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From Olive Branch to Olive Tree—Global Green Demilitarization and Ecological Civilization

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ABSTRACT: In 2007, a report to the 17th National People's Congress in Beijing introduced the concept of Ecological Civilization (EC) (*Shēngtài Wénmíng* 生态文明) to the official lexicon of the Chinese Communist Party (CCP). With origins in the state discourse of the Soviet Union of the 1980s, the term gained new forms of traction in China and abroad as it drew from ecological Marxism, constructive postmodernism, and process philosophy to propose a new technic of statecraft and international cooperation for the development of long-term, global ecological justice and sustainability. In 2012, the constitution of the People's Republic of China enshrined the goals of EC as a primary national objective, promulgating specific policies on environmental management, green technology, and ideological development. Although some critics view EC discourse as the epitome of authoritarian environmentalism, others cite the PRC's remarkable strides in developing green technologies and assuming leadership in international treaty negotiations, such as the COP 15, as evidence that the CCP is taking on a new role in global environmental leadership. Beyond the immediate concerns of EC's performative dimensions, rigorous analysis of EC as a discursive political strategy is critical for understanding its potential for opening spaces of unprecedented international cooperation on planetary environmental governance. While skepticism is in order, facile reductions of the scope of *Shēngtài Wénmíng* discourse to mere propaganda designed to disguise authoritarian environmentalism marks a dangerous foreclosure on what could very well emerge as a workable vision of international cooperation to solve ecological and social crises arising from the global climate emergency, the Sixth Mass Extinction, and severe regional disparities in resource access. Strong EC theory and practice ascribe transcendent value to the earth's biogeochemical systems as the very oikos (οἶκος)—the ecological home within which human economy and infrastructure engage with more-than-human forces constitutive of "nature" to co-create our shared terrestrial world. Within this highly variegated terrestrial ecology, with its multiplicity of biomes, human and more-than-human potentials can be realized for mutual benefit—the essential condition for sustainability. Given these considerations, to dismiss PE discourse in summary fashion constitutes a grave mistake and an act of bad faith. This analysis reconceptualizes the oikos as deeply similar to the East Asian philosophical concept of Tiānxià (天下) and, concomitantly, equates the Western conception of cosmos (σύμπαν) with the Daoist and Confucian concept of (*Tiān* 天).This vision of wealth and common property embodied in the global biospheric commons grounds, reproduces, and inflects the human terrestrial condition. The mechanism for achieving global EC involves the overcoming of the fundamental contradictions between classical paradigms of industrial development and emerging conceptions of ecological resilience, by fast-tracking ecological development at all terrestrial scales on a foundation of unprecedented international cooperation and social justice. This includes the treatment of scarce mineral resources, which are required to meet the growing global demand for green technologies and mitigate the disastrous effects of global climate change, as common pool resources. EC comprises a radical and crucial reconfiguration of geopolitical theory and practice based on a new ecological ethics for the Anthropocene Epoch. This readjustment of international relations to meet actually existing global crises cannot be realized without a concomitant and symmetrical system of demilitarization based on the transfer of resources, materiel, personnel, expertise, and security policy out of the global military-industrial complex, which centers on monocentric geographic realms (East Asia, North America, the EU, South Asia, and Russia) and a series of shifting alliances the G-7, NATO, the UN. The United States and China currently enjoy an unprecedented degree of prominence and agency on the world stage. They must, for that very reason, play leading roles in global demilitarization. The most effective means of insuring multilateral involvement in this process, and the protocol with the largest peace dividends, is called Global Green Demilitarization. This article provides the philosophical, ethical, and political groundwork to replace destructive practices of resource competition with diplomatic processes leading to international, multilateral, and global Ecological Civilization. The road will be long and perhaps the way will be arduous, but the rewards will exceed the difficulties, consisting, as they will, of a thriving planet and a dynamic, peaceful, and equitable civilization in the 21st century and for the remainder of the third millennium.

Keywords: Polycrisis; Anthropocene; Positive peace; Green demilitarization; Crackpot realism; Climate realism; Global Earth Corps; Oikos; Polis; Cosmos

天下有道卻走馬以糞
天下無道戎馬生於郊
禍莫大於不知足
咎莫大於欲得
故知足之足常足矣

When humankind follows the Dao, horses are used to haul manure
When humankind ignores the Dao, war horses are bred in the borderlands
There is no disaster worse than not recognizing sufficiency
No greater fault than excessive desire
Therefore, the fulfillment derived from knowing sufficiency long endures

—道德經 *Dào Dé Jīng* (Classic of the Way of Virtue), Fourth Century China

ἔστι ἐν τῇ ἀκροπόλιταύτῃ Ἐρεχθέος τοῦ γηγενέος λεγομένου εἶναι νηός, ἐν τῷ ἐλαίη τεκαὶ θάλασσα ἔνι, τὰ λόγος παρὰ Ἀθηναίων Ποσειδέωνά τε καὶἈθηναίην ἐρίσαντας περὶ τῆς χώρης μαρτύρια θέσθαι. ταύτην ὦντὴν ἐλαίην ἅμα τῷ ἄλλῳ ἱρῷ κατέλαβε ἐμπρησθῆναι ὑπὸ τῶνβαρβάρων· δευτέρῃ δὲ ἡμέρῃ ἀπὸ τῆς ἐμπρήσιος Ἀθηναίων οἱ θύεινὑπὸ βασιλέος κελευόμενοι ὡς ἀνέβησαν ἐς τὸ ἱρόν, ὥρων βλαστὸν ἐκτοῦ στελέχεος ὅσον τε πηχυαῖον ἀναδεδραμηκότα. οὗτοι μέν νυνταῦτα ἔφρασαν.

On th[e] Acropolis is a temple of Erechtheus, who is called Earth-born, and inside it there is an olive tree and a pool of saltwater. According to the Athenians, Poseidon and Athena placed these here as witnesses to their dispute over Attica. Well, this olive tree happened to be burned down together with the rest of the sanctuary by the barbarians; but on the day after it had burned, the Athenians who had been ordered by the King to sacrifice climbed up to the sanctuary and saw a fresh shoot sprouting up from the stump, already about one and a half feet tall, and they reported what they had seen.

—Herodotus, Fifth Century Greece [1]

1. Anthropocene Polycrises and States of Chronic Deficiency

History does not repeat itself, nor does it rhyme [2]. If human events appear to follow cycles or somewhat predictable patterns, it is simply because history as a discipline has yet to assume the form of Geohistory, the study of our collective spatio-temporality as a species-among-myriad-species, all of whom are imbedded within the vast flows of the earth's dynamic biogeochemical processes [3]. Conventional history, marching hand-in-hand with other facets of bourgeois nationalism and humanism, has long circumscribed the human prospect by shaping and limiting the imagination of its producers and consumers. Anthropocentric history treats Nature as little more than the non-human setting for human affairs, a pastoral milieu endowed with cyclical seasonal rhythms. In this cosmology, cataclysm is not part of "the nature of things" but arrives from above or below—emerging from divine sources to purge, cleanse, and purify the body politic. Stories of apocalypse are as old as civilization [4], but with the rise of science, secular thought, and bourgeois capitalism, a distinctly anthropocentric order shapes the modern worldview. Amitav Ghosh [1] notes that in the modern world, nature's near-term predictability and long-term gradual change are backed by statistical analysis and risk assessment (rather than deeper cosmological uncertainties or "premodern" forms of geopiety). In his view, this proclivity in modern thought has made the recent chaotic conjunction of weather anomalies and climate disasters, the essential qualities of the Anthropocene, virtually unimaginable. When placed in the context of their equally complex (and still unfolding) ecological, economic, political, and cultural impacts, best described as "polycrises" [2], the global terrestrial condition becomes virtually unthinkable—a threat to our sense of reality and thus to our very identities as individuals and members of various social collectives. We may not fully grasp the dimensions of Anthropocene polycrises, but for observers across a broad range of political ideologies, there is a sense of cosmological derangement that seems to exceed the adaptive capacities of contemporary institutional systems and even our current modes of consciousness. Daily reports of a litany of (un)natural disasters elicit a sense of awe, dread, denial, and, all too often, a feeling of paralysis. The simultaneity of radically different forms of weather and climate related catastrophes was not anticipated by authors of the narratives of technological and social progress, stories honed and polished during the thirty decades ranging from the turn of the eighteenth century to the dawn of the twenty-first. It is difficult for most of us to imagine that the industrial and technological revolutions comprising the very infrastructure of modernity have been fueled by energy sources whose waste products have undermined the very life processes that sustain the biosphere. Even for those who grasp the essential scientific facts of climate change and the complex sequence of socio-ecological crises that it is unleashing, conceptualizing commensurate political, economic, environmental, and cultural responses by way of our existing institutions—managerial bodies designed for a "different world"—staggers the imagination. This is not because we lack the imaginative capacity to critique and even abolish authoritarian governance, fossil fuel capitalism, and the oppression of working class and indigenous people, it is due instead to sharp disagreement regarding the best ways in which to do so. This is why our response as a species, which can only be realized by way of transnational social movements for socio-ecological equality, has been slow, uncoordinated, and riven by fractious conflicts regarding the best pathways forward. As a form of critical geohistory, this essay presents a prefigurative political intervention that confronts the state form as the embodiment of geopower—the "statecraft and technologies of power that make territory and the biosphere accessible, legible knowable, and utilizable [3] (p. 171)". In short, we must use thoughtful and playful

