Scientific Research Publishing

Psychology, 2024, 15, 1067-1085
https://www.scirp.org/journal/psych
ISSN Online: 2152-7199
ISSN Print: 2152-7180

Big Wars, Again: Psychobiological Vectors

Adolf Tobeña

Department of Psychiatry and Forensic Medicine, Institute of Neurosciences-UAB, School of Medicine, Bellaterra Campus (Cerdanyola), Universitat Autònoma de Barcelona, Barcelona, Spain
Email: adolf.tobena@uab.cat

How to cite this paper: Tobeña, A. (2024). Big Wars, Again: Psychobiological Vectors. *Psychology, 15,* 1067-1085.
https://doi.org/10.4236/psych.2024.157063

Received: May 3, 2024
Accepted: July 13, 2024
Published: July 16, 2024

Abstract

The coincidence of Russia-Ukraine war, in Europe, and Israel-Hamas war, in the Middle East, reawakened debates about the ultimate origins of war. The never-resolved enquiries about the primary reasons to reiterate lethal inter-group confrontation renewed old questioning. Despite the legacy of knowledge from paleontological, archaeological, and reliable historical chronicles or from the most cogent strategic, economic, or philosophical analyses, the remote roots of the tendency to repeat wars are devoid of solid explanations. This article sustains that the paths to unravel the essential answers to this question must be sought at the fertile crossroads of scientific disciplines that deal with the biology of human competitive coalitions. An outline of the most relevant psychobiological factors unveiled so far is presented here. This review exemplifies how to combine the role of these primary factors with technical analyses of current wars, both to improve the understanding of ongoing conflicts and open research endeavors oriented to strengthen initiatives dedicated to maintaining peace.

Keywords

Wars, Intergroup Conflicts, Combative Coalitions, Tribalism, Virtuous Violence, Peace Systems

1. Introduction

War has returned. Large-scale conflicts have reappeared in the outskirts of Europe and the Middle East, with their sinister trail of lethality and devastation. The border regions between Ukraine and Russia are a vast scene of fierce military fighting that has been active since early 2022; and the barbarian escalation of the confrontation between Israel and Hamas, in Gaza, since autumn 2023, not only seems to proceed towards the destruction of that Palestinian enclave, but also has situated the entire region at the border of a general war.

This rising of military confrontations took European citizens by surprise and although the initial reaction combined horror with stupefaction, as the weeks and months passed, a realization emerged that these were very serious but regional and bounded conflicts. In a short time, we went from alarm over the possible contagion of these lethal outbreaks to coexistence with daily massacres in the not-so-distant areas, which fail to alter, however, the habits and rhythms of life of people settled in peaceful places.

But big wars were close once again and that cannot be completely erased (Morin, 2023). Hence, the profusion of more or less accurate analysis and interpretations has punctuated the fateful course of hostilities (Baconi, 2018; Georges & Ayoub, 2024; Matthews, 2023; Ramani, 2023). Together with the descriptions of immediate or distant historical antecedents, and those dedicated to the strategic relevance of these collisions on the regional or global level, the big questions about war came to light again. The old and never-resolved questions about the primary reasons for the human tendency to repeat lethal confrontations have reappeared (Blattman, 2022; Morin, 2023; Morris, 2014).

The recurrence and importance, often decisive, of conflicts between human groups have kept busy legions of specialists from many disciplines, turning the analysis of war into one of the crucial targets for interpreting the vicissitudes and changing meanderings of human collectivities. The detail and thoroughness of chronicles of the confrontations, their genesis, and subsequent repercussions are a formidable repository to learn about the itineraries of the different societies. But such vast knowledge has not provided convincing answers to the most intriguing and disconcerting questions, that is: why do wars recur? And why do they do so with such variable frequency?

There is consensus that the most comprehensive and sound economic, historical, or strategic analyses do not respond to these questions with the incisiveness required (Gat, 2006; Blattman, 2022; Morin, 2023; Morris, 2014). And they do not respond moreover to a range of other related and challenging questions, such as: Why do collective confrontations arouse so much interest? Why are there always so many volunteers willing to fight? Why is it so easy to form opposing sides who perceive themselves with animosity and hostility, in complex societies that had coexisted, for long periods, without major frictions? What leads to joining coalitions that wage confrontations of enormous risk, which often result in the death of contenders or irreparable physical injuries, when abstaining would be more beneficial for individual interests? What mechanisms are activated so that there are pockets of volunteers to incur high risks or martyrdom, even, with the aim of contributing to a greater cause? What gears mobilize "cultural inductors" (values such as "Homeland", "God" or "Ideology"), to drive the enthusiasm of legions of combatants? What mechanisms are activated to obey and follow, with blind devotion, to leaders who promise a victorious and glorious destiny on confrontations that inevitably leave a tremendous trail of casualties?

The objective of this article is to approach these challenging questions from the knowledge that has been accumulating about the "human factors": the aspi-

rations, appetites, affects or aversions that distinguish the individuals of our lineage, both when they act on their own as, above all, when they operate through competitive coalitions. The first step is a brief journey into the psychobiological roots of the tendency to reiterate lethal conflicts between human groups, exposing the accumulated knowledge so far by disciplines that have made the biology of human behavior its object of study.

2. The Infinite War: Primordial Vectors

These important questions were the target of "*The Infinite War*: *From tribal fights to global confrontations*" (Tobeña & Carrasco, 2023), an incursion into the psychobiological roots that underlie the human propensity to war. That is the facilitators of the emergence of competitive coalitions that often engage in lethal contests (Bowles, 2012; López, 2017; Moffett, 2019). This section summarizes the main topics that formed the core of such essay[1].

2.1. Animal Wars

Humans did not invent war. They have been sophisticating it to formidable extremes, both in the varieties and destructiveness of weapons and the abilities of surveillance systems, as well as in the demands of technical specialization and professional capabilities required by the militia personnel (Gat, 2006; Galeotti, 2022). But fights between rival groups of the same species that can lead to systematic killings and even extermination of the losing side have been documented, with precision, in animal species from insects to mammals. In our most direct line, the primates and great apes, the genocidal campaigns of chimpanzees in their territorial patrols and planned attacks unto individuals of neighboring groups have detailed records, in various African habitats, to the point of forming part of their usual routines. Their first cousins, the bonobos, do not show such marked bellicosity in inter-band relationships and stand out for their affable and friendly coexistence skills, but they also know how to form agonistic alliances during dissensions (Cheng et al., 2021; Glowacki et al., 2020; Wilson & Glowacki, 2017; Wrangham, 2019).

