (2022).

The decline of violence and war from pre-state to (modern) state societies

Can we put a precise number on how violence– and specifically violence related to war– has evolved through time, as Pinker (2011), Bowles (2009), and several other researchers suggest? We cannot. There are, however, rough proxies and estimates that can be used. Two types of measures that are comparable over time can be used, albeit with strong caveats and uncertainties as discussed below.

A note on data and the reliability of sources

Before turning to the data, a longer methodological note is in order. The data referred to below, and used to calculate levels and differences at different forms of social organization and/or time, are sparse and rough given the scope of the question. As has been said above, we simply cannot answer the question with a high degree of certainty and a precise number. To pretend otherwise, as has sometimes been the case, is foolhardy.

Therefore, my use, recalculation, and plotting of ethnographic violent-morality data (per 100,000) below proceeds with the recognition and description of such (significant) uncertainty. Moreover, more than establishing a firm numerical value, my use of the data and calculations primarily have a somewhat different, but still crucial, intention. I strive to show, *using the data used and offered by both sides of the debate*, that certain important nuances or interpretations have previously been missed and that, at least with respect to some dimensions of the debate, a higher level of agreement than noted in the literature is possible. My aim should thus be seen as foremost an attempt at mediating between the two sides *on the basis of internal criteria* provided by the two sides, namely, the limited ethnographic data that is nonetheless used by them. For instance, Hames (2019), representing the more Hobbesian approach, has recently used Roser's (2013) dataset (which I rely on below), calling it 'a very comprehensive online lethal violence data base'. On the other hand, the more Rousseauean scholars, such as Fry (2013), have drawn attention to Kelly's (2013) dataset, which I likewise rely on below. External validity is thus not guaranteed, but internally, I claim that further dialogue can nevertheless be established on the basis of these datasets. Finally, the reason I employ the two datasets just mentioned is simply due to scarcity of ethnographic reports that allow for easily comparable estimates of violent mortality specifically *per 100,000* people. As Hames (2019) recently characterized the problem, 'raw counts of lethal events without controls for population size or time frame… make the results difficult to interpret'.

However, the comparisons that follow below are not completely limited to just resolving *internal* disputes. Given that a comprehensive study using a much larger archaeological dataset for almost 600 human populations sourced from 249 individual scholarly studies, theses, and statistical yearbooks has recently been published (Gómez et al., 2016), there is potentially more that can be said for the external validity of the overall quantitative mortality trend (if not individual estimates). Noting again the fundamental methodological issues, authors of the Gómez et al. (2016) study do report that even their comprehensive data 'must be interpreted cautiously, because there was extensive intra-period variation in lethal violence.' (Ibid., 235) Moreover, they note that the 'level of lethal violence inferred from skeletal remains could be underestimated because many deadly injuries do not damage the bones.' (Ibid.) Additionally, 'the presence of battlefields may artificially overestimate the level of lethal violence.' (Ibid.)

Nevertheless, they find these biases are not likely to be influencing their overall conclusions. First, 'no underestimation was detected for the periods in which both skeletal remains and statistical yearbooks are available.' (Ibid.) Second, 'the periods with highest level of lethal violence were not those with more organized intergroup conflicts.' (Ibid.) In sum, they conclude that 'the temporal pattern in the level of lethal violence seems to hold even after considering these potential biases.' (Ibid.) What is this 'clear temporal pattern' (Ibid.) that has emerged from their study? The study has established, even after accounting for potential biases stemming from methodological and sourcing issues, an overall violent-mortality trend akin to the one proposed in the present paper (and uncovered on the basis of more limited and thus less reliable sources used in plotting Fig. 1, based on the existing terms of the debate). In other words, both the limited data I use (which measure violent mortality per 100,000

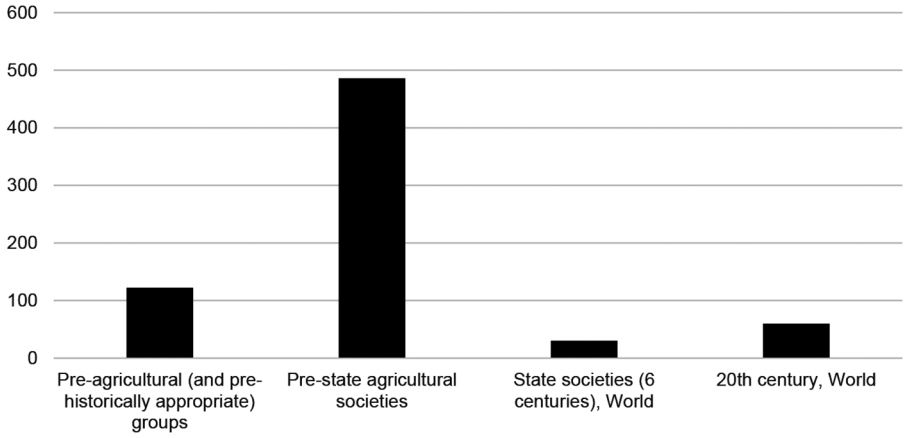

Fig. 1 Average violent death rate per 100,000 (wars, homicides, genocides; state averages include military and civilian deaths from conflicts).
Sources: author's own calculations based on data from samples in Roser (2013) and Kelly (2013), *which are widely used in the scholarly literature, and 15-year moving averages from the Conflict Catalog by Peter* Brecke (1999[2018]). See Appendix for more information on the samples and their sources

people) and the much more extensive dataset used by Gómez et al. (2016), which measures violent mortality as a percentage of a given population, evince broadly the same overall inverted U-shaped trend.

This is further buttressed through novel findings by Halstead and Thomson (2022), who performed additional methodological improvements on the Gómez et al.'s (2016) large dataset, compensating for the unreliability of data from the Palaeolithic and for general issues of skeletal preservation and archaeological undetectability of violent mortality (more on this below).

Findings and interpretations of the data

Using a wide variety of data from almost 600 human populations living between the Palaeolithic and today, Gómez et al. (2016) display quantitative estimates of average rates of human violent lethality (pooling together coalitionary and interpersonal violence) across various types of human societies and temporal periods, and compare them with violent lethality rates that have been inferred for humans on the basis of phylogeny. For the Palaeolithic, they find no difference between the actually recorded rate of violent lethality and what one would expect by inferring the rate based on phylogeny. Violent lethality rate for the Palaeolithic stands at 2% of all deaths. The observed rates for Mesolithic, Neolithic, and Bronze Age are found to be higher than the phylogenetic inference, but the difference is not statistically significant. However, the observed rates are statistically significantly higher in the Iron and Medieval Age. Later, in the Modern and Contemporary Age, the observed rate then plunges significantly below the phylogenetically inferred rate, which also means that it is lower than in the Palaeolithic. The other comparison Gómez et al. (2016) make is between

societal types, and this is the more important comparison for present purposes. They find that both prehistoric bands and tribes have observed rates that are somewhat higher than the phylogenetic rate, but not statistically significantly so. Later chiefdoms (a form of complex, settled, but pre-state society) have rates that are higher still and which achieve significance. However, observed violent lethality rates for historic and contemporary state societies are much lower and again plunge below the 2% phylogenetically inferred rate. It should be noted here that Gómez et al. (2016) follow Service's (1963; see also Johnson and Earle (2000)) established typology of societies that, at the two extremes, distinguishes between bands ('small, nomadic, egalitarian groups of people, usually hunter-gatherers) and states ('politically organized complex societies', usually with distinguishable centralization of power). In my later comparisons between pre-state and state societies, I follow their lead when defining a state society (namely, highly complex, organized, centralized societies).