transdisciplinary imagination to reconfigure fundamental assumptions about the nation-state and the international system in order to build new infrastructural systems designed for collective human wellbeing through economic equality and the regenerative capacity of a thriving biosphere. Global Green Demilitarization is a long-term strategy to combat political and economic oppression, de-weaponize interstate relations, and close the worldwide divisions of race, class, and culture. By forging a resilient world culture-of-many cultures, humankind can face down the polycrises of the coming century and beyond. Calls for global demilitarization in response to the worldwide climate crisis are not new [4–6], but this paper develops an explicit, multi-pronged strategy for simultaneously reducing interstate military conflict and cultivating a geopolitical movement towards collective ecological prosperity. This movement cannot succeed unless it embraces strategies and tactics combining grassroots organization and institutional transformation at the highest levels. This will require transnational coalition building between grassroots organizations, national political movements, and supranational organizations such as the International Union for the Conservation of Nature, the United Nations, and others to dismantle geopower, especially in forms that fortify fossil fuel capitalism [7].

It is wrong to assume that political responses to anthropogenic global warming have been uniformly weak, the United Nations Environment Program (UNEP) and the World Meteorological Society (WMO) established the Intergovernmental Panel on Climate Change (IPCC) in 1988. The IPCC's remit was to assess and compile the best scientific data on climate change and its impacts on environments and human societies globally. Their first report, published in 1990, presented clear evidence that human activity, especially the burning of fossil fuel and the destruction of forests, were causing an increase in the concentration of greenhouse gases (GHGs), particularly carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) [8]. These gases trap heat in the atmosphere, leading to long-term effects on atmospheric circulation, weather, climate, biomes, and ecosystems, with concomitant impacts on human economic activities of all kinds. In 1992, the UN Earth Summit in Rio de Janeiro provided the opportunity for the adoption of the UN Framework Convention on Climate Change (UNFCCC). The "Rio Convention" was the first international treaty to provide a structure for catalyzing international cooperation to reduce and stabilize GHGs at concentrations that could prevent major anthropogenic perturbations in the global climate system. This led to the first UN climate change conference, the Conference of the Parties (COP). COP 1 took place in 1995 in Berlin, Germany, and marked the beginning of the annual conferences where member countries come together to review and strengthen the implementation of the UNFCCC and take further climate action.

Despite the energetic international efforts and notable achievements of the UNFCC-COP system, several significant barriers to real progress in global decarbonization remain. One is the absence of leadership by the United States, which has the world's largest economy, largest military system, and greatest political influence of any single nation. The second is the embeddedness of fossil fuel-based capitalism in the global political economy and the power of the coal, oil, and natural gas producing corporations to control national politics and international relations [3,5,7]. In regard to the first problem, sharp ideological differences between the two primary political parties in the US have often hamstrung national responses to the greatest threat to the earth's biogeochemical systems and human societies ever encountered by humankind. In the arena of public politics, a preponderance of scientific evidence proving that anthropogenic global climate is accelerating is often treated not as a matter of fact but as a matter of opinion. According to certain extremists, global warming narratives have been invented by an international cadre of scientists, politicians, and cultural elites. This cosmopolitical fracture is discussed below, but first it should be noted that following NASA scientist James Hansen's testimony on anthropogenic global warming before the US Congress in 1998, a growing consensus emerged within the scientific community, and eventually roughly half of the electorate, that human-caused climate change is real and that it can be mitigated by terminating carbon emissions caused primarily by the burning of fossil fuel. While political leaders in the US have waffled on this issue, the Biden administration's passage of the Inflation Reduction Act may mark an inflection point in US policy on clean energy production [9]. Most (though not all) leaders across the community of nations also appear to have remained steadfast in seeking solutions to the global climate crisis, and in November-December of 2023, the 28th UN climate change conference, formally called the UNFCC Conference of Parties (COP 28), will take place in Dubai.

The UN climate conferences have yielded excellent results in terms of bringing a fractious global community together to promulgate major climate change treaties such as the Kyoto and Paris Accords, but anthropogenic climate and weather-related disasters are rapidly outpacing our capacity to transform global systems of energy production and consumption, the very foundation for transportation, industry, agriculture, and all other sectors of the economy. Building international consensus on an equitable system of phased decarbonization is severely hampered by the politics, economics, and ideologies imbedded in and constitutive of the modern system of nation states. As Parenti [3] (p. 166) explains,

> *"When the routine functioning of production and consumptive reproduction is paralyzed by some weather event, we see the real relationship between capital and the state. In these moments, capital's profound, even existential, dependence upon the core features of government comes into focus: legal authority, backed by legitimized organized violence; production for use, as in the public sector; and the need for mass, unified collective action and planning. Capital's world of self-interest and private accumulation depends upon non-capitalist values, non-capitalist institutions, and non-capitalist forms of production to survive. All this becomes glaringly apparent in a moment of crisis."*

This essay explores a new strategy for dismantling a dangerous and yet definitive component of many present-day states, hyper-militarization, through the transformation of military infrastructure and the transfiguration of conceptions of national security into constitutive elements of a global system of cooperation through demilitarization paired with mutual support in the development

of ecologically and socially sustainable infrastructural and cultural development. This will require that transnational social movements and action networks demand from all governments unprecedented power for local communities, indigenous peoples, and the working class to control their own energy production systems and environmental resources within a political ecology of solar socialism, aka "solar communism" [10].

The transformation of international relations to insure socially just ecological sustainability worldwide cannot happen without a profound reconfiguration of our basic assumptions about the purpose and meaning of the contemporary nation-state and the essential relationships between states. The modern European nation-state arose in conjunction with the explosive growth of European colonialism and capitalism based largely on accumulation by dispossession [11]. Even powerful political responses to Western colonial capitalism, including colonization campaigns by non-Western powers, anti-colonial movements, command economies, and more, were premised upon a drive for rapid industrialization based on fossil fuels. In the 19th and 20th centuries, coal, oil, and natural gas were the only proven energy sources with the power to transform "labor" and "natural resources" into commodities and infrastructure with sufficient speed to allow nations to remain competitive within the modern world system. In the third decade of the twenty-first century, despite rapid innovation in wind, solar, and other alternative energy technologies, we face an age of global energy insecurity that calls for unprecedented levels of international cooperation. Geopolitical tension severely hinders the development of resilient global supply chains for source materials and manufactured components of the emerging worldwide systems of green infrastructure. Source materials include not only the "critical minerals" required for electric batteries and electric vehicles—copper, lithium, and nickel, but also remaining fossil fuel reserves that are needed as a supplementary energy source during the transition process of the next quarter-century. As Bordoff and O'Sullivan note [9] (p. 107),

> *"...an interconnected global energy system remains the cornerstone of energy security; markets are still the most efficient way to allocate supplies. Increased self-sufficiency may give countries an increased sense of resilience but could also make them vulnerable; an interconnected global market can ease disruptions caused by extreme weather or political instability. More segmented energy markets will inevitably have fewer options to tap in such circumstances. The US. Inflation Reduction Act and Europe's Green Deal industrial plan are intended to accelerate the drive to net-zero emissions, and they reduce energy insecurity in some ways by curbing dependence on globally traded hydrocarbons exposed to geopolitical risks. Yet they also increase insecurity, since promoting domestic industries runs the risk of stoking protectionism and fragmentation, both of which can make economies less energy secure."*