The bulk of data from behavioral biology indicates that war is a common strategy in nature, for a good handful of species (López, 2017; Moffett, 2019; Glowacki et al., 2020; Glowacki, 2024). It is not a dreadful invention of human culture brought about by factors derived from our abilities to manufacture of weapons, by our greed or inordinate ambition, or by abusive economic disparities and strong appetites for status and power (Gat, 2006; Morris, 2014).

2.2. Intergroup Competition

The essential requirement for war is competition between groups. There would

[1]The initial outline of "*The Infinite War*" (based on a script that Jorge Carrasco, co-author, had written for a television documentary on the matter), was devoid of references to the Ukrainian conflict and had only brief mentions to the Israel-Palestinian one. Our objective was more encompassing, and the outbreak of both wars caught us off guard and with the project underway.

be no quarrels, no collisions, and no litigations among antagonistic sides, without competing groups. But intergroup competition never fails because, along with selfish or individualistic propensities, humans carry equally pronounced pro-social and cooperative tendencies so that they know how to establish alliances with great ease and versatility. And once these coalitions with diverse objectives are set in motion (adventurous exploration, capture of prey, collection of nutrients, construction of utensils, shelters, or protective fences), there can be dissensions with threatening neighboring groups and that is where conflict usually flares up. This is how it worked, apparently, in primitive bands and clans for tens and tens of millennia throughout the ancestral trajectory of our lineage (Chagnon, 1988; Lahr et al., 2016; Choi & Bowles, 2007; Pagel, 2016).

In stratified and complex societies, most disputes arising from incessant intergroup competition are resolved by resorting to many types of mediating and rule-sanctioning law institutions, although the threat of engaging in open combat is not always kept at bay. The goods in dispute are always the same: territory, highly coveted resources or duly recognized status and primacy (Gat, 2006; Turchin et al., 2013; López, 2017). But as physical fighting involves notorious risks, resources are needed to maintain internal cohesion in combative groups. Loyalties and strong commitments must be ensured, to prevent desertions. Hence, the firmness of the norms induces intense, "fraternal" cooperation, along with sanctions or punishments to deter negligence or betrayal. In all clans, gangs or cartels that operate in very different contexts and niches, these "strong and non-negotiable commitments" emerge to guarantee internal cohesion during confrontations (De Dreu et al., 2016; Garfield et al., 2023; Wrangham, 2019, 2021).

2.3. Offensive Aggressiveness

The ambition of conquering, dominating and prevailing is another requirement. For it to bear fruit, it is necessary to combine remarkable aptitudes for attacking assaults with the necessary defensive safeguards. Although there are groups that specialize in eminently defensive tactics and do very well with them, preemptive attacks in the form of lethal ambushes or damaging raids that serve as a warning to announce the risks entailed by direct collisions are never renounced (Böhm et al., 2016; Simunovic et al., 2013).

Humans can combine a notorious docility and tolerance for all types of irritations and annoyances in everyday situations, with a marked disposition for offensive aggressiveness (attacking, appetitive), and vengeful retaliation (Chester, 2017; Lischinsky & Lin, 2020; Wrangham, 2019). Compared with their closest animal relatives they excel by the ease and versatility of proactive and instrumental aggression in coalitions. That is to say: they know how to act as skilled and fearsome attackers.

Some individuals soon discover the euphoric ingredients of the direct combat and the delight associated with victorious subjugation and the destruction or

pillage of other people's assets and belongings. Hence, the contingents of volunteers and mercenaries always appear to enroll in the nearby conflicts. They are individuals who have outstanding aptitudes for hard fighting and extreme physical resistance, and who learn how to optimize them. Some of them discover that the greatest joy in life may come from rude, hand-to-hand fights, or in attacking raids that carry maximum risk. The neural and hormonal mechanisms that favor the emergence of these temperamental attributes have begun to be mapped in detail (Chester, 2017; Lischinsky & Lin, 2020; Sarkar & Wrangham, 2023).

2.4. Tribal Mentality

Young children set group boundaries with astonishing ease. Without prior instruction of any kind, they immediately adopt boundaries to distinguish between "friends" and "opponents", between "us" and "them", even though separation comes from totally arbitrary distinctions. Through randomly assigned "neutral marks" to separate, into two sides, a handful of kids who are unknown to each other, such distinctive alignment sets in motion biases of automatic ascription within the groups where they ended up: their "own" become "virtuous" comrades in all sorts of attributes and "the others" become annoying or even "undesirable" enemies (Dunham, 2018; Lantos & Molenberghs, 2021).

It is important that this bias towards "in-group favoritism" (chauvinism, parochialism or ethnocentrism are alternative names), which has been observed in a multitude of situations and in all kinds of societies (Moffett, 2019; Romano et al., 2021; Saarinen et al., 2021), emerges at very tender ages (Dunham, 2018). It indicates that the basic propensity towards immediate alignment with "one's own", whoever they may be, is powerful. In young people and adults, it prefigures the emergence of tribal tendencies when separation marks are relevant (family, speech, skin color, clothing and pigmentation signals, group chants and flags).

Such biologically prefigured tendency to erect cognitive and affective boundaries between "us" and "them" is an essential nutrient of the coalitional and bellicose "tribalism". It constitutes the necessary foundation for phenomena such as sectarianism, factionalism, or fundamentalism to spread and exalt agonistic spirits. This process of accentuated pro-group bias facilitates contempt and hatred of those who stay at the other side of the border, the new or old adversaries. And even more so when differences become entrenched and fanaticized: the opponents become enemies and are systematically dehumanized, becoming vermin to be exterminated (Lantos & Molenberghs, 2021; Moffett, 2019; Ramani, 2023; Romano et al., 2021; Saarinen et al., 2021).

2.5. Tribal Morality

The drive for contests fosters, while delimiting, the surge of moral commitments that seal the bonds of "fraternal" cohesion within each group or community. The

moral norms of not harming others or their property and interests, those of providing help in case of need, those of caring for the disadvantaged and helpless, those of collaborating in joint efforts and those that promote attitudes favorable to fairness, honesty, loyalty, and respect for the basic rules of coexistence can be ignored beyond the group border. These restrictions only apply to one's own side. With enemies, however, anything goes: any transgression is permitted (Greene, 2013; Lantos & Molenberghs, 2021; Tobeña & Carrasco, 2023).

War often requires an exaltation of pro-social or moral tendencies towards one's own, for whom maximum cooperative efforts or even extreme sacrifices can be provided, while at the same time completely obliterating any containment or moral restraint towards the opponents to be liquidated (James, 1911; Tobeña, 2012; Decety, 2024). Lethal conflicts create scenarios that entail simultaneous magnification or clouding of moral attitudes, delimited only by the group border: sacrifice, hardship, and martyrdom towards the interior, along with annihilating devastation towards the exterior. It can work this way because the emotional sentiments of guilt, remorse, or compassion for the fate of adversaries are silenced. Furthermore, joy can be felt with the harm and suffering inflicted on one's enemies. These phenomena also have detailed descriptions of their neural bases, in the intricate mechanisms of the circuitry and functioning of the "moral brain" (Greene, 2013; Tobeña, 2012; Qu et al., 2022; van Baar et al., 2019; Ugazio et al, 2021; Workman et al., 2020; Decety, 2024).