Acknowledging the impressive advance this study represents with respect to its methodology and comprehensive data, Halstead and Thomson (2022) have repurposed the study's dataset particularly to address the question of comparing pre-agricultural (that is, prehistorical) violence to that arising after the early transition to agriculture. In a sample of almost 13,000 *pre-agricultural* skeletons from the early Holocene, they find that 1.7% evince signs of violent mortality (Ibid.). In contrast, they find that in a comparable sample of almost 12,000 *agricultural* skeletons from the same time-period, 5.2% show signs of violent mortality (Ibid.), which is slightly more than three times as much. Their novel comparison also has the additional benefit of being more reliable than the relatively more typical comparisons based on Paleolithic data. As they say, 'there are approximately 15x more skeletons in the dataset from this period than from the Paleolithic period', which alleviates some– though far from all– concerns about reliability. (Ibid.) Nevertheless, combining evidence for both timeframes into a single, 'total' pre-agricultural average rate of mortality due to violence, the resulting figure amounts to 1.9% (Ibid.).

Noting that observed archaeological rates of violent mortality are likely skewed downwards due to archeologically non-detectable types of lethal violence and skeleton-preservation issues, Halstead and Thomson (2022) additionally correct their estimates (based on the dataset in Gómez et al., 2016). Their final adjusted figures for pre-agricultural and early-agricultural violent mortality are 3.4% and 9.2%, respectively. Although the rates are notably higher than in their original comparison, the roughly 1:3 ratio is preserved.

The second measure we can look at are rates of violent deaths per 100,000 people, which come from ethnography, not archaeology. Reliable data are relatively rare, but this has so far been a crucial terrain for the contemporary debate on the Hobbesian or Rousseauean pattern of violence through history. One aggregate source recently relied on by, for instance, Hames (2019) is Roser (2013), which pulls together ethnographic data for 29 non-state societies from various sources (see Appendix). This aggregate source pools data for nomadic and complex HGs (including equestrian, mounted foragers) and even horticultural tribes, which means that it cannot be used to make inferences about, or comparisons with, the modal type of prehistoric society. Nevertheless, we might be able to use these data to make a rough comparison of violent lethality between *state* and *non-state* societies, without any implication that such

a comparison tells us something about *prehistory* (I tackle the latter issue later on in this section). After all, one interesting question about violence is simply whether there is more violence in state or non-state societies *simpliciter*, regardless of whether the non-state societies can also act as a stand-in for *the modal prehistoric social form*.

What does the comparison tell us? On one side, the average rate for *non-state societies* (all different types grouped together) stands at around 500/100,000, or 488/100,000 to be exact (calculated by relying on data provided in Roser 2013; see Appendix for the full list of societies and death rates). On the other side, the 15-year moving *state-society* average rate of global deaths in conflicts between the year 1400 and 2000 (including military and civilian deaths in wars, genocides and non-state conflicts) fluctuated between a low of 1/100,000 and a high of almost 200/100,000 (Brecke, 1999 [2018]), for a decadal average of 18.8/100,000. A clear difference that is in line with the more reliable estimates provided by Gómez et al. (2016). Note, however, that the average figure for state societies does not include homicides, which means that it is downwardly skewed as a measure of overall violent lethality. Between 1425 and 1825, the average homicide rate in Europe was around 13, based on the long-term data for Belgium, Netherlands, Spain, Italy, Switzerland, and France (see Herre et al., 2013a), and in the 20th century it was around 1–2.

Undoubtedly, there is a reasonable worry that these averages are either too rough or simply incomparable due to various methodological issues and so cannot tell us anything intelligible. For instance, the rate for non-state societies might include spurious deaths (that are due to, for example, colonists or alcohol), which makes the overall rate useless for prehistorical inferences as there were no colonists or alcoholism back then. There is also the possibility that the underlying sample for the average is unrepresentative in other respects. Perhaps it is overweighted in the direction of complex pre-state societies, or is– due to its small size– simply picking up extraordinary, anomalous cases. Moreover, for some of the societies making up the pre-state average, only homicide victims are included in the death rate tally while others include both homicide and war deaths. This might result in undercounting of violent lethality in pre-state societies. For a detailed accounting of some of these concerns see Fry (2013) and Kelly (2013).

To address at least some of these concerns, robustness of the original pre-state average should be verified. Relying on Kelly's (2013) sample of 15 nomadic and complex foragers– the only other large sample with data for violent death rates per 100,000, and one featured in a volume edited by Fry himself– I added to the original pre-state average the data for ten additional such societies that are missing from Roser's (2013) table of 29 societies (the remaining five of Kelly's 15 are already in Roser's table). My addition brings Roser's pre-state average down from 488 to 413. Three of the ten added societies (the Hadza, Batek, and Semai) all have very low rates in the range of 1–15, and so they are the most significant factor in pulling down the average. But because Kelly (2013) reports that the data for the Ache and Hiwi (two of the ten additional societies) are spuriously high for our purposes, insofar as they contain deaths due to infanticides and suicides, further changes to the average must be made. Once we properly discount the Ache and Hiwi data, I calculate the average to be 378. Unfortunately, we are also potentially confronted with the obverse problem, namely *undercounting*. Kelly (2013) warns that four societies from his sample

(Ju/'hoansi, Ache, Agta, and the Inuit) have probably been externally pacified and so represent improperly low numbers for purposes of prehistorical inference, but this cannot be adjusted for numerically.

Given all of this, the initial estimate of violent lethality standing at 486/100,000 does not seem that far off, although it is skewed upward. If we adjust it to the lower 378 bound, or a mean of 438 between the lower and higher bound, this still comes out as significantly higher than the 1–175 min-max range, or the average of 18.8, in state societies over the past 600 years (the latter figure does not include homicides, which on average generated additional 13 death per 100,000 in Europe between 1425 and 1825).

However, these comparisons have so far been made solely for purposes of distinguishing between (proxies of) pre-state societies and state societies. As has already been noted above, a more precise comparison, at least as far the changing dynamics of violence between *prehistory* and *early agricultural human history* (before the emergence of centralized states) are concerned, would have to further differentiate between pre historically appropriate nomadic forager societies and later pre-state societies which have (at least in part) practiced agriculture. And indeed, this turns out to be a crucial distinction. Calculating ethnographic violent lethality per 100,000 by tallying up *only the pre historically appropriate nomadic forager societies* from Kelly's and Roser's sample, the rate is brought down significantly to around 122/100,000. This is still higher than the average rate for contemporary centuries, but the difference with how violent other pre-state agricultural societies were should be clear (see Fig. 1). Thus, contrary to what Pinker (2011) and Bowles (2009) argue, violence or warfare do not appear to have been rife already at the dawn of humanity– during prehistory–, having substantially declined only later on. As argued in the previous section, throughout most of human prehistory, war was probably only a minority affair, and violent lethality in general was not exceedingly high, although it was notable. Nevertheless, it is true that both war and general violent lethality had drastically increased even *before the emergence of centralized state societies* (as argued by Pinker), namely with the slow transition from nomadic HG to complex foraging, horticulturalism, and pre-state agriculture. After that, violent lethality again *decreased* with the consolidation of historic and modern states (Gómez et al., 2016), plunging even below the phylogenetically inferred rate for humans.

All of these ethnographic findings and interpretations are in line with the archaeological findings of Gómez et al. (2016) and Halstead and Thomson (2022), who relied on a different and much bigger sample of populations. First, the ethnographic violent mortality rate for pre-historically appropriate foragers that I have calculated– 122/100,000– is almost four times smaller than the ethnographic proxy for pre-state agricultural violence rate of 486/100,000. This is in line with Halstead and Thomson's archaeological comparisons of 1.7%/1.9% pre-agricultural violent-lethality rate and the 5.2% agricultural violent-lethality rate during the early Holocene, a difference of more than three times, or their adjusted rates of 3.4% and 9.2%. Second, Halstead and Thomson's (2022) adjusted archaeological findings, as they express them in terms of violent deaths per 100,000 per year by relying on estimated average population sizes, amount to 103/100,000 based on pre-agricultural skeletons and

277/100,000 based on early agricultural skeletons, again roughly conforming to my ethnographic figures.

Figure 1 presents the calculated violent lethality averages for the (proxies of) pre-state societies in the pre-agricultural (or prehistorical) period on the one hand and pre-state societies that appeared after the invention of agriculture on the other. It also contains the calculated averages for state societies between 1400 and 2000, and for the 20th century (for the sourcing, reliability issues, and composition of Peter Brecke's Conflict Catalog see the methodological note in the Appendix).