Given two centuries of political economic development based almost exclusively on fossil fuel, how might we transform the nation-state into a vehicle for international cooperation and mutual aid for restoring and insuring the long-term sustainable wellbeing of communities, societies, and ecosystems worldwide? International mutual aid is the most secure foundation for establishing not only alternative global economies of scale, but also global human ecologies of scale with sufficient capacity to mitigate and adapt to the polycrises currently unfolding with devastating speed. In this essay, I define Anthropocene polycrises as deviations from ecological, political, and economic norms and patterns long assumed to be more or less stable and predictable. Since the political, economic, and ecological domains associated with modernity have been constructed as discrete institutional and epistemic realms, the possibility of their dissolution or loss of status as stable ontologies is, unsurprisingly, viewed as a profound existential threat, a disturbance of our fundamental worldviews, cosmologies, as well as individual and collective identities. Identity crisis associated with cosmopolitical dissolution, as diverse and incommensurable as historical examples may be, commonly give rise to creative and innovative strategies for resistance and sociocultural renewal [5]. To this end we may do well to recognize that in the modern Western tradition, economy and ecology (both of which, in this essay, are subsumed within the term *Oikos*); politics, governance, and international relations (or *Polis*); and our myriad belief systems, including religions, scientific paradigms, and other worldviews (*Cosmos*) have long been treated as discrete ontological or epistemic realms. The fact that we have treated them as such in modern academic and state institutions and, to some degree, in popular culture, has served institutional elites quite well. Since each of these realms of authority and truthmaking are actually relational, there is no disciplinary silver bullet that will slay the terrestrial and atmospheric demons unleashed by human disruption of the earth's biogeophysical systems. We should instead look to institutional transformation across the *relational domains* of cosmos, polis, and oikos. Thus, step one in our strategy to break the death grip of fossil fuel capitalism on the nation-state and global governance systems is to recognize the role that these epistemic institutional domains play in shaping, defining, and controlling geopower—the delineation, acquisition, territorialization, and militarization of biological, chemical, geological, and atmospheric components vital to the biosphere and all living beings [3,5,7].

Modern nation-states are polities committed to atavistic beliefs in the territorial sanctity of a geographically bounded homeland (or *Heimat*) above and beyond other adjacent and more distant polities. Grounded in ontologies that privilege notions of a shared history and cultural heritage, including language, lifeways, cosmology, and more, they have been chronically deficient in addressing international problems requiring the transcendence of deep psychic attachment to an imagined soul, spirit, or geist that defines the nation and allows for its perpetual reification. Benedict Anderson's [12] delineation of the nation as an "imagined community" goes a long way toward explaining why neither citizens nor official representatives of specific countries seem capable of confronting and solving global polycrises on their own, even those arising within their own borders. Still worse, hyper-patriotism and authoritarian nationalism, which seem to have "gone global" at the dawn of the third millennium, frequently threaten to make history "repeat itself." It is a very small step from ultranationalist idiocy [6] to international atrocity.

On the other hand, many nation-states are committed to safeguarding land and resources for specific ethnolinguistic groups, including both tangible and intangible cultural traditions comprising myriad, unique *worlds* [13]. Step two in our strategy to dismantle the geopower of the militarized nation-state system is to recognize these nascent systems of indigenous empowerment and to promote both tangible and intangible forms of indigenous knowledge and cosmology for their universal significance. These are invaluable as sources of reworlding, that is reenvisioning and reactivating sustainable ways of life, especially within specific ecoregions, watersheds, and geomorphic regions. The weaponization of nation-state territories based on the political economy of extractivism and national security typically entails the continuous violation of these place-specific forms of adaptation and cultural identity. State and corporate extractivist projects thus violate what are increasingly being understood as far greater human-terrestrial imperatives, specifically the necessity of building sustainable and socially just production and consumption systems that are endowed with sociocultural meaning at multiple scales. The challenge to scale-up from the level of grassroots indigenous and labor activism while simultaneously demanding that national and supranational governmental and non-governmental organizations scale-downward to advance local interests entails a vast and epochal undertaking that will redefine our very conception of history as progress, cycle, repetition, and rhyme. A post-humanist history opens new spatio-temporal realms, or *worlds* of possibility. Along these lines, Blaser and de la Cadena [13] (p. 4) call for a "world of many worlds" or a "pluriverse", noting that

> *"The moment of the realization of the destruction of the Earth, the current historical moment, can be one when people reconsider the requirement that worlds be destroyed. It can also be one when the conditions for dialogues toward the reconstitution of worlds can be formulated. Thus, we want to pair up the threat posed by the Anthropocene with an opportunity of similar proportion, by taking the present as a moment to reconsider the material-semiotic grammar of the relation among worlds that dominates the fabrication of the current historical moment. It is toward that reconsideration that we propose the pluriverse as an analytic tool useful for producing ethnographic compositions capable of conceiving ecologies of practice across heterogeneous(ly) entangled worlds."*

These scholar activists and their colleagues, who are associated with the *ontological turn* in social theory, embrace a radical ontological relativism based on their long experience as analysts of indigenous cosmologies in contemporary settings. Though this approach may seem to run counter to pragmatic modes of policy analysis found in international affairs and studies on political economy [7], we should recognize that the social and ecological devastation unleashed by wars of territorial and resource conquest can, and must, cease to play a role in the structure of spatiotemporal cycles and processes that make "history". This is certainly not a new idea. As the epigraphs from the *Dào Dé Jīng* and Herodotus (above) show us, albeit in quite different ways, peace should be the main prerogative of the state, and peace is only durable when it flows across territorial boundaries both within and far beyond the geographic limits of individual nation-states. As Athenians understood, the sacred olive tree—a universal symbol of political harmony and economic wellbeing—is of far greater value than Poseidon's symbolic, yet non-life-sustaining, offer of mastery of the sea and the distant lands that it connects. All citizens have equal rights to provision, and in the Anthropocene, the weaponization of national territories comprises a far greater threat to all beings than do any preexisting antagonisms between nations as nested assemblages of people, cultures, and environments within the broader biosphere that is the ecumene to which we all owe allegiance. The overproduction of military-industrial infrastructure engenders far more profound and prolific threats to planetary life than do any abiding forms of socio-cultural animus between peoples. In other words, militarism is a form of structural violence that breeds physical violence, political violence, cultural violence, symbolic violence, and everyday forms of violence [14–16]. All of these varieties of violence amplify the ecological violence that now endangers all life on earth.

Given the escalation of perils associated with military buildup, vigorous confrontation with the global climate emergency and Sixth Mass Extinction requires a reconceptualization and reconfiguration of the relationships between Oikos, Polis, and Cosmos on a global scale (discussed below). I call the analysis of the discursive formation of institutions involving ecological, political, and ontological realms (and the complex interrelations that sustain them) Transdisciplinary Earth Studies. This field of research and action draws from the ontological turn in social theory, especially the concept of cosmopolitics [13,17,18]. This relational framework provides essential groundwork for the analysis of global climate and biological emergencies as well as the polycrises that they entrain and exacerbate. In this context, Global Green Demilitarization (GGD) is a form of collective international cooperation geared toward the radical and consensual disassembly of the global system of institutionalized state violence and "national security." The current military-industrial-corporate-state complex contributes to global polycrises, generates waste, misappropriates precious resources, and shapes ideologies and cosmologies in retrogressive fashion, working in direct opposition to the needs of terrestrial wellbeing. In other words, the nation-state model has entered a new stage of geohistory that contradicts it classic foundation in the concept of sovereignty. Rather than providing for the commonwealth, ensuring the pursuit of happiness, safeguarding universal equality, guaranteeing security from chronic military threats, and developing new forms of ecological stability, the nation-state as an isolated, autonomous, competitive political economic entity perpetuates a state of chronic deficiency. We can no longer afford such an elaborate and deadly delusion, furthermore, its conceptual reconstitution as a political unit nested within a global system of common terrestrial geohistorical and socio-ecological processes will yield a far greater abundance of resources on behalf of a world of many worlds. Thus, step three in our strategy is to reject geopolitical realism that assumes long-term mutual aggression and a "balance of power" based on the territorial interests of hegemonic states.