2.6. Magnetizing Leadership

War is a collective enterprise and always requires direction and coordination. Even the most basic assaults, raids, or ambushes that urban gangs, guerrilla commandos or cartel's hitmen continue to practice require prior study, a plan with assignment of different functions and explicit direction (Edelson et al., 2018). In combative groups, leadership is obtained through the exhibition of peculiar temperamental attributes: courage, experience in dealing with maximum risk, determination, coldness, and cruelty help greatly. But so do the ability to seal alliances with lieutenants and bodyguards, as well as the manipulative and persuasive skills to motivate combatants and convince the necessary supports in the rear bases (Van Vugt & Smith, 2019; de Waal-Andrews & van Vugt, 2020).

There are not many individuals who have all these skills at the same time, although each generation provides some characters with spontaneous springs for these crucial traits. Later, extended learning and fierce competing with other candidates to reach the summit do shape the temperamental cocktail of each leader. In this area, progress has been done not only on dissecting the neural mechanisms that make efficient coordination between leaders and followers possible (Zhang et al., 2023), but also at describing the neuroendocrine and cognitive mechanisms that lie behind these unique personalities (McDermott et al., 2016; Van Vugt & Smith, 2019; Glowacki & McDermott, 2022; Tobeña & Carrasco, 2023).

Leadership and hierarchies in war introduce, however, some ingredients that complicate the panorama for the explanatory models that are limited to mere intergroup competition. This is so, because leaders, the cliques of lieutenants and the group of followers not only get differential distribution of spoils in case of victory, or of punishments and losses in case of defeat, but they can pursue goals not necessarily coincident from the start. This is because individual competition always counts in intergroup contests. Hence, the repeated cases of abusive or toxic leaderships that are later regretted despite their enormous capacities for persuasion and influence (Glowacki & McDermott, 2022; Tobeña & Carrasco, 2023).

2.7. Exalted Values and Virtuous Violence

To broaden group identification from family clans or tribes formed by close and distant relatives along with acquaintances, to the agglomerations of people in large settlements and cities, signaling inventions appeared that facilitated and denoted a common belonging. Shared brands, emblems or beliefs indicate a preferential and univocal affiliation. The notions of "lordship", "chiefdom", "kingdom", "homeland", "country" or "nation" fulfill these unifying functions when the threat of conflict demands joining forces (Romano et al., 2021).

Some of those markers that denote belonging to a specific community can become as important or more relevant even than common dialect or similar physical features, acquiring a motivational power that defines and specifies the group border. Cults (religions), typical symbols of a place or ideologies (political affiliations), can foster combative gatherings of thousands and even millions of people who have little or nothing in common with each other and who agree to undertake commitments of high risk. A flag, an anthem, a collective identity, and a "mission" full of exalted markers (values) are usually enough.

Modern disputes are always covered with that high-flying moralizing justification. The destruction and mortality imposed in the name of these values can be perceived as "virtuous violence" (Slovic et al., 2020; Kteily & Landry, 2022), since it is directed to make prevail the "just" representation of the world that enemies have poisoned. Hence, armed with the tremendous annihilative capacity of sophisticated weapons, it is possible to exterminate huge numbers of the "enemy" civilian population, without any blemish or remorse. This peculiar "moral" journey has also been studied in social neuroscience laboratories (Workman et al., 2020).

2.8. Links with Social Disciplines

In these seven afore-mentioned fronts of research, there is progress in the dissection of the psychobiological roots that underlie human combative propensities, both when they act at their own risk and, above all, when they do so in alliances to engage in lethal conflicts. "*The Infinite War*" (Tobeña & Carrasco, 2023) breaks down each of these areas in detail and proposes plausible links with the

wisdom accumulated by the social disciplines that have been dealing with wars for millennia (Gat, 2006; Morris, 2014; Caselli et al., 2015).

It happens, however, that despite the legacy of knowledge from paleontological, archaeological, and reliable historical chronicles or the most accurate strategic, economic, or philosophical analyses, the primary (psychobiological) roots of the tendency to reiterate war conflicts continued devoid of solid explanations. The paths to unravel the essential answers must be sought, today, in the fertile crossroads of scientific disciplines that deal with the biology of human behavior through incisive and complementary approaches. This fertile crossing of disciplines, in the vigorous field of behavioral biology, is recent. It had not yet occurred during the discouraging and fruitless exchange of ideas between Albert Einstein and Sigmund Freud, between 1931-1932, following an initiative of the League of Nations to enquire about the ultimate "*whys*" (that is, psychological roots), of the human tendency to war[2].

It is necessary to start from there to identify and dissect the remote reasons for the tendency to repeat lethal confrontations. Only an adequate and detailed diagnosis of these "*whys"* will allow us to establish, with increasing robustness, the containment systems (*leviathans*) and the prudential measures (*peace agreements and treaties*) that humans also know how to build and sustain.

3. Ukraine and Israel-Palestine Wars: Links with Psychobiological Vectors

The two conflicts that have awakened the greatest concern recently are those in Ukraine and Israel-Palestine. Despite the multiple outbreaks of war that remain active in different parts of the globe, it is these two conflicts that have attracted the most attention because they carry ingredients that can distort the balances, the spheres of influence and the relationships of primacy between the world-dominant powers. Both wars seem to escape, due to their complexity, the framework of basic vectors summarized in the previous section, because they have more than enough attributes to classify them as sophisticated contests.

In the case of the conflict between Russia and Ukraine, two enormous armies are confronting each other, with high degrees of training and a massive deployment of troops on very vast fronts. The operations involve the use of the most advanced and destructive weapons technologies and resources, both in land combat and in air and maritime campaigns, as well as in remote strikes with missiles, drones and other unmanned devices guided by satellites (Galeotti, 2022). The flow of supplies and provisions for attacking, defensive and surveillance operations is immense and requires top-level logistical work with transportation of munition, spare parts, fuel, and equipment, as well as high standards of training and professionalism. All of this requires high technical and organizational specialization at the service of a challenging, painful, and protracted enterprise. To deal with these requirements, many more factors are needed than those described in the previous section and that is why military specialists concentrate on

[2]https://www.public.asu.edu/~jmlynch/273/documents/FreudEinstein.pdf.

evaluating the course of operations, addressing the oscillations of these multiple technical strata, while ignoring the primary ingredients that facilitate the germination and outbreak of disputes. They are taken for granted, as a matter of fact.