Thus, it can be argued that the evolution of human violence and war has neither been a constant increase from zero, or very low levels, in the pre-state human period to exceedingly high levels in modernity, nor a constant decrease from exceedingly high levels in deep prehistory to zero or low levels in modernity. Instead, it has evinced a much more complex inverted U-shaped pattern. I came to this proposition independently, but in some forms it has already appeared in the literature. Perhaps most notably, Fry (2013, 15) stated that human violence has a *n*-shaped temporal pattern. As he put it: 'Contra Pinker, the incidence of warfare and violent mayhem over the last 10 millennia actually follows an *n*-shaped curve, rather than merely the steep drop-off in recent times that Pinker highlights.' His description has it that war was 'simply absent over the vast majority of human existence,' which is represented by the far left side of the *n* curve (Ibid.). Later, war appeared (along with the proliferation of violence) with 'population increase,' 'the shift from universal foraging to settled communities,' 'the development of agriculture,' and 'the rise of state-level civilization,' which is represented by the 'rising left side of the letter *n* in the curve, but taking place within the last 10,000 year' (Ibid.). He does not say when and why war and violence then started declining to low levels (the right side of the letter *n*), but ostensibly this happened with the recent advent of modernity.

The exact thesis argued for in the present paper is as follows. Nomadic pre-state societies were most likely only rarely warring– as Fry himself has thoroughly established in a series of studies (see the review in Rutar, 2023)– although they were definitely no strangers to interpersonal violence. But other pre-state and even some pre-agricultural societies engaged in warfare more frequently and experienced higher overall violent lethality. State societies, especially modern ones, are also no strangers to war, but– as shown above– their overall violent lethality is on average much lower compared to non-nomadic (and even somewhat lower than in nomadic) pre-state societies. So, Pinker is wrong about (nomadic) prehistory, but not about pre-state societies in general. He is also right that modernity has, overall, seemed to be comparatively less bellicose. However, this last claim, too, must be further qualified.

Has war, specifically, declined in recent times?

Pinker is correct that the frequency of *great-power war specifically* has been dropping through the past half-millennium, but especially so in the nineteenth, twentieth and twenty-first century (Roser 2016). For the past 70 years there have actually been no great-power wars in the world. After World War II, and especially after 1990, even (ordinary and major) interstate wars have been infrequent and less lethal, almost van-

ishing in number at the beginning of the twenty-first century. In these senses, 'peace is more widespread today than at any time in history' (Fettweis, 2017, 423) These most recent trends have been termed the 'long peace' and the 'new peace,' respectively. (Note, however, that violent death rate has again increased in the past decade due to the war in Syria and, most recently, the Russian invasion of Ukraine, but it still remains comparable to lethality levels seen in late 1980s and early 1990s.)

On the whole, violent lethality certainly declined over the long haul since the peak that came with the complexification of nomadic HGs and the attendant sedentism and rising population density. This is beyond dispute (see Fry, 2013). However, neither this nor the comparative figures presented above should be taken as implying that the decrease in lethal violence has evinced a simple linear downward trend in *recent historical periods* on which, for example, Pinker (2011) focuses. There is significant heterogeneity in the overall average across the last six centuries. For instance, the global violent death average moves roughly between around one and five throughout the fifteenth century and between five and ten in the sixteenth century (Roser 2016). It then shoots up to significantly above 100 in the first part of the seventeenth century and is brought down to roughly 10–20 in the second part. This wildly swinging pattern repeats in the eighteenth, nineteenth and twentieth centuries, with the average finally decreasing from 20 to two between 1950 and 2000, and even significantly below two since the year 2000. Over the whole 600-year period, then, there is no clear overarching pattern of *further* lasting decrease in violent death rate from century to century. Table 3; Fig. 2 present the min-max range of death rates per 100,000 people (calculated as 15-year moving averages) for each half-century between 1400 and 2022. Figure 3 plots the data in 10-year intervals.

Seizing on this point, Mann (2018, 47) argues against Pinker that '[w]e have seen no long-term decline of war.' Mann points out, additionally, that though both the number and lethality of interstate wars have witnessed a historically significant decrease during the long peace, the number of lethal conflicts in the form of civil wars has nevertheless been notably increasing throughout the Cold War. Civil war has replaced interstate or great-power war, a development which seemingly casts a dark shadow over triumphalist claims of declining war. For Mann, the disappearance of great-power war, and the infrequency of interstate wars, are dwarfed by the rise in civil war so that it cannot even be said that, overall, war has declined or become less lethal. If anything, Mann says, the west has become much more peaceful, while the Global South has picked up the slack. Finally, Mann adds, 'even if we accepted that this was a seventy-year period of peace, this is too short a space of time on which to base a long-term evolutionary process.' (Mann, 2018, 47).

Mann is correct that, on the whole, the past several centuries have not seen any additional lasting decrease in war. He is wrong, however, in disputing the long peace specifically. As I already pointed out, the overall number of battle deaths (per 100,000 people) in civil wars, interstate wars, colonial conflicts, etc., has dropped since 1950 (and especially since the end of Cold War)– *despite* the rise in instances of civil war. As Roser (2016) puts it, the increase in number of civil wars 'is predominantly an increase of smaller and smaller conflicts' (see also Torpey, 2018). Still, Mann's suggestion of regional variability is useful insofar one also considers the plausible causal candidates for the long peace and keeps in mind both their possible reduction in the

Table 3 Minimum and maximum death rates in conflicts per half-century periods between 1400 and 2000, taken as 15-year moving averages

	1400–1450	1450–1500	1500–1550	1550–1600	1600–1650	1650–1700	1700–1750	1750–1800	1800–1850	1850–1900	1900–1950	1950–2000	2000–2022
Lowest death rate per 100,000 (as 15-year moving average)	1.05	1.67	2.72	2.98	2.31	1.07	1.75	3.13	2.2	0.98	4.33	2.15	0.31
Highest death rate per 100,000 (as 15-year moving average)	8.12	3.85	12.34	7.23	163.56	29.9	83.27	39.53	67.53	29.2	175.39	17.5	1.05

Sources: Battle Deaths Dataset v.3.0. published by the PRIO Institute (2024), Davies et al. (2023), Gleditsch et al. (2002), and Conflict Catalog by Brecke (1999 [2018])

future and their already variable distribution throughout the world. I develop this point more fully in the next section.

Is the 'long peace' random and transient?

Like Mann, but with more empirical rigour and with a different emphasis, Braumoeller (2019) has recently taken Pinker's decline-of-war thesis to task. Braumoeller does not deny the factual basis of the long peace, but he challenges the assertion that it constitutes a systematic trend (see also Malešević, 2014). He seeks to statistically show, instead, that it is more a random occurrence than a significant shifting-of-gears towards peace. As such, Braumoeller suggests, the continuation of the long peace in the future is quite unlikely. His argument is that just as the previous decades-long periods of unprecedented peace between great powers (and overall decrease in global violent death rates), which happened in the first and second part of the 19th century, abruptly ended at some point, so too will the current long (or new) peace soon probably come to an end.

This is a plausible counterargument, and Braumoeller (2019) marshals significant methodological and statistical evidence in favour of it. However, Braumoeller's challenge to Pinker's thesis has itself recently been challenged. Cunen et al. (2020), for instance, provide statistical evidence for Pinker's decline-of-war thesis and against Braumoeller, as do Spagat and Weezel (2020). There is as of yet no firm empirical consensus on this particular matter.