2. Crackpot Realism, Climate Realism, and the Emerging Balance of Power

In international relations theory, the realist paradigm stresses competition and conflict as the ontological condition of interstate relations. The principle units of analysis are nation-states that exist within an anarchic international arena, and thus ascribe transcendent value to their own internal national interests and territorial security. In broad terms, radical realists view interstate competition as a zero-sum game in which the military and economic power of a given state will determine both its global influence and the wellbeing of its citizens. As Korab-Karpowicz [19] (p. 1) notes, "The negative side of the realists' emphasis on power and self-interest is often their skepticism regarding the relevance of ethical norms to relations among states. National politics is the realm of authority and law, whereas international politics, they sometimes claim, is a sphere without justice, characterized by active or potential conflict among states". One valuable aspect of realism is its capacity to enhance our understanding of historical great power competition, both as it has played out in major conflicts such as World Wars I and II, and in regional conflicts involving powerful actors engaged in proxy wars, as has occurred frequently since the 1950s. At its worst, the realpolitik of more radical realists devolves into what C. Wright Mills called "crackpot realism," which can be summarized as the choice to replace steadfast moral intelligence and the full force of strategic diplomacy with a far easier turn to military conflict. As Mills [20] (p. 87) noted,

> "The expectation of war solves many problems of the crackpot realists; it also confronts them with many new problems. Yet these, the problems of war, often seem easier to handle. They are out in the open: to produce more, to plan how to kill more of the enemy, to move materials thousands of miles...So instead of the unknown fear, the anxiety without end, some men of the higher circles prefer the simplification of known catastrophe."

Jerry Brown's critique of crackpot realism in current international relations theory and practice provides a potent parallel to Mills's observations. The latter wrote that the crackpot realists "...know of no solutions to the paradoxes of the Middle East and Europe, the Far East and Africa except the landing of Marines. Being baffled [by sociopolitical complexity], they prefer the bright, clear problems of war—as they used to be. For they still believe that 'winning' means something, although they never tell us what". Focusing specifically on US policy in Southwest Asia (especially Iraq and Afghanistan) and citing Brown University's Costs of War Project [8], Jerry Brown [21] (p. 14) writes that

> "The twenty years of war since the September 11, 2001 attacks have killed more than 900,000 people, displaced at least 38 million, and cost the United States an estimated $8 trillion. During these two decades of intense fighting and killing, the US has been responsible for a quantity of suffering that would have been unthinkable when President George W. Bush, with the near-unanimous backing of Congress, launched his assault on Afghanistan. It is clear now that American's leaders deluded themselves and failed to ask basic questions about the ultimate goal of the war before invading: its human and financial costs, its benefits, or how it would end."

The exorbitant costs of contemporary warfare, both in terms of human lives and general wellbeing, provide more than enough evidence that geopolitical realism must be redefined. The grave consequences of the growing global climate crisis may already exceed our collective capacity for international cooperation in developing an intelligent response based on mutual aid. A morally intelligent geopolitics cannot be limited to game theoreticians' master strategy sessions, nor can "the balance of power" be predicated predominantly on the calibration of political and military relationships between major land powers, sea powers, and land-sea hybrids, intricate as such calculations may be. As Zhengyu Wu [22] points out, the geographic foundations of classical geopolitical conceptions of the balance of power, with their diverse strands articulated in the works of Mahan, Mackinder, and Spykman, continue to hold greater salience than do contemporary realist theories in the field of international relations [9]. This essay extends the already considerable geographic reach of classical geopolitics into the realm of dynamic and consequential acceleration of changes in the earth's climate systems, biomes, oceans, and atmosphere. This emerging geocentric geopolitical perspective foregrounds human agency and morality within the earth's biogeochemical systems comprising the very source and possibility of life, an approach that can be denoted in shorthand as "climate realism". Step four in our prefigurative project on Anthropocene geopolitics is to place climate realism at the center of the global politics of the biosphere.

Climate realism, as part of transdisciplinary earth studies, refuses to remove geopolitical relations from their actual terrestrial, geohistorical context. The critical and dynamic nature of anthropogenic atmospheric and terrestrial change is evident on a daily basis and part of an incontrovertible trajectory of human-induced global warming. While this essay was drafted in July−August 2023, the earth experienced the hottest July (and thus the hottest month) ever recorded. The same month also included the hottest global single and three-day period average temperatures on record, new high temperature records in many countries, and the highest northern hemisphere summer ocean temperatures. The global average temperature briefly exceeded the 1.5° Celsius threshold above preindustrial level during the first and third week of the month [23]. While record high temperatures may have appeared to some to consist of numbers alone, they were matched by searing heatwaves across large areas in North America, Asia, and Europe, along with wildfires in Canada, Greece, and Hawaii. In Maui, the deadliest US wildfires in over a century destroyed the town of Lahaina leaving 115 people dead [24]. In Canada, eight hundred eighty-five wildfires raged across the country from British Columbia to Nova Scotia, 566 of which were classified as "out of control". Continent-sized clouds of acrid smoke and fumes darkened the skies of the US Midwest and Northeast with a hazardous haze [25]. One hundred and eighty million US citizens—some 54% of the

population—faced heat warnings or heat advisories. Phoenix, Arizona experienced a record 31 days with temperatures rising above 110° F (43.33°). Extreme heating in the Pacific Ocean, paired with the effects of an El Niño created southern California's first tropical storm since 1939. Meanwhile, across the Pacific Ocean in China, heatwaves, droughts, and record rainfall wrought havoc in nearly every province, and on July 23rd, a climate station in the Turpan Depression of Xinjiang recorded the nation's all-time highest temperature of 52.2 °C. (125.96° F), with ground surface temperature at one site reaching 80 °C (176° F).

It should be noted that none of the weather events cited above are as consequential as the long-term impacts of the earth's changing climates. The melting of the polar ice caps, global sea-level rise, desertification, falling water tables, the drying up of entire river systems, and the multiple effects that each of these has on the global economy, regional economies, and local livelihoods, have already had devastating impacts on peoples' lives, inducing state failure, mass migration, and other polycrises. Still, these weather events capture the attention and imagination of an increasingly large proportion of the global demos. Even a casual glance at the daily news as reported by standard global outlets and blogs such as the New York Times, CNN, The Independent, Weibo (微博), China Daily, CCTV, and Rénmín Rìbào (人民日报) yielded a sense that planet Earth is more capable of generating newsworthy events than even the elite members of its most prestigious species, the illustrious and endlessly enterprising primate, *Homo sapiens sapiens*. In contrast to terrestrial forces, the human capacity for climate diplomacy appeared weak, if not completely feckless. When John Kerry met with Wang Yi, China's foreign minister, and Xie Zhenhua, the chief climate envoy, from July 16–19, in the midst of the Beijing heatwave that preceded the flood, the greatest hope for effective joint US-China action on global warming seemed possible only at some point in the future. As the world's two biggest greenhouse gas emitters, accounting for over 40% of the world total, the two largest economies should take responsibility and develop a new ecology of corresponding scale. In this light, even Henry Kissinger's much-lauded surprise visit to Beijing on July 20, where he was warmly received by China's top leader, Xi Jinping, seems to provide paltry promise of a substantive and systematic climate-based détente. As António Guterres, the Secretary-General of the United Nations stated in a speech on July 27 at a press conference on climate,

> For vast parts of North America, Asia, Africa and Europe—it is a cruel summer. For the entire planet, it is a disaster. And for scientists, it is unequivocal—humans are to blame. All this is entirely consistent with predictions and repeated warnings. The only surprise is the speed of the change. Climate change is here. It is terrifying. And it is just the beginning. The era of global warming has ended; the era of global boiling has arrived. The air is unbreathable. The heat is unbearable. And the level of fossil fuel profits and climate inaction is unacceptable. Leaders must lead. No more hesitancy. No more excuses. No more waiting for others to move first. There is simply no more time for that. It is still possible to limit global temperature rise to 1.5 degrees Celsius and avoid the very worst of climate change. But only with dramatic, immediate climate action. We have seen some progress. A robust rollout of renewables. Some positive steps from sectors such as shipping. But none of this is going far enough or fast enough. [26]

When weather anomalies dominate the news, the news, as the first draft of history, begins to play devilish tricks on our sense of agency by briefly placing menacing biogeophysical processes at the center of global attention. The fact that they are to a significant degree anthropogenic offers very little solace. While one might imagine that since humans caused the weather and climate processes to take on a fierce new severity, peril, and capriciousness, humans can in turn rectify our ways and solve the problem. The trouble with this assumption is threefold. First, climate and weather patterns cannot be reduced to simple linear functions. Within any given weather event lies a multiplicity of variables; furthermore, weather and climate are chaotic systems involving long-term teleconnections that present severe challenges for meteorological and climatological prediction [27]. Second, humans have never proven capable of organizing a system of global cooperation that formalizes constraints on consumption equal to the task of mitigating a crisis that exceeds our full understanding and emanates from forces that are far larger than those that we can unleash through our own systems of engineering. Third, the United States, which is the most powerful nation-state on earth, has not been a reliable leader on climate change and biodiversity conservation, withdrawing from the 2015 Paris Accord on climate change in 2017 (during the Trump administration) and joining only three other nations in refusing to sign the global Convention on Biological Diversity.