In the imposing and devastating campaign of punishment undertaken by Israeli army in the Gaza Strip, against the forces of Hamas, a bulk of elements of similar complexity come together. The unexpected and lethal attack carried out by several units of that Palestinian militia against Israeli positions and villages in the vicinity of the enclave, on October 7, 2023, was followed by the announcement and preparation of a large-scale retaliation operation. A campaign that included, as its primary objective, the dismantling of all the power centers, the forts, the rocket launching facilities and the tortuous defensive structures that Hamas had been building over the years, in the underground of the enclave, as well as the elimination of all significant leaders and commanders of the militia, in addition to the forced displacement of the Gazan civilian population, under the threat of being a direct military objective. After weeks of preparation, gathering huge contingents of troops and military resources, a slow but devastating invasion was launched that involved land, air, and maritime operations of notorious complexity and with an imposing display of destructive power. The first phase of the campaign devastated the northern half of the enclave until it turned into a huge cemetery of collapsed buildings, with thousands of "collateral" victims and a forced evacuation of more than a million people who were crowded into improvised camps in the part of the strip that borders Egypt. The continuity of the campaign to destroy the southern half of the enclave to achieve all objectives is currently underway.

Operations of such organizational and technical complexity seem to completely escape the framework drawn by the psychobiological roots that promote the ignition and maintenance of conflicts. It can be accepted, perhaps, that these primary vectors serve for the analysis of occasional clashes between gangs, bands, or cartels, but in conflicts where military forces made up of enormous contingents of personnel and military resources, with highly trained skills and plenty of technological supplies, the analytical periscopes must be directed towards other, more decisive ingredients. That is obviously true, but this does not imply that the primary vectors summarized in the previous section should be ignored.

One example will suffice to emphasize the relevance of these factors in sophisticated battles. The "surprise" factor can serve to this purpose. The ability to attack "by surprise" is an element that confers an indisputable advantage both in the simplest confrontations and in the most complex and large-scale operations (von Clausewitz, 1832). It is an advantageous ingredient that stealthy animal troops take advantage of in their deadly attacks against unsuspecting individuals or groups in the vicinity (Wrangham, 1999; Glowacki et al., 2020). And the unexpected "*raid*" is the most common form of combat between bands and tribes

that still survive, today, in remote and hard to access places on the planet, maintaining ancestral ways of life with rudimentary pre-Neolithic technology (Chagnon, 1988; Glowacki & Wrangham, 2014; Glowacki et al., 2016). Systematic comparisons between these assault strategies in animals and in primitive humans unveiled multiple concomitances (Wrangham & Glowacki, 2012).

The swift deadly operation by Hamas assault groups, that day of October 2023, had the ingredients of a primitive and highly destructive "*raid*". It was prepared with extreme stealth, it started by clouding the sophisticated tracking systems of the Israeli forces that relentlessly monitor the borders of the enclave and attacking commandos were launched that took advantage of open gaps in the walls and fences, with the combined action of explosives, excavators, and tractors, as well as fishing boats that reached the adjacent beaches. These commandos attacked the Israeli surveillance and containment outposts along the Gaza border, making their way to nearby towns, villages, and camps where, once the defenses were defeated and resistances subdued, they dedicated themselves to arresting and kidnapping many hostages to be used as loot and spearhead of Hamas's political action, during the vengeful retaliation by the Israeli side that would predictably follow. The entire operation took place in just over twelve hours and took advantage of negligence motivated by the (sought) coincidence with an Israeli holiday along with the arrogance (or disdain, perhaps) of assuming that an assault of that magnitude exceeded the capabilities of Palestinian militia. The massive Israeli response dispensed, without inconveniences, with the surprise factor thanks to the enormous superiority and warlike capacity of its armed forces and the cohesive regrouping of civilian population that an attack of these characteristics usually entails (Georges & Ayoub, 2024).

The Russian invasion of Ukraine, in February 2022, also gave up the element of surprise. In fact, the enormous preparations for the invasion were trumpeted with loud and proud insistence, although they were met with general disbelief in the West (it was thought that the imposing maneuvers in several areas of Ukraine border were due to the fallacious threat of a Russian bluff), which only the British and North American intelligence services tried to counteract, with no success, reiterating that the invasion was imminent. In fact, the Russian campaign in Ukraine, although it was inaugurated with a powerful deployment of ground forces with their imposing convoys of heavy weapons, which entered Ukraine by several and distant fronts, also had an initial lightning raid that sought the takeover of the government, in Kiev, in a surprise assault. That operation was launched from a military airport near the capital, in Hostomel, which had been captured by Russian airborne forces in the first hours of the invasion. This attempted assault on the core of Ukrainian governorate in the center of Kiev was aborted, however, by the defenses arranged around the capital, as well as at crossroads and key points, which were prepared and well-organized thanks to reliable information from Western intelligence. For a few days, however, the fate of the capital was in suspense and Western powers even offered an emergency air rescue to the Ukrai-

nian leadership to leave the country, an escape route that was rejected. The siege and capture of Kiev failed and after months of fierce fighting in the nearby region and in the province of Kharkiv, with many casualties and material losses, the Russian forces withdrew towards the east to gain strength in the vicinity of Donbas. On the southern front their progress was more notable and assured Russia the control of a wide coastal corridor in the vicinity of the Black Sea, thus guaranteeing land access to Crimea (Matthews, 2023).

The coincidence, in current war scenarios, of combative tactics that refer to rudimentary assault procedures together with vast war campaigns of great complexity, serves to remind us that there are multiple types of war and that different modalities can be activated depending on resources and needs of the moment.

If instead of placing the focus on war tactics and trained commandos willing to face very risky assaults, we put it on the attributes of leadership or the direction of war effort, in both conflicts, we also come across ingredients to link them with the primary vectors indicated in the previous section. The tight leadership exercised by Vladimir Putin was considered, practically unanimously, in the West, as the decisive element to explain the beginning of the difficult, costly, and eventful Ukrainian adventure (de Mesquita & Siverson, 1995; Debs & Goemans, 2010). Suddenly, all periscopes focused on the vision, ambition, and personality of the top Russian leader, as well as on the network of close allies that he had created, over decades, to guarantee the loyalty of an all-powerful clique of faithful who rule, with an iron fist, the destinies of one of the great world powers (Belton, 2020; Nye, 2022). There will be time to ponder the fiascos of some forecasts advanced by famous political scientists, who rushed to foresee a quick and definitive defeat of Russian military forces with the resounding fall of the leader and the subsequent dismantling of Putin regime (Fukuyama, 2022). Perhaps by not considering the extent to which the influence of propaganda and indoctrination from multiple resources of Putin's autocracy had infiltrated the citizenry of all of Russia (Krishnarajan & Tolstrup, 2023).