There are, however, other suggestive points of evidence that the contemporary peace might be systematic and that it could therefore be expected to last for some time, at least as long as its structural conditions persist in the future. Over the past 70 years, but especially in the last three decades, the world has witnessed an unprecedented political and economic transformation. Decade after decade, nations have been becoming increasingly more economically interdependent in the second part of twentieth century, far surpassing the famed late-19th century high level of interdependence already in late 1970s (Ortiz-Ospina et al., 2014). Capitalism started spreading from its initial modest foothold in western Europe to all world regions after World War II, and especially after the 1990s. States have thus become much more economically developed and rich than they were in the past. The share of democracies in the world has almost tripled since the early twentieth century peak in mid-1920s, and it has increased by more than 6-fold since the mid-1940s through (Herre et al., 2013b). The US-led, post-war liberal international order saw a veritable flourishing of international institutions and multilateral organizations both in the Cold War era and even more so after 1989/91. These unprecedented structural transformations, sometimes called the 'Kantian tripod' or the 'liberal triad,' form a set of coherent, mutually reinforcing causal mechanisms that are plausible candidate explanations for the ostensibly equally unprecedented long and new peace.

To take just the most clear interrelation, it is both theoretically and empirically highly plausible that capitalism and democracy are tightly connected, primarily by capitalism unleashing economic development, which in turn makes the emergence of democracy more likely, which itself further positively conditions the entrench-

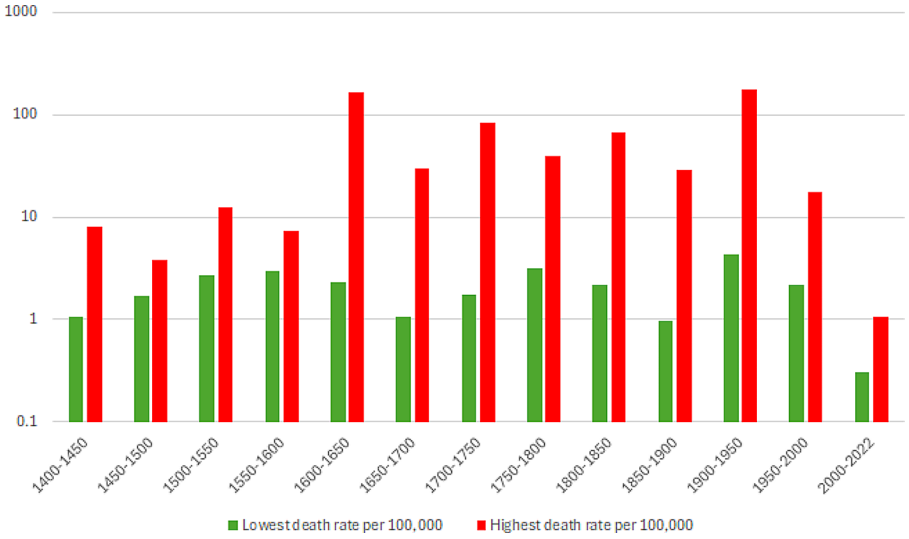

Fig. 2 Global military and civilian deaths per 100,000 from conflicts since 1400. Sources: same as Table 3.

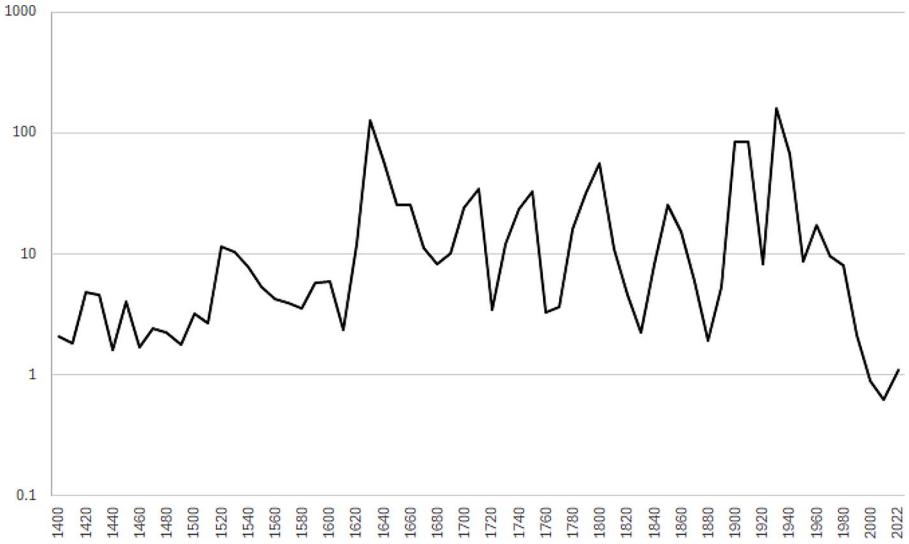

Fig. 3 Global death rate in conflicts (per 100,000), 15-year moving average presented in 10-year increments. Sources: same as Table 3.

ment and operation of the capitalist economy (see the recent review on 'modernization theory' and its empirical evidence in Treisman, 2020; see also Acemoglu and Robinson, 2012). Additionally, intensive economic development stemming from the emergence of capitalism helps transform some of the former zero-sum relationships between people or societies into positive-sum relations (I say more about this below),

which can as a consequence help undergird the emergence of multilateral organizations emphasizing peaceful, positive-sum relations between nations (Wright, 2000).

In what follows, I first present all three parts of the liberal triad, namely the democratic peace, capitalist peace, and international-institutions/organizations peace, and critically review both theory and evidence supporting them. After that, I turn to a very different, competing explanation for the long period of post-war peace which traces it back to the system-wide distribution of power and implies that it will likely disappear with the coming end of the unipolar moment.

A critical examination of the liberal case for contemporary decline of war

Democratic peace theory

It has long been suggested that the spread of democracy through the twentieth century is one of the causes underpinning the long peace, at least among Western states (the first relatively rigorous account is, interestingly, of sociological provenance and appears in Babst 1964). In the 1990s, some scholars became willing to nominate the observed statistical relationship between democratic dyads and peace as a rare instance of a robust, law-like pattern in political science, but even as the evidence mounted (Maoz & Russett, 1993; Maoz, 1997), many remained unconvinced. They charged that the correlation was spurious; for example, that it was due to geographic distance between democracies, or the clustering of democracies in the West where the US pacifier was present, or the economic interdependence between developed, democratic states, or simply due to the rarity of democratic states. In the past decade, however, many new studies with more breadth and statistical rigour have appeared (Dafoe et al., 2013; Choi, 2016; Crescenzi & Kadera 2016; Ray & Dafoe, 2017; Gat 2017; Cunen et al., 2020). If the reality of democratic peace was plausibly up in the air in 1990s, this is no longer true today. As Reiter (2017) summarizes the current consensus in a recent review paper, 'One of the most indisputable, nontrivial, observed patterns in international relations is that democracies almost never fight each other.'

Nevertheless, unresolved issues remain. It is not clear what the precise causal mechanisms responsible for the dyadic democratic peace are. The 'democratic-constraints' mechanism is perhaps the most well-known. This mechanism theoretically posits a war-averse populace that is both willing and able to electorally constraint war-prone political elites in their bellicose endeavours. The mechanism is theoretically plausible and has some empirical backing both in its electoral and civil society versions (Tomz & Weeks, 2013; Hegre et al., 2020).

The 'credible-signalling' mechanism looked promising in the 1990s. This mechanism posits that statespersons in democratic societies should be much more capable of signalling their might and resolve to an opponent, thus enabling the opponent to be surer that the threat of war is real and dangerous, which in turn makes the opponent more likely to diplomatically settle with the stronger and more resolved foe without

stumbling into a losing war. Theoretically, the mechanism seems impeccable. However, recent studies tend not to support it (Snyder & Borghard, 2011; Downes, 2012).

Then there is the 'normative' mechanism. Theoretically, it presumes political leaders are willing to ignore power-political interests in favour of upholding norms of peaceful conflict resolution and general respect for other democracies. They should be so dovish, the mechanism postulates, because throughout their lives their personalities were profoundly shaped by these very same norms, socialized as they were into them. Empirically, however, the normative mechanism bumps up against the dark reality of some powerful democracies– the US in particular– engaging in coercive and bloody geopolitical interventionism in the twentieth and twenty-first century. Namely, there are numerous cases of democracies helping to overthrow democratically elected foreign governments, supporting dictatorial regimes and aiding or starting invasions without respect for international law, basic human rights, and norms of peaceful conflict resolution (Mearsheimer 2018). The normative mechanism is also beset by other issues that shed doubt on it (Bakker, 2017).