In the face of these problems, we must embrace climate realism, specifically the recognition that planetary biogeophysical systems comprise a global common that must be protected and managed by international socio-ecological institutions that are only as sustainable as their capacity for insuring the equitable distribution of ecological goods and services in conjunction with equal burdens of responsibility for their maintenance. Our current conjuncture of runaway temperature extremes, droughts, floods, wildfires, biodiversity collapse, crop failures, public health emergencies, warfare, and human migrations constitute a growing worldwide condition of chronic polycrisis and deficiency. In stark contradiction to the preferable state of sufficiency described in the passage from the *Dao De Jing* above, we suffer most of all from a deficiency of active, collective moral intelligence that is the essential animating force behind what must rapidly become an international network of global green cooperation—a system of active peace-building through innovative ecological restoration on a planetary scale. Transdisciplinary Earth Studies, as outlined below, overlaps with classical theories in geopolitics (and, to some degree with realist theories in international relations) [22], but above all it demands international action of the kind adopted by UNEP, the IPCC, and the UNFCC COP system. These supranational efforts on behalf of the long-term planetary wellbeing have the potential to reverse crackpot realism and address the world's growing polycrises in a fashion that deserves standing within a new twenty-first century geopolitical order based on ecological civilization.

Our fifth strategy is to build durable theory and action plans for ecological peacebuilding based on climate realism and transdisciplinary earth studies. This conception of biospheric politics must eclipse the crackpot realism of economic, political, and religious elites and replace it with the demands, desires, needs, and aspirations of indigenous and working people everywhere.

3. Transdisciplinary Earth Studies: Geopolitical Conflict and the Global Climate Emergency as a Failure of Ecological Peacebuilding

With the extraordinarily rapid growth of global communication infrastructure, it has become glaringly obvious that our collective failure to build an equivalent system of ecological peace is a breakdown of collective moral intelligence. In 2023 smartphone ownership has reached a level that would permit 65−86% of the world's people to have access to the most powerful personal communication technology ever created, a possibility thwarted only by unequal systems of distribution and access. By 2022, Internet access among young people 15−24 years in age had reached 71% [10]. With an unprecedented degree of global connectivity that continues to expand, there is simply no longer any excuse for failure; the rhizomatic growth of satellite telecommunications calls for radical reconfiguration of the messages that we send and the narratives that we compose. For the first time in earth's history, these narratives can include a clarion call for global unity built not simply on ideals or ideologies, but on the direct transformation of human-environment relations. Collective action must be based on a general understanding of the geohistory and the long durée of human governance of cosmos, polis, and oikos. As an essential component of Transdisciplinary Earth Studies, geohistory starts from the premise that our stories about nation-states, individual political figures, humanistic achievements, international relations, and technological or economic "progress" must no longer be granted a weight or value that transcends the far more complicated processes of evolution, cultural change, and ecological transformation involving a symbol-using primate endowed with the astonishing capacity to destroy the very web of life within which it continues to evolve [11].

Transdisciplinary Earth Studies grants an essential role to humans as a species in terrestrial time-space (the Geo in geohistory), but also to the political (Polis), cosmological (Cosmos), and economic/ecological (Oikos) institutions that the species has invented as tools for social organization (Figure 1). These organizations are built on ideas that exist more robustly within the species' cognitive niche, i.e., the human imagination, than they can be effectively and consistently realized in the material world. In other words, they are based on transcendent or pragmatic ideals, and constructed through deep faith in the efficacy of collective effort (at various socio-ecological scales), as well as under hierarchical and coercive measures and incentives. It is precisely within the cognitive niche and humankind's capacity to rethink and reconfigure our own institutions that we must wage a ceaseless struggle for inclusive global ecological peace and sustainability based on social justice.

Transdisciplinary earth studies are based on the etic and emic analysis of three primary institutional forms. **Polis** represents the realm of human social relations involving order, status, and hierarchy that is represented in the modern world by the nation-state, a polity imagined as the principle unit of socio-political organization. **Oikos** comprises both the economic system (including technology and infrastructure) encompassing human patterns of production, consumption, labor, and exchange—a distinctively human ecology, and its imbeddedness in more-than-human biogeophysical systems (also known as *ecology*) [12]. **Cosmos** represents humankind's imaginative forays into the possible meanings of life and the essence of the world or universe as a whole, also known as cosmology. Cosmology, or worldview, encompasses religion, science, and other conceptual systems that account for matters of ultimate concern related to the human place in the universe.

This essay treats these institutional realms of meaning production and social organization as essentially historical, dynamic, and material, but also fictive, aesthetic, hierarchical, and backed by monopolies on violence. In other words, each field of institutional production is simultaneously material and imaginary, and to varying extents, each establishes its foundational hold on the aesthetic modes of truth production through claims of transcendent authority and value. Though this essay treats their ideational content as imaginary, these institutionalized divisions of power-knowledge are backed by monopolies on violence that enable not simply the power to take life and make live, in the Foucaultian sense, but also to mediate the possibility of thought and imagination, that is, to accentuate or obscure visions of the possible, and to amplify or silence the voices of resistant alterities. The Oikos-Polis-Cosmos model includes the inner spheres of Communitas (community), Familia (family), Persona (personhood/identity), and Psyche (soul or self), each of which interacts dynamically and unceasingly with all other spheres. Viewed emically and etically, the transdisciplinary earth studies model accounts for tremendous variation across the myriad socio-cultural milieus comprising earth history. The model is also capacious enough to serve as a simple heuristic device for both cross-cultural comparison and socio-ecological action. The discursive pathways of communication representing Cultura (culture) include lines emerging from "the center" and generating new institutional formations at broad social and ecological scales. Conceptually, one hopes, the model is inclusive of a "world of many worlds" with the capacity for mutual recognition and collective peacebuilding.
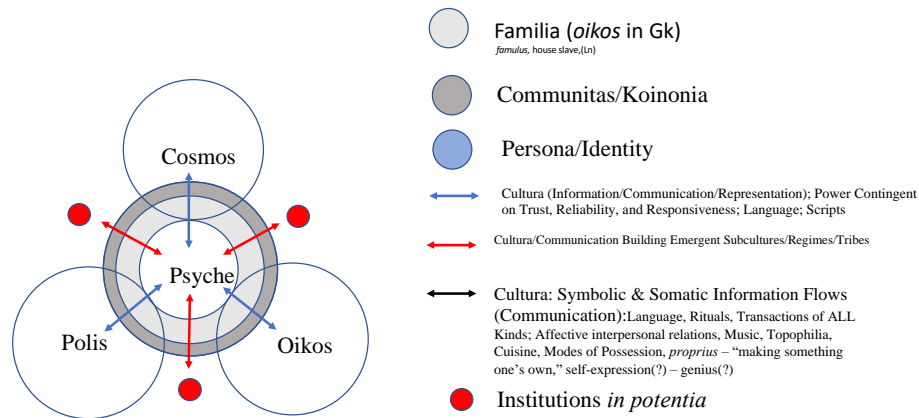
Figure 1. The transdisciplinary earth studies model, showing the broad institutional realms of Cosmos (Cosmology/Belief Systems), Polis (Political/Governance Systems), and Oikos (Ecology/Economy, as well as their relationship with smaller scale but ubiquitous Communitas (community), Familia (family), Persona (personhood/identity), and Psyche (soul or self). Althogether these realms of social existence and agency are imbedded within and articulate with the biosphere and biogeophysical systems at all scales. Each also exists in mutual interrelationship with the other spheres and should be viewed both emically and etically. Etically, no sphere is granted transcendent value or significance. Emically there are few, if any examples in which specific cultural or social groups do *not* ascribe transcendent value and power to a particular sphere. Still that power is never realized without activating the power of other spheres either knowingly or unknowingly.