The influence of the very strong leadership and control exercised by Hamas leadership to the point of planning and carrying out adventures such as the deadly raid on Israel, in October 2023, does not seem minor. Such attack conveyed a highly probable vengeful retribution in the form of an annihilating punishment, not only for the direct protagonists of the assault, but for the bulk of Hamas armed units and the entire organizational structure. On the other hand, the breadth and toughness of Israeli retaliation denotes the decisive influence of Benjamin Netanyahu leadership and his political allies from extremist Zionism, with their policies of contempt, exclusion, and systematic subjugation of Palestinian citizens, in Israel or the West Bank, to make them subsidiary and irrelevant. Even from highly respected positions in current historiography, emphasis has once again been placed on the need to consider the peculiar personalities of highly influential leaders, to offer more encompassing explanatory panoramas of

past or current confrontations (Kershaw, 2022).

In conclusion, within ongoing sophisticated wars, there are ingredients related to the primary psychobiological roots of competitive contests that still play a relevant role. They may not only complement the analyses required by the complex variety of factors on current wars, but open fruitful research paths to improve the understanding of them.

4. Peace Systems

Although most data confirm the recurrence of human bellicosity and the omnipresence of lethal conflicts in all societies, Evolutionary Biology has provided a flow of findings that also emphasize the tolerance and conciliatory capacities of humans (Fry, 2012; Moffett, 2019). Perhaps to mitigate, in some way, the gloomy panorama that is usually linked to biological approaches to the human condition, with rather spurious foundations (Glowacki, 2024).

In ancestral societies, the existence of "regulations" to promote conciliation and maintain peaceful coexistence between neighboring communities has been confirmed (Fry, 2012; Moffett, 2019). Indications of the existence of "*peace systems*" have been found in Australian, Malaysian, or Amazonian aborigines, and in Canadian and North American Eskimos. The majority had institutionalized Councils or Leagues of Seniors that oversaw the dealing with disagreements or litigations, without letting them escalate and trying to avoid the option of lethal conflict. There are records of burials with a complete absence of massacres caused by serious confrontations, over several centuries. The ingredients of these "*peace systems*" in these "tolerant" societies are the following:

- They have a recognizable, supra-tribal, community identity framework.
- Neighboring communities maintain multiple interactions.
- There is considerable economic interdependence between them.
- They cultivate values associated with peace and coexistence.
- They celebrate joint ceremonies and have symbols and rituals linked to maintaining peace.
- The management of neighborhood conflicts is in the hands of Councils or Senior Leagues.
- There are supra-community government systems.

Although periods without war are sometimes very long and span several generations, they are parentheses that punctuate the intervals between conflicts. In all the studied cases, when the record of archaeological data has gone further and long series of periods have been obtained that included natural disasters or great migrations, the war returned with renewed vigor to those tolerant and peaceful peoples.

But the human disposition to docility and tolerance towards strangers and to maintain beneficial interactions with them is undeniable and there are even proposals to refer it to the remote legacy left in our lineage by bonobos, the other most direct and closest animal relative, along with chimpanzees. Bonobos know

how to show notorious affiliative behaviors with neighboring troops, unlike the bellicose and "xenophobic" chimpanzees. Although aggressive and harmful confrontations among bonobos occur frequently, during interactions between different communities they never indulge in campaigns of attacks, lethal ambushes and systematic exterminations of neighbors practiced by chimpanzees (Cheng et al., 2021; Samuni et al., 2016; Moscovice et al., 2022; Mouginot et al., 2024).

Glowacki (2022) placed between about 80,000 - 100,000 years ago, the dawn of the network of protoinstitutions sponsoring punitive and conciliatory norms that allowed stable peace systems to be erected between neighboring human communities. There has been enough time, therefore, to establish all kinds of improvements, consolidating the strong human prosocial tendencies, although the threat of confrontation has not been eliminated. The contemporary example that has been postulated as a paragon of those long ancestral parentheses of stable peaceful coexistence is the European Union (Fry, 2012). In the criteria listed above, United Europe not only passes, but obtains optimal scores. It should be noted, however, that these outstanding estimates for the Union were made before the seeds of disintegration left by the economic recession of the second decade of this century. Tensions that were on the verge of destroying the common currency and the entire institution, and that ended, in Brexit, with the departure of the United Kingdom (the most decisive partner, in terms of war capacity), and with secessionist frictions that persist. Many of the notable indices that the European Union obtained in the afore-mentioned pacifying ingredients—rising supra-national identity, robustness of the common currency, increase in internal cohesion, and prestige of the common governance institutions—experienced an ostensible decline that has not been countered yet.

Aside from the weaknesses and hesitations of the European Union, those panegyrics of the "peace systems" which it appears as a paradigm to emulate, insisted that the primary criterion was the absence of war conflicts within it in a region where war to the point of devastation or extermination had been common, for centuries. It is of course appropriate to highlight this long period of coexistence and beneficial cooperation between European nations, although such a celebration should not support the idea that the Union represents the crystallization of a peaceful society. It is not: apart from having members with a powerful nuclear arsenal and world-class armies, the Union is one of the branches of the dominant military alliance in the world, NATO. In recent decades, moreover, the armed forces of European states have intervened directly or indirectly in Libya, Syria, Iraq, Afghanistan, Ukraine, Eritrea, Yemen, and many other places, sometimes decisively. The dissensions and disparate interests of various European countries contributed, in fact, to the penultimate major carnage on the subcontinent: the Balkan Wars of the end of the previous century. Propagating the notion, therefore, of the European Union as a paradigm of pacifism is a mistake. If we add to this that the incipient germination of supranational identities (i.e.: pan-European, identification with all of humanity) barely manages to mitigate

the apprehensions that some Europeans feel towards their fellow allies (Hamer et al., 2017; Bai et al., 2021), there are no reasons for overflowing optimism.

5. Conclusion: Paths towards a Global Effective Leviathan

Fraternity, cooperation, and coexistence among humans continue to prioritize the closest nuclei of communal affiliation (family, clique, neighborhood, team, party, company, country), and hence, internal conflicts, civil strife, or international confrontations, of small or large scale, are always a nearby menace. The immense improvements in surveillance, deterrence, and sanction technologies, as well as the progressive assumption of moral norms and modes of conduct less prone to the use of violence, in the resolution of conflicts, fulfill a preventive function with undeniable achievements in most scenarios (Pinker, 2011, 2018). There is much data that supports this reality, and it is even possible that these peaceful, fraternal, and benign tendencies will continue to strengthen themselves through the increase of so-called "moral cosmopolitanism" (Waytz et al., 2019; De Dreu et al., 2023; Romano et al., 2024). But all this has not managed to banish or dampen down the prospects of further inter-group lethal confrontations.