These mechanistic issues with the democratic peace notwithstanding, the overarching correlation is empirically real and it is surprisingly robust to various confounding factors, which means that interstate peace between democracies at least should persist as long as dyads remain democratic. The most recent robustness check finds that 'the relationship between democracy and peace is at least five times as robust as that between smoking and lung cancer. To explain away the democratic peace, therefore, scholars would have to find far more powerful confounder than those already identified in the literature.' (Imai & Lo, 2021).

Capitalist peace theory

The spread of capitalist economic development, which accelerated in various parts of the world after World War II and across the whole world after 1989/91, has also been suggested as a significant– although less important– factor underpinning the long and new peace (Gat 2017). There are several distinct channels on offer within the broad ambit of capitalist peace theory through which capitalism ostensibly had its pacific effect (an early contemporary sociological account is Weede, 1996).

First, there is the 'declining benefits of war' mechanism (Lacher, 2006; Teschke, 2009). This flows from the basic economic institutions of capitalism, which both allow and incentivize behaviour that unleashes intensive, post-Malthusian economic development. Under capitalism, profit-seeking economic actors are able and motivated to innovate technologically in the production process, which leads to sustained increases of labour productivity over time, which in turn generates increases in wealth even without any extensive, Malthusian methods of economic growth, such as increases in the supply of labour or the expansion of land under cultivation (Brenner, 2007). This structural difference between the intensive economic growth enabled by capitalism and the sole availability of extensive economic growth under pre-capitalist systems is crucially important for the prevalence and likelihood of war, imperialism and territorial conquest. The latter cluster of violent, costly human interactions is much more likely to be pursued in an extensive, Malthusian economy (where other methods of growth are simply foreclosed), while it can at least in principle be avoided

in an intensive, post-Malthusian world, where the economy can grow without territorial expansion and plunder.

Second, there is the classic 'interdependence' mechanism (Weede, 1996). Because free (or at least freer) trade is one of the defining features of capitalist societies, the spread of capitalism across the world in the twentieth century has also meant the spread of (freer) international trade across the world. And as nations trade more and more with each other, they also become more economically interdependent. Such interdependence should make states, if they are rationally self-interested, more wary of starting wars with other states on which they themselves depend for economic benefits through trade. By hurting a partner with whom one is intertwined, one also inevitably hurts oneself.

Third, a 'normative' mechanism has also been proposed. According to it, citizens and political leaders of economically developed, high income countries, who are materially secure, are both more tolerant of others and less bellicose towards them. Decreasing scarcity should make people shed some of their xenophobic leanings and nationalist tendencies, and make them amenable to accepting universalist values which accord all humans autonomy and independence. The particular causal chain supporting this mechanism can be framed in a more economistic way, like it is in contemporary modernization theory (Inglehart et al., 2015; Treisman, 2020), or it could be underpinned by cultural forces, like in Henrich's (2021) influential recent account. The outcome is the same: capitalist economic development should decrease bellicosity through the norms that are associated with increasing material prosperity. Mousseau (2013) has even claimed that capitalist, contractualist norms are the ultimate cause of democracy and, through it, the ultimate cause of democratic peace. According to him, the democratic peace correlation is spurious and disappears when one controls for the contractualist norms variable.

Capitalist peace theory does not only predict a decline in interstate wars but also a reduction in intrastate conflicts, such as civil wars and coups. The main theoretical proposition here is that when, due to capitalist development, a population grows rich, there is a point after which the increasing probability of failure in attempting to overthrow a strong, rich government and the increasing benefits of the mere continuation of a stable, rich status quo make civil war and coups irrational.

How well do these theoretical predictions stand up against empirical evidence? There is some support for the first mechanism– namely, post-Malthusian economic development helps with interstate peace– although it is not completely clear how one should go about testing this mechanism as there have been almost no Malthusian economies in the world since 1945. Interestingly, there is also a surprising amount of at least implicit and general agreement regarding this mechanism among both liberals and some contemporary Marxists at the theoretical level (see Lacher, 2006; Brenner, 2007). The interdependence mechanism has received the most systematic scrutiny, and, currently, the findings are mixed. Gartzke and Zhang (2015) have reviewed all the extant empirical and formal studies of the relationship between trade and war. Of the 25 quantitative empirical studies, 13 find that trade decreases war, 3 that it increases it and 9 reveal an indeterminate or no effect. The normative mechanism is also partially supported (Dafoe et al., 2013), although the stronger claim that the

democratic peace correlation can be reduced to it does not hold up (Ray & Dafoe, 2017).

Evidence for intrastate capitalist peace is more unequivocal. Between 1945 and 1999, the bottom fifth of societies (by wealth) have had an almost 10-fold higher probability of experiencing civil war in the next 5 years compared to the upper fifth of societies (Fearon, 2008, 293), even controlling for various confounds. This finding is robust. As an exhaustive literature review puts it (Blattman & Miguel, 2010, 45):

> The most robust empirical finding in the existing literature is that economic conditions– both low income levels and slow growth rates– contribute to the outbreak of civil wars and conflicts in less developed countries. This finding has found support at both the cross-country and micro levels, although the correct interpretation of these patterns in terms of underlying theoretical mechanisms remains contested.

Likewise, there is some evidence that economic development reduces the likelihood of coups (Schiel, 2019). There is also some evidence that capitalist institutions themselves (directly) contribute to intrastate peace both in terms of civil wars (de Soysa & Fjelde, 2010) and coups (Cox et al., 2019), irrespective of the level of economic development.

International-institutional/organizational peace theory

Potentially complementing the pacifying properties of democracy and commerce, international institutions and organizations represent the final part of the liberal triad. Liberal theory suggests that when international relations become more clearly institutionally structured, as they have in the second part of twentieth century, and again after the fall of communism in the 1990s, peace and cooperation should also become more likely. There are many potential mechanisms underpinning this hypothetical connection. They range from stronger material and normative incentives for peace between institutionally tied states, on the one hand, to much more frequent meetings and easier, clearer communication, between leaders of institutionally embedded states, on the other. This latter trend could reduce uncertainty and misperception, or help build trust and personal ties among leaders, thus reducing the likelihood of stumbling into conflict.

Empirical research from the late 1990s and early 2000s has come to inconclusive results on the overall impact of international institutions and organizations. Reviewing seven early studies, Pevehouse and Russett (2006) report that '[a] causal role of joint membership in international governmental organizations (IGOs) to violence reduction can appear strong, weak, or even negative depending on the database and statistical method.' Their own research design (Pevehouse & Russett, 2006) reveals that only certain IGOs, those connecting democratic states, have pacifying properties. Reviewing an even broader set of existing evidence, Boehmer et al. (2004) also point out that studies 'yield disparate conclusions depending on particular econometric assumptions, implying variously that IGOs foster pacific relations among states, have no impact on dispute behavior, or even increase dispute propensity.' Their own

research reveals that only some IGOs– those that have the highest capability and are strongly enforced– reduce conflicts. Bearce and Omori (2005) have also found support for the claim that certain, though not all, commercial institutions help with peace between nations. In a similar vein, Shannon (2009) finds that IOs encourage only one type of conflict management (namely, the multilateral type), even though in their charters they promote both bilateral and multilateral mechanisms. As she concludes, 'a number of IOs call for direct negotiations between members in their charters, [but] they do not broker bilateral cooperation over territorial disputes. However, peace brokering institutions do play a role in the conflict management process by advocating third party diplomatic intervention.' (Shannon, 2009, 160).

In contrast to Mearsheimer's (1994) infamous critique of liberal institutionalism, existing empirical research clearly shows that at least *some* of the promise of at least *some* international institutions is not false. At the same time, the evidence is also clear that IOs are far from a unequivocal, singular, or even the most important, cause of contemporary peace.