While conventional historians are tasked with the delineation and analysis of events that shape and define secular time, geohistory requires the incorporation of accurate narratives on terrestrial processes that normally exceed the purview of the humanities and social sciences (and thus classical international relations), and therefore stand beyond the limits of established, anthropocentric accounts of social change. Transdisciplinary Earth Studies calls for the incorporation of geoscience, economics, ecology, political studies, cosmology, sociology, anthropology, psychology, and other fields of the social and earth sciences in new forms of relationality. This relational approach helps us recognize that the twentieth century was an era of anthropogenic ecological devastation, ultranationalism, and ideological division that formed the climax of three centuries of European colonialism, genocide, slavery, and forceful resource expropriation. It was a century defined by political dynamics animated by war between industrialized nations. Its energy source was fossil fuel and its ideological conflicts were defined by the worldviews espoused by democratic capitalism, communism, and socialism, as well as anticolonialism and a variety of religious fundamentalisms. The twenty-first century continues to emit the background radiation of preceding eras, but it will soon assume its place as the century of global political rapprochement and ecological justice. Its energy source will be incoming solar radiation and its ideological revolutions will be global in scope, with socio-ecological movements demanding new governance structures based on planetary ecological principles providing the material and intellectual groundwork and infrastructure for planetary justice [5]. The transformation of existing economic, political, and cultural institutions, relics of the past that were built upon the expectation of conflict between nations and the endless accumulation of personal, corporate, and national wealth, will be destroyed from within in a non-violent series of actions bearing revolutionary consequences. Among these will be the dismantling of military infrastructures and their strategic transformation into the socio-ecological armature for environmental restoration and social justice. GGD is one of the few long-term strategies with the potential to activate interconnected sociopolitical movements capable of ending and amending the devastation of centuries past, while ushering in a new world culture of healing, resilience, and the alignment of human and non-human populations with the earth's dynamic biogeophysical systems.

We must recognize that there are strong, often overwhelming, political incentives to invest in emergency responses to polycrises rather than seeing them as socio-ecologically constructed symptoms of human failure. The political incentive to invest in emergency response, including endless preparation for warfare (based on antiquated conceptions of "national security"), is due to the fact that politicians occupy spaces of representation in which specific (and highly socially constructed) political divides define the terms of action. At present, the dumbing down of complex international polycrises eclipses or trumps the intentional and deliberative construction of thoughtful and far-reaching domestic and international political transformation. This seems to place the prospects for global ecological peacebuilding beyond our reach in the near-term. The result is an epidemic of despair, a sense of endemic powerlessness and hopelessness among ordinary people around the world, many of whom express feelings of impending doom. Perhaps some hope is found in the notion that elites who control prevailing political, economic, and ideological systems will die off within the next 30–40 years, but without immediate radical change in these systems there is little hope to combat the effects of the climate emergency and its multiplier effects. There is also little indication that the antiquated and yet persistent nation-centric ideologies of the present will not be handed down to the next generation of the managerial elite, who could very well continue to propagate the political, economic, and ideological narratives of their predecessors, arguing that these are ideal norms that must be protected at all costs.

In summary, deteriorating ecological conditions in the Anthropocene are exacerbated by a surplus of deeply contradictory worldviews and opinions that seem to defy the possibility of political and cultural cooperation, not to mention actual reconciliation between a wide range of fierce antagonists. That this state of chaos is accepted as the global norm is simply a reprise of the idiotic notion that deadly competition is a fundamental part of "human nature"; which is a pathetic fallacy by way of which nation-states, corporations, armed groups, and even political parties are ascribed with human emotions and the agency and rights of sentient beings. Within this ontology of international relations, political and economic elites assume that the only effective action must involve economic policy initiatives orchestrated at the highest levels of government, including inter-state diplomatic engagements that are engineered largely on behalf of corporate power. Political power in the service of an oligopoly of financial institutions is broadly viewed as the only component of the international system capable of suppressing the fractured and disparate worldviews of actual people "on the ground". The trouble with these maneuvers among the power elite is that they fail to account for all of the things that have gone catastrophically wrong for so many caught in the polycrises of climatic, ecological, and social degradation. They fail to provide a strategic foundation for collective action empowering humankind to establish its own sustainable pathways as a terrestrial species-among-myriad species. Given the foregoing, our sixth strategy is to recognize the possibility of a global ecological civilization, one that will ultimately be built by way of a process of global green demilitarization.

4. Global Green Demilitarization: Positive Peace as a Foundation for Ecological Civilization

The sovereignty of modern nation-states, an idea long thought to have its formal institutional origins in the Peace of Westphalia in 1648, is now understood to be a far more complicated historical construction with an uncertain future [28,29] [13]. The deep economic, political, ecological, and ideological roots of nation-states and nationalism render non-coercive, collectively designed and implemented, multilateral peacebuilding to appear virtually impossible. The field of peace and conflict resolution studies provides abundant evidence that "negative peace", the mere absence of apparent conflict, holds far less potential to effect exemplary and durable social transformation than does "positive peace" [30]. For present purposes, we define positive peacebuilding as intentional multilateral efforts to achieve a sustainable and dynamic relationship between the interacting spheres of Oikos, Cosmos, and Polis, as they articulate with communities, families, and individuals. The relationship is mediated by culture, communication, participation, disagreement, dialogue, reconciliation, improvement, and more, in a continuous cycle. Specific visions subtending a radical and far-reaching reconfiguration of the nation form as distinct polity with a particular socio-cultural history is still in its incipient stages, particularly in the context of Anthropocene polycrises [31–36]. In rethinking the possibility of egalitarian collective resource use and multispecies ecological wellbeing, Conversi [35] (p. 1) focuses upon non-state indigenous societies, which he characterizes as "exemplary ethical communities" (EECs).

> *"In these liminal times, the Earth needs to be reconceived as a pluri-cultural space in which distinct types of human communities engage in different levels of ethical responsibility to allow the survival of life by transferring Earth-system knowledge to coming generations...[W]e need to look at the living examples provided by non-state communities in various regions of the world that, perhaps unwittingly, are contributing to the maintenance of the Earth's optimal thermal balance and planetary temperature equilibrium. These communities have been living in specific niches outside the mainstream or the 'market' for centuries, even millennia—rather than being conceived as ad hoc responses to the catastrophic combination of climate change and biodiversity loss we are now beginning to experience."*

Exemplary ethical communities embody the kind of collective moral intelligence required for lasting international peace and cooperation, but from a deep historical perspective they are difficult (though not impossible) to scale up beyond the geographic boundaries of individual watersheds managed by non-state societies [32,33,36]. Over the course of the last 500 years, with the rise of the capitalist world system and competing industrial alternatives, competition for terrestrial resources vastly amplified interstate violence [37,38], and with the advent of climate and weather chaos, along with their attendant polycrises, the US military is adopting a long view of the global risks presented by global climate change and its implications for national security. As Klare [39] (p. xxiii) notes

> *"[I]n contrast to climate activists' frequent focus on warming's threat to the natural environment and endangered species, Pentagon analysts instead highlight its deleterious effects on vulnerable populations, fragile states, and brittle institutions around the world. They see climate change as ratcheting up global chaos, which in turn means a greater likelihood of U.S. involvement in ugly foreign wars. "Stresses such as water shortages and crop failures," notes Rear Admiral David Titley, former chief oceanographer" "of the U.S. Navy", "can exacerbate or inflame existing tensions within or between states. These problems can lead to state failure, uncontrolled migration, and ungoverned spaces".*