Identity feelings of global reach are increasingly emerging and are reflected in international institutions or humanitarian NGOs with general implementation and in movements animated by planetary concerns such as environmentalism. Today, we live, for example, a phenomenon that has become part of the landscape: mass tourism. People from very different places, customs, languages, government systems, political ideas, religious beliefs and varied clothing and habits travel all over the planet, enduring inconveniences, long lines and the occasional annoyances, without generating serious conflicts with natives or with the rest of travelers, but quite the opposite, seeking commerce, complicity and affable sympathy. And they know how to do it, even, on occasion of major sports competitions where rivalries and friction can be very accentuated.

If these citizens of such diverse origins can coexist peacefully, why do their governments fail to do so? That is the primary question that leads to an unavoidable and unending perplexity. Since, if this plain and direct solution of generalized coexistence and harmony (De Dreu et al., 2022; Liu et al., 2023), does not offer a viable horizon yet, some very powerful reasons should explain it. It happens that the strong human prosocial attributes lead to the formation of groups that compete not only for economic benefits, privilege, and good living, but also for primacy, dominance, recognition, and lasting influence over others (Moffett, 2019; Wrangham, 2021; De Dreu et al., 2022).

Frictions among state governments with their complex machineries, departments and agencies are just one example of that type of intergroup competition that is not regulated, for the moment, by a globally recognized justice system with the capacity for effective coercion. The planetary *Leviathan* does not exist (Johnson & Tayer, 2016; Glowacki, 2024). There is no such thing in the world, although there are "*global quasi-leviathans*" to regulate commercial and sporting compe-

tition, with a notable degree of coercive power and with due respect for their sanctions (more pronounced in the second area than in the first). But equivalent institutions have not materialized to resolve interstate conflicts over primacy, dominion, or territory. That is, institutions equipped with sufficient capabilities to act forcefully and effectively. Hence, competition is constantly renewed on all fronts and the temptation of lethal conflicts on a local, regional, or global scale always remains alive.

The perspective adopted in this review by combining both a psychobiological approach to mediating factors on highly competitive coalitions together with the fine-grained technical and strategic analysis required by sophisticated military confrontations will hopefully open new research avenues that might result in improvements within systems dedicated to sustaining and maintaining peace.

Declaration

No specific funds were received for the research and writing of this essay. No Informed Consent or Ethical Approval was required for this article.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

References

Baconi, T. (2018). *Hamas Contained: The Rise and Pacification of Palestinian Resistance*. Stanford University Press.

Bai, X., Gauri, V., & Fiske, S. T. (2021) Cosmopolitan Morality Trades off In-Group for the World, Separating Benefits and Protection. *Proceedings of the National Academy of Sciences, 118,* e2100991118. https://doi.org/10.1073/pnas.2100991118

Belton, C. (2020). *Putin's People: How the KGB Took Back Russia and then Took on the West*. William Collins.

Blattman, Ch. (2022). *Why We Fight: The Roots of War and the Paths to Peace*. Viking-Penguin.

Böhm, R., Rusch, H., & Gürerk, Ö. (2016). What Makes People Go to War? Defensive Intentions Motivate Retaliatory and Preemptive Intergroup Aggression. *Evolution and Human Behavior, 37,* 29-34. https://doi.org/10.1016/j.evolhumbehav.2015.06.005

Bowles, S. (2012). Warriors, Levelers, and the Role of Conflict in Human Social Evolution. *Science, 336,* 876-879. https://doi.org/10.1126/science.1217336

Caselli, F., Morelli, M., & Rohner, D. (2015). The Geography of Interstate Resource Wars. *The Quarterly Journal of Economics, 130,* 267-315. https://doi.org/10.1093/qje/qju038

Chagnon, N. A. (1988). Life Histories, Blood Revenge, and Warfare in a Tribal Population. *Science, 239,* 985-992. https://doi.org/10.1126/science.239.4843.985

Cheng, L., Lucchesi, S., Mundry, R., Samuni, L., Deschner, T., & Surbeck, M. (2021). Variation in Aggression Rates and Urinary Cortisol Levels Indicates Intergroup Competition in Wild Bonobos. *Hormones and Behavior, 128,* Article ID: 104914. https://doi.org/10.1016/j.yhbeh.2020.104914

Chester, D. S. (2017). The Role of Positive Affect in Aggression. *Current Directions in Psy-*

chological Science, 26, 366-370. https://doi.org/10.1177/0963721417700457

Choi, J., & Bowles, S. (2007). The Coevolution of Parochial Altruism and War. *Science, 318,* 636-640. https://doi.org/10.1126/science.1144237

De Dreu, C. K. W., Fariña, A., Gross, J., & Romano, A. (2022). Prosociality as a Foundation for Intergroup Conflict. *Current Opinion in Psychology, 44,* 112-116. https://doi.org/10.1016/j.copsyc.2021.09.002

De Dreu, C. K. W., Gross, J., & Romano, A. (2023). Group Formation and the Evolution of Human Social Organization. *Perspectives on Psychological Science, 19,* 320-334.

De Dreu, C. K. W., Gross, J., Méder, Z., Giffin, M., Prochazkova, E., Krikeb, J. et al. (2016). In-Group Defense, Out-Group Aggression, and Coordination Failures in Intergroup Conflict. *Proceedings of the National Academy of Sciences, 113,* 10524-10529. https://doi.org/10.1073/pnas.1605115113

de Mesquita, B. B., & Siverson, R. M. (1995). War and the Survival of Political Leaders: A Comparative Study of Regime Types and Political Accountability. *American Political Science Review, 89,* 841-855. https://doi.org/10.2307/2082512

de Waal-Andrews, W., & van Vugt, M. (2020). The Triad Model of Follower Needs: Theory and Review. *Current Opinion in Psychology, 33,* 142-147. https://doi.org/10.1016/j.copsyc.2019.07.006

Debs, A., & Goemans, H. E. (2010). Regime Type, the Fate of Leaders, and War. *American Political Science Review, 104,* 430-445. https://doi.org/10.1017/s0003055410000195

Decety, J. (2024). The Power of Moral Conviction: How It Catalyzes Dogmatism, Intolerance, and Violence. *Proceedings of the Paris Institute for Advances Study, 1,* 1-80.