The merits and demerits of a non-liberal account for the long and new peace

Bipolar/unipolar-hegemony peace theory

Like liberals, most of their critics admit of the long peace, but they are not convinced that liberal domestic factors were and are responsible for it. Instead, they look to the nature of the broader system of international relations to explain the unprecedented phenomenon. The realist scholars Waltz and Mearsheimer have argued that the (balanced) bipolar nature of the international system between 1945 and 1990, alongside nuclear weapons, has been principally responsible for the absence of both great-power and even just major interstate war in the core of the system. In contrast to multipolarity, bipolarity reduces the number of potential alliance groups, the likelihood of collective-action problems, power asymmetries, and miscalculation, thus reducing the likelihood of major war (Mearsheimer, 1990).

After 1990, when bipolarity ended, realists such as Mearsheimer had predicted in line with their theory that war will return to Europe. But because the system did not actually witness a return to the old precarious multipolar configuration of power, peace prevailed instead. The US emerged as a single superpower, and the ensuing 'unipolar moment' has ostensibly maintained and deepened the long peace, even though the US itself has been responsible for several wars and bloody geopolitical interventions in this period. The realist reasoning is that if bipolarity is more stable and less war-prone than multipolarity, unipolarity should be even more so. From a realist perspective, the world has, for a moment at least, superseded perpetual anarchy to become supremely hierarchical. Under such conditions, peace– notwithstanding regions where the superpower itself intends to wage war for various reasons– should prevail.

The task of evaluating this alternative explanation is beset by a fundamental empirical problem. Mearsheimer (1990, 18) himself admits that '[t]here are no empirical

studies that provide conclusive evidence of the effects of bipolarity and multipolarity on the likelihood of war.' Not only are there no studies that provide *conclusive* evidence, Mearsheimer also admits elsewhere (Hoffmann et al., 1990, 194) that what would be needed just to make a regular judgement call is a 'comprehensive survey of history.' But, he adds, '[s]ince we do not have such a survey, my argument– as I stated– was based largely on deduction.' (Ibid., 194–195) So what, if anything, can be said for and against the realist account?

First, Mearsheimer's (or Waltz's) theoretical account of the pacifying effects of bipolarity in comparison with multipolarity is deductively plausible, although it is also contested (Lebow, 1994; Mearsheimer, 2007). Furthermore, there exist mathematical models, such as Saperstein's (1991), which formally corroborate the intuition that bipolarity is more stable than multipolarity, but these are also highly sensitive to theoretical assumptions.

However, second, while bipolarity could theoretically explain the absence of great-power war and even the relative absence of interstate wars during the Cold War, it does not account for the fact that (smaller and less deadly) civil conflicts actually increased in the same period. Would the two superpowers not want to– and be able to– prevent such conflicts within their zone of influence (instead of letting them multiply)? The liberal triad explanation can account for this by noting that these civil conflicts happened because they were mostly outside the reach of liberal factors (democracy, capitalism, and international institutions), even though they were a part of the bipolar system (the realist factor). Moreover, bipolarity cannot be the reason for the two preceding (albeit much shorter) instances of the long peace between 1815 and 1853 (lasting for 38 years), and 1871 and 1914 (lasting for 43 years). The modern international system was, according to realists themselves, multipolar since its inception in 1648 and up to the beginning of the Cold War (Mearsheimer, 2007).

Third, bipolarity might nevertheless be a better candidate explanation than the liberal triad for the long peace simply because the post-World War II East-West divide was not straddled by capitalism, democracy, and international institutions. The West was (mostly) capitalist and democratic, while the East was communist and authoritarian, yet relative peace still prevailed between the two regions. As such, the liberal triad is a plausible explanation only for the *intra-west* long peace and for the post-1990 new peace.

Fourth, the realist claim that a unipolar system with only one clearly preponderant great power cannot succumb to great-power war is beyond reproach. This is so virtually by tautology. However, during the unipolar moment we have not just been witnessing an absence of great-power war but a reduction in all kinds of violence. Was the pre-eminence of US military power really responsible for this? Fettweis (2017) has recently attempted to test whether, since the beginning of the unipolar moment, various measures of US power and regional presence coincide with different manifestations of the new peace in different parts of the world. His conclusion is negative. As he concludes,

> If indeed hegemonic stability exists, it does so without leaving much of a trace. Neither Washington's spending, nor its interventions, nor its overall grand strategy seem to matter much to the levels of armed conflict around the world (apart

> from those wars that Uncle Sam starts). The empirical record does not contain strong reasons to believe that unipolarity and the New Peace are related. (Fettweis, 2017, 450)

Given all of this and given the combined empirical strength of (at least some elements of) the liberal triad, it seems likely that both the intra-West long peace and the later era of new peace are, to an important extent, underpinned by domestic structural changes. This means that the new peace should persist– even if, perhaps, in a somewhat diminished form– with the passing of the unipolar moment, at least as long as the (liberal) domestic social structures stay as they are. At the same time, bipolarity and nuclear weapons likely played an important part in the long peace at least when it comes to relations between the two opposing poles, although it is hard to use empirical evidence to say whether bipolarity does or does not have a pacifying effect.

Conclusion

Have violence and wars declined as human history progressed? There is no one simple answer to this question, which in part explains why the scholarly debate related to this overarching question has unproductively stalemated. As the paper has hopefully demonstrated, the question itself is underspecified and can assume multiple forms. If the question is, 'Do state societies, on average, exhibit lower violent lethality (per 100,000 people) than non-state societies?', then the answer is yes. If the question is, 'Are there less relative war casualties in state societies than in the likely modal prehistorical non-state society, that is, nomadic HGs?', then the answer is no (although *interpersonal violence in general* seems to be higher in prehistoric bands than in modern states). 'Did war emerge only with the creation of states and civilizations?' The answer to this is no, war predates the appearance of first states and large-scale societies, and it had started spreading and becoming more intense already with early increases in population, pre-state complexification, and sedentism. If the question is, 'Was human prehistory, for most of its duration, violent?', then question again becomes underspecified. Prehistory was likely violent if we are talking about interpersonal violence within nomadic HG bands, but at the same time, violence in the form of warfare between them was much rarer– although not necessarily completely absent either. 'Have we seen additional declines in violence over the past centuries?' We have with respect to interpersonal violence but not wars. Only over the past 70 years, and especially past 30 years, has violence due to war dropped to historically low levels. It is still too soon to say with any reasonable degree of certainty whether this state of affairs will continue in the future, although there are reasons to think the long and new peace are not due solely to randomness and a contingent, fleeting configuration of the balance of power.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s11186-024-09558-3.

Funding There was no funding for this study.

Data availability All data used in this manuscript are publicly available at the cited source locations.

Declarations

Conflict of interest The author declares that he has no conflict of interest.

References

Acemoglu, D., & Robinson, J. (2012). *Why nations fail: The origins of power, prosperity, and poverty*. Crown Business.

Acemoglu, D., & Robinson, J. A. (2002). The Political Economy of the Kuznets curve. *Review of Development Economics*, *6*(2), 183–203. https://doi.org/10.1111/1467-9361.00149.

Bakker, F. E. (2017). Do liberal norms matter? A cross-regime experimental investigation of the normative explanation of the democratic peace thesis in China and The Netherlands. *Acta Politica*, *52*(4), 521–543. https://doi.org/10.1057/s41269-016-0002-4.

Bearce, D. H., & Omori, S. (2005). How do Commercial Institutions promote peace? *Journal of Peace Research*, *42*(6), 659–678. https://doi.org/10.1177/0022343305057886.

Blattman, C., & Miguel, E. (2010). Civil war. *Journal of Economic Literature*, *48*(1), 3–57. https://doi.org/10.1257/jel.48.1.3.

Boehm, C. (2001). *Hierarchy in the forest: The evolution of egalitarian behavior* (1. Harvard Univ. Press paperback ed). Harvard Univ. Press.