Although statistical analysis of historical conflicts suggests that over the long-haul, incidents of armed conflict between nation-states and between state and non-state actors are decreasing [40], the severity of emerging climate and ecological collapse threaten to induce spectacularly poor reactions from political and military elites who are under pressure to defend their national territories in the face of a plethora of polycrises. In this context, failure to enact international treaties supporting systematic positive peace building in the form of purposeful multilateral demilitarization is a potentially catastrophic mistake. This crisis in the making applies

especially to the countries holding the majority of military, economic, and political power in the form of financial wealth, military spending, and political influence (Figure 2). Since the devolution of the USSR, the United States military has been so disproportionately powerful that its institutionalized narrative constructs it as the global arbiter of international security and the central authority in all questions of regional peace and conflict. The Pax Americana following World War II is viewed by many conservative and liberal scholars and practitioners of international relations and development theory as a beneficent global regime; others view it as an imperial formation prone to precisely the ontological assumptions imbedded in Figure 2, which is a powerful representation of the imperial reach of the most gargantuan military system in the history of the world [11,16]. US adventurism in Afghanistan, Iraq, and other regions of SW Asia is described above, but a full account of the reach of the most powerful nation-state and its present-day relations with other regional hegemons is beyond the scope of this paper [14]. While data indicate a significant downward trend in active war under the American peace [41], wasteful and potentially catastrophic arms buildup continues to accelerate wanton expenditure of valuable resources, and the continuous generation of inter- state hostility and insecurity. There is far more work to be done on systematic, goal-oriented, strategic demilitarization through peacebuilding. The most pragmatic path to sustainable world peace based on social justice is through the intentional construction of a global infrastructure of moral socio-ecological intelligence. GGD is a systematic, purposive approach to peacebuilding that simultaneously transforms global military infrastructure into green infrastructure, while cultivating a global culture of trust, safety, and mutual aid, conditions that are required for the transition toward an ecological civilization.
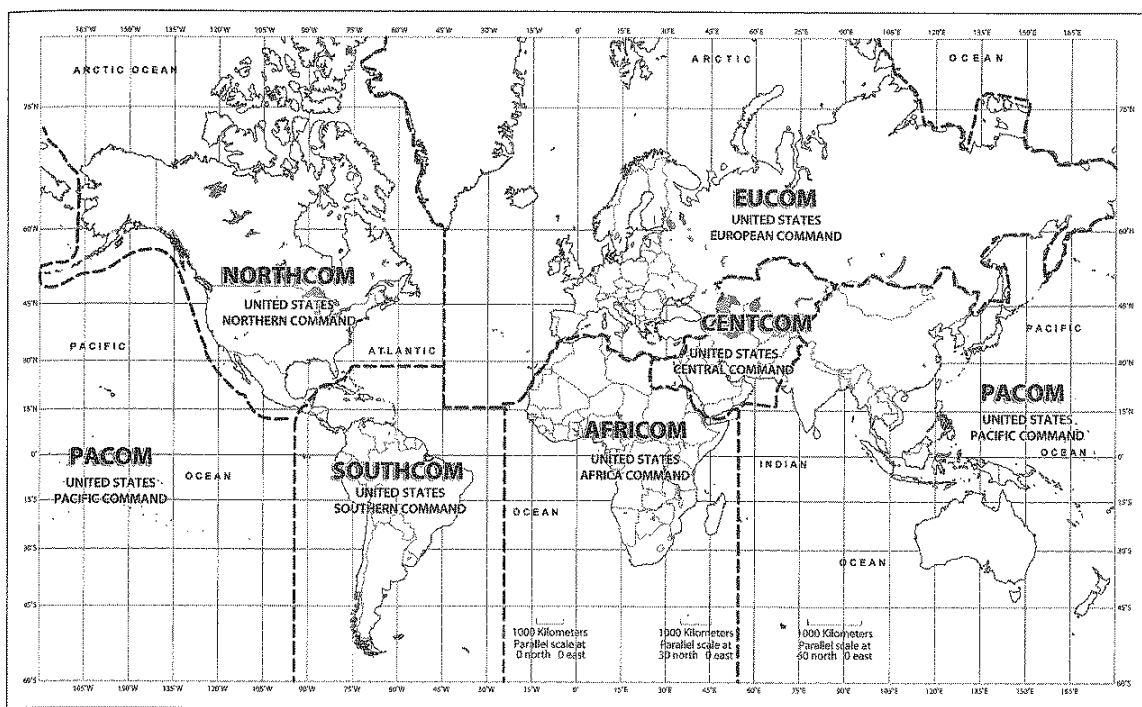

Figure 2. Areas of Responsibility (AOR's) of the US military and its UCC's (Unified Combatant Commands). The latter comprise joint military commands within US Department of defense consisting of at least two branches of the US Armed forces. These are responsible for a broad range of continuous missions. Source: Galgano and Palka [41].

Global Green Demilitarization is peace with a purpose, a form of positive peace with multiple positive international feedback loops. By improving, strengthening, and deepening relationships between nations—extending diplomatic relations from the formal political realm into the economic, ecological, and cultural arenas—powerful institutions can open numerous pathways and bridges leading to deep personal ties between working class and indigenous people that comprise the majority of all participating nations. Personal, familial, and professional connections may seem like thin filaments from which to form durable relations between nations, but, like silk, a network of precisely these kinds of minute fibers can be woven into a strong and durable fabric, one of tremendous value in itself, and one endowed with the capacity to continue to create new cultural values. With environmental interests at the core of these relationships, an ecological peacebuilding network is premised on a deeply meaningful mission for all who care about the future of the planet. In other words, GGD is a blueprint for establishing new networks of moral intelligence endowed with power and influence to maintain peaceful, harmonious, and productive relationships between countries, regions, and citizens of the planet. Active ecological peace is not simply the absence of war, it is a carefully planned set of overlapping large-scale projects based on a clear vision for long-term socio-ecological sustainability.

Both the severe challenges and the dire need for GGD are well illustrated by the statistics in Figure 3. The relationship between national military expenditure, economic power (indicated by Gross Domestic Product and GDP per capita), population, and greenhouse gas emissions shows that the United States is in a unique position, one that is in fact historically unprecedented, to help

lead all of the countries of the world toward the establishment of an intentional community of nations cooperating on behalf of planetary ecological and social wellbeing. Considering the fact that the United States not only spends more on its military than any other country in the world, but also that its annual military budget in 2023 ($877 billion) was higher than the total military spending of the next 10 nations combined ($848 billion), we can only conclude that this is an intentional choice to place force projection above all other forms of national and international "security". The US also far exceeds its peers in military spending per capita ($2592.45), with only Saudi Arabia ($2029.93), the UK ($1003.89), and Ukraine ($1197.45) spending within the same order of magnitude. The first of these countries, Saudi Arabia, has utilized its own explosive economic growth, which has resulted from global dependence on fossil fuels, to extend its military reach across SW Asia. The UK is riding out the last stages of a rapidly diminishing imperial history. Ukraine has militarized rapidly over the past two years out of the necessity to survive a violent and irrational imperialist incursion that has now lasted for 18 months. Under the current international environment, which is to a significant degree anarchic, justifications for hyper-militarism are often overdetermined.

Be that as it may, states that bear a heavy responsibility for the global climate emergency must play lead roles in global green demilitarization. The top three carbon emitting nations are China (11,680.42 mmt), the United States (4535.30 mmt), and India (2411.73 mmt). These polities bear the greatest responsibility for promoting global green demilitarization. Since the highest per capita carbon polluter is the United States (13.41 metric tons per person), the country with the highest military spending (total and per capita) and the highest GDP (total and per capita), no nation-state bears greater responsibility for helping lead the transition to GGD.

Before considering the prospects for radical transformation of geopolitics by way of Global Green Demilitarization, we should note the unprecedented and ever-growing risks associated with current geopolitical strategies. The global balance of power is a source of continuing anxiety on the part of political and military elites, as well as a tremendous opportunity for corporations engaged in the production of weapons systems and a vast array of other military infrastructures. Rather than transforming international relations to face down global anthropogenic climate polycrises through unprecedented levels of inter-state cooperation, military, corporate, and political leaders reflexively draw from the ancient playbooks of crackpot realism, augmenting and further weaponizing the armed services, attempting to build new military coalitions, and exacerbating an already explosive level of mutual menace by assiduously following the path of hyper-militarization. The most notable current example of this trend is the Russian invasion of Ukraine, which has drastically increasing geopolitical tension, creating an unusual bipartisan consensus within the US government on the need for still higher levels of military spending, and strategic alliances between the US, NATO allies, Japan, and South Korea are meant to bolster the armed forces in the so-called European (and Russian) (EUCOM), Central Asian (CENTCOM), and Pacific (PACOM) command regions (Figure 2).