Dunham, Y. (2018). Mere Membership. *Trends in Cognitive Sciences, 22,* 780-793. https://doi.org/10.1016/j.tics.2018.06.004

Edelson, M. G., Polania, R., Ruff, C. C., Fehr, E., & Hare, T. A. (2018). Computational and Neurobiological Foundations of Leadership Decisions. *Science, 361,* eaat0036. https://doi.org/10.1126/science.aat0036

Fry, D. P. (2012). Life without War. *Science, 336,* 879-884. https://doi.org/10.1126/science.1217987

Fukuyama, F. (2022). Preparing for Defeat. *American Purpose*. https://www.americanpurpose.com/articles/preparing-for-defeat/

Galeotti, M. (2022). *The Weaponization of Everything: A Field Guide to the New Way of War*. Yale University Press.

Garfield, Z. H., Ringen, E. J., Buckner, W., Medupe, D., Wrangham, R. W., & Glowacki, L. (2023). Norm Violations and Punishments across Human Societies. *Evolutionary Human Sciences, 5,* e11. https://doi.org/10.1017/ehs.2023.7

Gat, A. (2006). *War in Human Civilization*. Oxford University Press.

Georges, S., & Ayyoub, L. (2024). Grief and Vengeance: 100 Days of War in Israel, Gaza and the West Bank. *The Washington Post*. https://www.washingtonpost.com/world/interactive/2024/israel-gaza-west-bank-100-days/?utm_campaign

Glowacki, L. (2022). The Evolution of Peace. *Behavioral and Brain Sciences, 47,* e1. https://doi.org/10.1017/s0140525x22002862

Glowacki, L. (2024). *Myths about the Evolution of War: Apes, Foragers and the Stories We Tell*. https://doi.org/10.32942/X2JC71

Glowacki, L., & McDermott, R. (2022). Key Individuals Catalyse Intergroup Violence. *Philosophical Transactions of the Royal Society B: Biological Sciences, 377,* Article ID:

20210141. https://doi.org/10.1098/rstb.2021.0141

Glowacki, L., & Wrangham, R. (2014). Warfare and Reproductive Success in a Tribal Population. *Proceedings of the National Academy of Sciences, 112,* 348-353. https://doi.org/10.1073/pnas.1412287112

Glowacki, L., Isakov, A., Wrangham, R. W., McDermott, R., Fowler, J. H., & Christakis, N. A. (2016). Formation of Raiding Parties for Intergroup Violence Is Mediated by Social Network Structure. *Proceedings of the National Academy of Sciences, 113,* 12114-12119. https://doi.org/10.1073/pnas.1610961113

Glowacki, L., Wilson, M. L., & Wrangham, R. W. (2020). The Evolutionary Anthropology of War. *Journal of Economic Behavior & Organization, 178,* 963-982. https://doi.org/10.1016/j.jebo.2017.09.014

Greene, J. (2013). *Moral Tribes: Emotion, Reason and the Gap between Us and Them*. Penguin.

Hamer, K., Penczek, M., & Bilewicz, M. (2017). "Humanum Ignoscere Est". The Relationship of National and Supranational Identifications with Intergroup Forgiveness. *Personality and Individual Differences, 105,* 257-263. https://doi.org/10.1016/j.paid.2016.09.058

James, W. (1911) The Moral Equivalent of War. In W. James (Ed.), *Memories and Studies* (pp 267-296). Longman Green and Co. https://doi.org/10.1037/13766-011

Johnson, D. D. P., & Thayer, B. A. (2016). The Evolution of Offensive Realism. *Politics and the Life Sciences, 35,* 1-26. https://doi.org/10.1017/pls.2016.6

Kershaw, I. (2022). *Personality and Power: Builders and Destroyers of Modern Europe*. Allan Lane, Penguin.

Krishnarajan, S., & Tolstrup, J. (2023). Pre-War Experimental Evidence That Putin's Propaganda Elicited Strong Support for Military Invasion among Russians. *Science Advances, 9,* eadg1199. https://doi.org/10.1126/sciadv.adg1199

Kteily, N. S., & Landry, A. P. (2022). Dehumanization: Trends, Insights, and Challenges. *Trends in Cognitive Sciences, 26,* 222-240. https://doi.org/10.1016/j.tics.2021.12.003

Lahr, M. M., Rivera, F., Power, R. K., Mounier, A., Copsey, B., Crivellaro, F. et al. (2016). Inter-Group Violence among Early Holocene Hunter-Gatherers of West Turkana, Kenya. *Nature, 529,* 394-398. https://doi.org/10.1038/nature16477

Lantos, D., & Molenberghs, P. (2021). The Neuroscience of Intergroup Threat and Violence. *Neuroscience & Biobehavioral Reviews, 131,* 77-87. https://doi.org/10.1016/j.neubiorev.2021.09.025

Lischinsky, J. E., & Lin, D. (2020). Neural Mechanisms of Aggression across Species. *Nature Neuroscience, 23,* 1317-1328. https://doi.org/10.1038/s41593-020-00715-2

Liu, J. H., Choi, S. Y., Lee, I., Leung, A. K., Lee, M., Lin, M. et al. (2023). Behavioral Evidence for Global Consciousness Transcending National Parochialism. *Scientific Reports, 13,* Article No. 21413. https://doi.org/10.1038/s41598-023-47333-z

López, A. C. (2017). The Evolutionary Psychology of War: Offense and Defense in the Adapted Mind. *Evolutionary Psychology, 15,* 1-23.

Matthews, O. (2023). *Overreach: The Inside Story of Putin's War against Ukraine*. Mudlark.

McDermott, R., Lopez, A. C., & Hatemi, P. K. (2016). An Evolutionary Approach to Political Leadership. *Security Studies, 25,* 677-698. https://doi.org/10.1080/09636412.2016.1220204

Moffett, M. W. (2019). *The Human Swarm: How Our Societies Arise, Thrive and Fall*. Head of Zeus.

Morin, E. (2023). *De guerre en guerre: De 1940 a Ukraine*. L'Aube.

Morris, I. (2014). *War, What Is It Good for? Conflict and the Progress of Civilization from Primates to Robots*. Farrar, Strauss and Giroux.

Moscovice, L. R., Hohmann, G., Trumble, B. C., Fruth, B., & Jaeggi, A. V. (2022). Dominance or Tolerance? Causes and Consequences of a Period of Increased Intercommunity Encounters among Bonobos (*Pan paniscus*) at Luikotale. *International Journal of Primatology, 43,* 434-459. https://doi.org/10.1007/s10764-022-00286-y

Mouginot, M., Wilson, M.L., Desai, N., & Surbeck, M. (2024). Differences in Expression of Male Aggression between Wild Bonobos and Chimpanzees. *Current Biology, 34,* 1780-1785.e4. https://doi.org/10.1016/j.cub.2024.02.071

Nye, J. S. (2022). Has Putin's Invasion Changed the World Order? *The Spectator*. https://www.spectator.co.uk/article/has-putin-s-invasion-changed-the-world-order/

Pagel, M. (2016). Lethal Violence Deep in the Human Lineage. *Nature, 538,* 180-181. https://doi.org/10.1038/nature19474

Pinker, S. (2011). *The Better Angels of Our Nature: Why Violence Has Declined*. Viking.