Boehmer, C., Gartzke, E., & Nordstrom, T. (2004). Do intergovernmental organizations promote peace? *World Politics*, *57*(1), 1–38. https://doi.org/10.1353/wp.2005.0008.

Bowles, S. (2009). Did Warfare among Ancestral Hunter-Gatherers affect the evolution of human Social behaviors? *Science*, *324*(5932), 1293–1298. https://doi.org/10.1126/science.1168112.

Bregman, R. (2020). *Humankind: A hopeful history*. Little, Brown and Company.

Brenner, R. (2007). Property and progress: Where Adam Smith went wrong. In C. Wickham (Ed.), *Marxist History-Writing for the Twenty-First Century* (pp. 49–111). Oxford University Press.

Braumoeller, B. F. (2019). *Only the Dead: The persistence of War in the modern age*. Oxford University Press.

Brecke, P. (1999). [2018]) Violent Conflicts 1400 A.D. to the Present in Different Regions of the World. *1999 Meeting of the Peace Science Society*. Available via: https://brecke.inta.gatech.edu/research/conflict/.

Choi, S. W. (2016). A menace to the democratic peace? Dyadic and systemic difference. *International Studies Quarterly*, *60*, 573–577. https://doi.org/10.1111/isqu.12214.

Cox, G. W., North, D. C., & Weingast, B. R. (2019). The violence trap: A political-economic approach to the problems of development. *Journal of Public Finance and Public Choice*, *34*(1), 3–19. https://doi.org/10.1332/251569119X15537797528769.

Crescenzi, M. J. C., & Kadera, K. M. (2016). Built to last: Understanding the link between democracy and conflict in the International System. *International Studies Quarterly*, *60*(3), 565–572. https://doi.org/10.1111/isqu.12215

Cunen, C., Hjort, N. L., & Nygård, H. M. (2020). Statistical sightings of better angels: Analysing the distribution of battle-deaths in interstate conflict over time. *Journal of Peace Research*, *57*(2), 221–234. https://doi.org/10.1177/0022343319896843.

Dafoe, A., Oneal, J. R., & Russett, B. (2013). The democratic peace: Weighing the evidence and cautious inference. *International Studies Quarterly*, *57*(1), 201–214. https://doi.org/10.1111/isqu.12055.
de Soysa, I., & Fjelde, H. (2010). Is the hidden hand an iron fist? Capitalism and civil peace, 1970–2005. *Journal of Peace Research*, *47*(3), 287–298. https://doi.org/10.1177/0022343310362167.
Downes, A. B., & Sechser, T. S. (2012). The illusion of democratic credibility. *International Organization*, *66*(3), 457–489. https://doi.org/10.1017/S0020818312000161.
Dwyer, P., & Micale, M. (2021). The Darker angels of our nature: Refuting the Pinker Theory of History & Violence. *Bloomsbury Academic*. https://doi.org/10.5040/9781350148437.
Ember, C., & Ember, M. (1997). Violence in the ethnographic record: Results of cross-cultural research on war and aggression. D. Frayer, & D. Martin (Eds.), *Troubled Times: Violence and Warfare in the past* (pp. 1–20). Routledge.
Fearon, J. D. (2008). Economic development, insurgency, and civil war. In E. Helpman (Ed.), *Institutions and economic performance* (pp. 292–328). Harvard University Press.
Ferguson, R. B. (2013a). Pinker's list. In D. P. Fry (Ed.), *War, Peace, and human nature* (pp. 112–131). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199858996.003.0007.
Ferguson, R. B. (2013b). The Prehistory of War and Peace in Europe and the Near East. In D. P. Fry (Ed.), *War, Peace, and human nature* (pp. 191–240). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199858996.003.0011.
Fettweis, C. J. (2017). Unipolarity, Hegemony, and the New Peace. *Security Studies*, *26*(3), 423–451. https://doi.org/10.1080/09636412.2017.1306394.
Fry, D. P. (2007). *Beyond War: The human potential for peace*. Oxford University Press.
Fry, D. P. (Ed.). (2013). *War, peace, and human nature: The convergence of evolutionary and cultural views*. Oxford Univ. Press.
Fry, D. P., & Söderberg, P. (2013). Lethal Aggression in Mobile Forager bands and implications for the origins of War. *Science*, *341*(6143), 270–273. https://doi.org/10.1126/science.1235675.
Fry, D. P., Keith, C. A., & Söderberg, P. (2020). Social complexity, inequality and war before farming: Congruence of comparative forager and archaeological data. In L. Moreau (Ed.), *Social Inequality before Farming? Multidisciplinary approaches to the Study of Social Organization in Prehistoric and Ethnographic Hunter-Gatherer-Fisher Societies* (pp. 303–320). University of Cambridge: McDonald Institute for Archaeological Research. https://doi.org/10.17863/CAM.60639.
Gartzke, E., & Zhang, J. J. (2015). Trade and war. In L. L. Martin (Ed.), *The Oxford Handbook of the Political Economy of International Trade* (pp. 419–439). Oxford University Press.
Gat, A. (2006). *War in Human civilization*. Oxford University Press.
Gat, A. (2013). Is war declining– and why? *Journal of Peace Research*, *50*(2), 149–157. https://doi.org/10.1177/0022343312461023.
Gat, A. (2015). Proving communal warfare among hunter-gatherers: The quasi-rousseauan error. *Evolutionary Anthropology: Issues News and Reviews*, *24*(3), 111–126. https://doi.org/10.1002/evan.21446.
Gat, A. (2019). Is War in our nature? What is right and what is wrong about the Seville Statement on Violence. *Human Nature*, *30*(2), 149–154. https://doi.org/10.1007/s12110-019-09342-8.
Gat, A. (2017). *The causes of War and the spread of peace: But Will War Rebound?* Oxford University Press.
Gómez, J. M., Verdú, M., González-Megías, A., & Méndez, M. (2016). The phylogenetic roots of human lethal violence. *Nature*, *538*(7624), 233–237. https://doi.org/10.1038/nature19758.
Haas, J., & Piscitelli, M. (2013). The Prehistory of Warfare. In D. P. Fry (Ed.), *War, Peace, and human nature* (pp. 168–190). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199858996.003.0010.
Halstead, J., & Thomson, P. (2022). *Violence Before Agriculture: Full Report*. https://violencetrends.substack.com/p/violence-before-agriculture-full.
Hames, R. (2019). Pacifying Hunter-gatherers. *Human Nature*, *30*(2), 155–175. https://doi.org/10.1007/s12110-019-09340-w.
Hegre, H., Bernhard, M., & Teorell, J. (2020). Civil Society and the Democratic Peace. *Journal of Conflict Resolution*, *64*(1), 32–62. https://doi.org/10.1177/0022002719850620.
Henrich, J. P. (2021). *The WEIRDest people in the world: How the West became psychologically peculiar and particularly prosperous*. Picador.
Herre, B., Spooner, F., & Roser, M. (2013a). Homicides. *Our World in Data*. Accessible via: https://ourworldindata.org/homicides
Herre, B., Rodés-Guirao, Lucas, Ortiz-Ospina, E., & Roser, M. (2013b). Democracy. Accessible via: https://ourworldindata.org/democracy

Hoffmann, S., Keohane, R. O., & Mearsheimer, J. J. (1990). Back to the Future, Part II: International relations Theory and Post-cold War Europe. *International Security*, *15*(2), 191–199. https://doi.org/10.2307/2538869.

Imai, K., & Lo, J. (2021). Robustness of empirical evidence for the democratic peace: A nonparametric sensitivity analysis. *International Organization*, *75*(3), 901–919. https://doi.org/10.1017/S0020818321000126.

Inglehart, R. F., Puranen, B., & Welzel, C. (2015). Declining willingness to fight for one's country: The individual-level basis of the long peace. *Journal of Peace Research*, *52*(4), 418–434. https://doi.org/10.1177/0022343314565756.

Johnson, A. W., & Earle, T. (2000). The Evolution of Human Societies From Foraging Group to Agrarian State. Stanford University Press.