Pinker, S. (2018). *Enlightenment Now: The Case for Reason, Science, Humanism and Progress*. Viking Penguin.

Qu, C., Bénistant, J., & Dreher, J. (2022). Neurocomputational Mechanisms Engaged in Moral Choices and Moral Learning. *Neuroscience & Biobehavioral Reviews, 132,* 50-60. https://doi.org/10.1016/j.neubiorev.2021.11.023

Ramani, S (2023). *Putin's War on Ukraine: Russia's Campaign for Global Counter-Revolution*. Hurst.

Romano, A., Gross, J., & De Dreu, C. W. D. (2024). The Nasty Neighbor Effect in Humans. *Science Advances, 10,* eadm7968. https://doi.org/10.1126/sciadv.adm7968

Romano, A., Sutter, M., Liu, J. H., Yamagishi, T., & Balliet, D. (2021). National Parochialism Is Ubiquitous across 42 Nations around the World. *Nature Communications, 12,* Article No. 4456. https://doi.org/10.1038/s41467-021-24787-1

Saarinen, A., Jääskeläinen, I. P., Harjunen, V., Keltikangas-Järvinen, L., Jasinskaja-Lahti, I., & Ravaja, N. (2021). Neural Basis of In-Group Bias and Prejudices: A Systematic Meta-Analysis. *Neuroscience & Biobehavioral Reviews, 131,* 1214-1227. https://doi.org/10.1016/j.neubiorev.2021.10.027

Samuni, L., Preis, A., Mundry, R., Deschner, T., Crockford, C., & Wittig, R. M. (2016). Oxytocin Reactivity during Intergroup Conflict in Wild Chimpanzees. *Proceedings of the National Academy of Sciences, 114,* 268-273. https://doi.org/10.1073/pnas.1616812114

Sarkar, A., & Wrangham, R. W. (2023). Evolutionary and Neuroendocrine Foundations of Human Aggression. *Trends in Cognitive Sciences, 27,* 468-493. https://doi.org/10.1016/j.tics.2023.02.003

Simunovic, D., Mifune, N., & Yamagishi, T. (2013). Preemptive Strike: An Experimental Study of Fear-Based Aggression. *Journal of Experimental Social Psychology, 49,* 1120-1123. https://doi.org/10.1016/j.jesp.2013.08.003

Slovic, P., Mertz, C. K., Markowitz, D. M., Quist, A., & Västfjäll, D. (2020). Virtuous Violence from the War Room to Death Row. *Proceedings of the National Academy of Sciences, 117,* 20474-20482. https://doi.org/10.1073/pnas.2001583117

Tobeña, A. (2012). Suicide Attack Martyrdoms: Temperament and Mindset of Altruistic Warrior. In B. Oakley, A. Knafo, G. Madhavan, & D. S. Wilson (Eds.), *Pathological Altruism* (pp. 207-244). Oxford University Press.

Tobeña, A., & Carrasco, J. (2023). *La guerra infinita: De lasluchas tribales a las contiendas globales*. Plataforma.

Turchin, P., Currie, T. E., Turner, E. A. L., & Gavrilets, S. (2013). War, Space, and the Evolution of Old World Complex Societies. *Proceedings of the National Academy of Sciences, 110,* 16384-16389. https://doi.org/10.1073/pnas.1308825110

Ugazio, G., Grueschow, M., Polania, R., Lamm, C., Tobler, P., & Ruff, C. (2021). Neuro-Computational Foundations of Moral Preferences. *Social Cognitive and Affective Neuroscience, 17,* 253-265. https://doi.org/10.1093/scan/nsab100

van Baar, J. M., Chang, L. J., & Sanfey, A. G. (2019). The Computational and Neural Substrates of Moral Strategies in Social Decision-Making. *Nature Communications, 10,* Article No. 1483. https://doi.org/10.1038/s41467-019-09161-6

Van Vugt, M., & Smith, J. E. (2019). A Dual Model of Leadership and Hierarchy: Evolutionary Synthesis. *Trends in Cognitive Sciences, 23,* 952-967. https://doi.org/10.1016/j.tics.2019.09.004

von Clausewitz, C. (1832). *VomKriege (De la Guerra)*. La Esfera de los Libros.

Waytz, A., Iyer, R., Young, L., Haidt, J., & Graham, J. (2019). Ideological Differences in the Expanse of the Moral Circle. *Nature Communications, 10,* Article No. 4389. https://doi.org/10.1038/s41467-019-12227-0

Wilson, M., & Glowacki, L. (2017). Violent Cousins: Chimpanzees, Humans and the Roots of War. In M. Muller, R. Wrangham, & D. Pilbeam (Eds.), *Chimpanzees and Human Evolution* (pp. 464-508). Belknap Press.

Workman, C. I., Yoder, K. J., & Decety, J. (2020). The Dark Side of Morality—Neural Mechanisms Underpinning Moral Convictions and Support for Violence. *American Journal of Bioethics-Neuroscience, 11,* 269-284. https://doi.org/10.1080/21507740.2020.1811798

Wrangham, R. W. (1999). Evolution of Coalitionary Killing. *American Journal of Physical Anthropology, 110,* 1-30. https://doi.org/10.1002/(sici)1096-8644(1999)110:29+<1::aid-ajpa2>3.0.co;2-e

Wrangham, R. W. (2019). *The Goodness Paradox: The Strange Relationship between Virtue and Violence in Human Evolution*. Penguin-Random House.

Wrangham, R. W. (2021). Targeted Conspiratorial Killing, Human Self-Domestication and the Evolution of Groupishness. *Evolutionary Human Sciences, 3,* e26. https://doi.org/10.1017/ehs.2021.20

Wrangham, R. W., & Glowacki, L. (2012). Intergroup Aggression in Chimpanzees and War in Nomadic Hunter-Gatherers: Evaluating the Chimpanzee Model. *Human Nature, 23,* 5-29. https://doi.org/10.1007/s12110-012-9132-1

Zhang, H., Yang, J., Ni, J., De Dreu, C. K. W., & Ma, Y. (2023). Leader-Follower Behavioural Coordination and Neural Synchronization during Intergroup Conflict. *Nature Human Behaviour, 7,* 2169-2181. https://doi.org/10.1038/s41562-023-01663-0