Keeley, L. (1996). *War before civilization: The myth of the Peaceful Savage*. Oxford University Press.

Kelly, R. L. (2013). From the Peaceful to the Warlike. In D. P. Fry (Ed.), *War, Peace, and human nature* (pp. 151–167). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199858996.003.0009.

Lacher, H. (2006). *Beyond globalization: Capitalism, territoriality and the international relations of modernity*. Routledge.

Lebow, R. N. (1994). The long peace, the end of the cold war, and the failure of realism. *International Organization*, *48*(2), 249–277. https://doi.org/10.1017/S0020818300028186.

Lee, R. B. (2018). Hunter-gatherers and Human Evolution: New Light on Old debates. *Annual Review of Anthropology*, *47*(1), 513–531. https://doi.org/10.1146/annurev-anthro-102116-041448.

MacMillan, M. (2020). *War: How conflict shaped us*. Random House.

Mann, M. (2018). Have wars and violence declined? *Theory and Society*, *47*(1), 37–60. https://doi.org/10.1007/s11186-018-9305-y.

Maoz, Z. (1997). The controversy over the democratic peace: Rearguard Action or cracks in the Wall? *International Security*, *22*(1), 162–198. https://doi.org/10.1162/isec.22.1.162.

Maoz, Z., & Russett, B. (1993). Normative and Structural Causes of Democratic Peace, 1946–1986. *American Political Science Review*, *87*(3), 624–638. https://doi.org/10.2307/2938740.

Mearsheimer, J. J. (1990). Back to the future: Instability in Europe after the Cold War. *International Security*, *15*(1), 5–56. https://doi.org/10.2307/2538981.

Mearsheimer, J. J. (1994). The false Promise of International Institutions. *International Security*, *19*(3), 5–49. https://doi.org/10.2307/2539078.

Mearsheimer, J. J. (2001). *The tragedy of great power politics*. Norton.

Mearsheimer, J. J. (2007). Structural realism. In T. Dunne, M. Kurki, S. Steve (Eds.), *International relations theories: Discipline and diversity* (pp. 71–88). Oxford University Press.

Mearsheimer, J. J. (2018). *The great delusion: Liberal dreams and international realities*. Yale University Press.

Malešević, S. (2014). Is war becoming obsolete? A sociological analysis. *The Sociological Review*, *62*(2_suppl), 65–86. https://doi.org/10.1111/1467-954X.12192

Mousseau, M. (2013). The democratic peace unraveled: It's the economy: The democratic peace unraveled. *International Studies Quarterly*, *57*(1), 186–197. https://doi.org/10.1111/isqu.12003.

Ortiz-Ospina, E., Beltekian, D., & Roser, M. (2014). Trade and Globalization. Accessible via: https://ourworldindata.org/trade-and-globalization

Pevehouse, J., & Russett, B. (2006). Democratic International Governmental Organizations Promote Peace. *International Organization*, *60*(4), 969–1000. https://doi.org/10.1017/S0020818306060322.

Pinker, S. (2011). *The Better Angels of our nature: Why violence has declined*. Penguin.

Pinker, S. (2018). *Enlightenment now: The case for reason, Science, Humanism, and Progress*. Viking.

PRIO Institute (2024). PRIO Battledeaths Dataset. Available via: https://www.prio.org/data/1.

Ray, J. L., & Dafoe, A. (2017). Democratic peace versus contractualism. *Conflict Management and Peace Science*, *35*(2), 193–203. https://doi.org/10.1177/0738894216683648

Reiter, D. (2017). Is democracy a cause of peace? In D. Reiter (Ed.), *Oxford Research Encyclopedia of Politics*. Oxford University Press. https://doi.org/10.1093/acrefore/9780190228637.013.287.

Rosenberg, J. (1994). *The empire of civil society: A critique of the realist theory of international relations*. Verso.

Roser, M. (2013). Data review: ethnographic and archaeological evidence on violent deaths. Accessible via: https://ourworldindata.org/ethnographic-and-archaeological-evidence-on-violent-deaths

Roser, M. (2016). War and Peace. Accessible via: https://web.archive.org/web/20210423131859/https://ourworldindata.org/war-and-peace

Russett, B. M., & Oneal, J. R. (2001). *Triangulating peace: Democracy, interdependence, and international organizations*. Norton.
Rutar, T. (2023). The prehistory of violence and war: Moving beyond the Hobbes–Rousseau quagmire. *Journal of Peace Research*, *60*(4), 720–726. https://doi.org/10.1177/00223433221090112.
Saperstein, A. M. (1991). The long Peace—: Result of a bipolar competitive world? *Journal of Conflict Resolution*, *35*(1), 68–79. https://doi.org/10.1177/0022002791035001004.
Sapolsky, R. M. (2017). *Behave: The Biology of humans at our best and worst*. Penguin.
Schiel, R. E. (2019). An assessment of democratic vulnerability: Regime type, economic development, and coups d'état. *Democratization*, *26*(8), 1439–1457. https://doi.org/10.1080/13510347.2019.1645652.
Shannon, M. (2009). Preventing War and providing the peace? International Organizations and the management of territorial disputes. *Conflict Management and Peace Science*, *26*(2), 144–163. https://doi.org/10.1177/0738894208101127.
Singh, M., & Glowacki, L. (2022). Human social organization during the late pleistocene: Beyond the nomadic-egalitarian model. *Evolution and Human Behavior*, *43*(5), 418–431. https://doi.org/10.1016/j.evolhumbehav.2022.07.003.
Snyder, J., & Borghard, E. D. (2011). The cost of empty threats: A penny, not a pound. *American Political Science Review*, *105*(3), 437–456. https://doi.org/10.1017/S000305541100027X.
Spagat, M., & van Weezel, S. (2020). The Decline of War Since 1950: New Evidence. In N. P. Gleditsch (Ed.), *Lewis Fry Richardson: His Intellectual Legacy and Influence in the Social Sciences* (Vol. 27, pp. 129–142). Springer International Publishing. https://doi.org/10.1007/978-3-030-31589-4_11.
Teschke, B. (2009). *The myth of 1648: Class, geopolitics, and the making of modern international relations* (Paperback edition). Verso.
Tomz, M. R., & Weeks, J. L. P. (2013). Public Opinion and the democratic peace. *American Political Science Review*, *107*(4), 849–865. https://doi.org/10.1017/S0003055413000488.
Torpey, J. (2018). Pinker and progress: Steven Pinker, The Better Angels of Our Nature: Why Violence Has Declined. New York: Viking, 2011. Steven Pinker, Enlightenment Now: The Case for Reason, Science, Humanism, and Progress. New York: Viking, 2018. *Theory and Society*, *47*(4), 511–538. https://doi.org/10.1007/s11186-018-9320-z.
Treisman, D. (2020). Economic Development and Democracy: Predispositions and triggers. *Annual Review of Political Science*, *23*(1), 241–257. https://doi.org/10.1146/annurev-polisci-050718-043546.
True, J. (2004). Feminism. In A. J. Bellamy (Ed.), *International Society and its Critics* (1st ed., pp. 151–162). Oxford University PressOxford. https://doi.org/10.1093/0199265208.003.0009.
Walt, S. M. (1998). International relations: One world, many theories. *Foreign Policy*, *110*, 29. https://doi.org/10.2307/1149275.
Waltz, K. (1979). *Theory of International Politics*. Addison-Wesley Publishing Company.
Weede, E. (1996). *Economic development, social order, and world politics*. Lynne Rienner Publishers.
Wendt, A. (1992). Anarchy is what states make of it: The social construction of power politics. *International Organization*, *46*(2), 391–425. https://doi.org/10.1017/S0020818300027764.
Wrangham, R. W., Wilson, M. L., & Muller, M. N. (2006). Comparative rates of violence in chimpanzees and humans. *Primates*, *47*(1), 14–26. https://doi.org/10.1007/s10329-005-0140-1.
Wright, R. (2000). *NonZero: The logic of human destiny* (1. ed.). Pantheon Books.