Country	Population (July 2023)	Military Spending ($ Billion)	Military Spending Per Capita ($)	GDP ($ Trillion)	GDP per Capita	Military Spending as % of GDP	Annual CO2 Emissions (million metric tons)	Annual CO2 Emissions Per Capita (metric tons)
United States of America	338,289,857	877	2592.45	25.07	74,108	3.50%	4,535.30	13.41
People's Republic of China	1,425,671,352	292	204.82	18.25	12,801	1.60%	11,680.42	8.19
Russia	144,444,359	86	595.38	2	13,846	4.10%	1,674.23	11.59
India	1,428,627,663	81	56.70	3.38	2,366	2.40%	2,411.73	1.69
Saudi Arabia	36,947,025	75	2029.93	1.01	27,336	7.40%	588.81	15.94
United Kingdom	67,736,802	68	1003.89	3.09	45,618	2.20%	313.73	4.63
Germany	83,294,633	56	672.31	4	48,022	1.40%	636.88	7.65
France	64,756,584	54	833.89	2.84	43,857	1.90%	279.99	4.32
South Korea	51,784,059	46	888.30	1.7	32,829	2.70%	621.47	12.00
Japan	123,294,513	46	373.09	4.18	33,903	1.10%	1,061.77	8.61
Ukraine	36,744,634	44	1197.45	0.131	3,565	33.50%	189.3	5.15

Figure 3. National military spending in 2023 showing the eleven countries with the highest defense budgets in the world. Other variables shown here include population, military spending per capita, GDP (total and per capita), military spending as percentage of GDP, annual CO_2 emissions, and annual CO_2 emissions per capita. Sources: Statistica [42]; World Population Review [43]; Wisevoter [44] [15].

There is no end in sight. With each additional military exercise, base expansion, and deployment of "military advisors" to these regions, "grey zone" conflicts—accidents, small or large that trigger small-scale confrontations—gain the potential to mushroom into armed conflict and lead to full-scale war. Historical scholarship on the ascendant military power of nations that are viewed as a threat to existing regional hegemons shows that, more often than not, small-scale conflicts lead to full-scale war [45]. Endless expansion of the already monstrous military-industrial-intelligence complexes within competing states elevates the risk of unplanned wars. Knowing what we now know about the inevitability of unforeseen polycrises in the Anthropocene, national war machines can no longer be viewed objectively as contributions to the balance of power. By exponentially increasing the risk of human error to the intertwined global arenas of polis and oikos while cultivating ever more extreme and idiotic cultures of ultranationalism (which inevitably assume cosmological forms as well), the continued weaponization of the nation-state constitutes

a net reduction in the global moral intelligence upon which we all depend if humans and ecosystems are to survive and thrive within the earth's rapidly changing biogeochemical regimes of the third millennium.

A new geopolitics of climate realism requires full recognition of the anthropogenic nature of global climate change and of how ecological justice must be integrated within the calculus of multilateral climate treaties such as the COPs system. A new realpolitik must not only be inclusive of polis, cosmos, and oikos, but it must also recognize that popular culture (cultura), personhood (persona), and the global social movements within which they take shape are inextricably intertwined with hierarchical social institutions that constitute our political, economic, and cosmological (again religious, scientific, inter alia) institutions. Military mission creep, institutional path dependency, and bureaucratic hypertrophy present a clear and present danger to democratic agency based on citizen involvement in international relations. This trend is dangerously irrational given the fact that there is no abiding interest in warfare among common citizens in any national polity. This is not to say that anomalous and idiotic levels of hyper-patriotism do not play a critical role in military mobilization (they always have), but there is nothing preventing humankind from deploying cultures of positive peace to terminate this pathological approach to weaponized territorial nationhood and the kinds of personhood that accumulate around this specific form of "citizenship". The dividends of global green peacebuilding will be enormous. Specific benefits will include the redefinition of "intelligence" as what was once "military intelligence" on behalf of "national security" becomes shared international intelligence on emerging polycrises on behalf of world citizens and their respective ecosystems. While conventional political economists embrace "economies of scale", the new oikonomics will embrace ecologies of scale as well. Global prosperity will be redefined by an ecological economics of social justice and the sharing of all ecological services provided by thriving terrestrial biogeophysical systems. Thus, our eighth strategy calls for the merging of transnational, bottom up, grassroots movements for green peace and empowerment with new and transformed institutions of national and international scale. The conversion of these institutions will form the armature for new organizational structures devoted to Global Green Demilitarization, a primary example of which will be a Global Earth Corps.

5. From Olive Branch to Olive Tree: Establishing a Global Green Demilitarization Treaty Protocol

It is far beyond the scope of this short article to draft a global green demilitarization protocol. As with all treaties, such a protocol can only emerge through international diplomacy based on grassroots movements, transnational action networks, and the stewardship of governing supranational organization such as the United Nations, in consultation with government and non-governmental organizations (NGOs) representing ecological, economic, political, scientific, religious, and cultural institutions within our world-of-many-worlds. The following proposals are of limited scope in comparison to the kinds of collaborative visionary work that can emerge from inclusive and deliberative discussion, planning, experimentation, and trouble shooting. We offer the following ideas in the hope that they will be taken up with a rigorous and critical perspective regarding their merits, limits, and possible elaboration, but they may also serve simply as an invitation to rethink our contemporary national and global institutional cultures. With that invitation in mind, I encourage readers to consider some well-known effects of military service on personhood and community, particularly among young people who comprise the predominant population within branches of the armed services worldwide.

As total institutions [46] and disciplinary institutions associated with governmentality [47], branches of the armed service institutions achieve the highest level of state indoctrination, in this case the transformation of the psyche into forms of disciplined personhood on behalf of state power. This conversion process involves the conflation of the state's monopoly on violence with the person of the soldier/"service person" as agent of the politically sanctioned right to take life, damage property, and destroy infrastructures and ecosystems. This relationship between polis, persona, and psyche marks a highwater point in the social construction of individual service to the state and why, following the invasion of Afghanistan and Iraq, a rallying cry of the right, pasted on bumper stickers nationwide, was "Support Our Troops". This propaganda comprises an extraordinarily effective form of rhetoric by negating the possibility of dialogue on the moral and ethical conditions surrounding the "national" decision to engage in warfare. The physical and psychological damage caused to young people forced to engage in combat, as well as the suffering and death of combatants and civilians, must be weighed against the geopolitical calculations that repeatedly reproduce cycles of mobilization, invasion, and destruction.

Why then, can we state in "the very next paragraph", as it were, that military service is perennially cited as one of the greatest, if not the greatest, structural catalyst for group cohesion and communitas? For many veterans, more psychic pain emerges from the peculiar dissociative qualities and loneliness of civilian life following the intensive, disciplined, and mission-driven sociality of the armed forces than from memories of somatic or psychic injury due to combat (especially for the majority, who never experience combat). It is too well-known to bear repeating that service enhances the enlisted person's sense of purpose, camaraderie, and meaning, while instilling self-discipline and high levels of cooperation on mission-focused labors. Imagine if these qualities were established within supranational service organizations for young and middle-aged people who enlisted in a Global Earth Corps (GEC) [16]. The ethical, humanist underpinnings of an international biospheric defense force, focusing on collaborative projects developing socially just sustainable life systems (as described below) would engage young people with their peers across international borders. These programs would be meaningful to participants and other beneficiaries for their global importance, bearing long-term positive consequences for the world in ways that exceed simple quantification.

A hypothetical instantiation of the GGD Protocol, that is, one possible scenario for its implementation, would involve the United Nations Environment Program (UNEP) and the COP system. The UN could serve as the arbiter for a phased multilateral drawdown of military funding and the reallocation of equivalent revenue toward international projects undertaken by the new international Global Earth Corps, projects that advance the IPCC Framework Goals for decarbonization. The GEC missions would aim to decrease the use of fossil fuels and the emission of all greenhouse gases, as well as the uptake of atmospheric CO_2 by accelerating reforestation, carbon capture and sequestration, and ecosystem restoration. The GEC projects would employ young people (ages 16–30), as well as a certain percentage of experts and volunteers of all ages, to reduce the effects of global warming; enhance international relations; promote cross-cultural understanding; and improve social, economic, environmental, and political conditions within host countries and regions. Enlisted members of the GEC would work in international teams, with the opportunity to engage in missions within at least two countries within different world regions during their service periods. With a strong emphasis on the development of career skills in climate mitigation, international relations, cross-cultural communication, environmental management, and other fields, GEC programs would train recruits for rapid deployment and prepare them for the possibility of lifelong careers in similar fields. The following list of seven specific examples of potential projects is not exhaustive, but perhaps it provides a clearer sense of the range and depth of GEC deployments, each of which would constitute an important focal point for global green demilitarization (Table 1).

Each of the projects described below would instill a deep sense of duty toward the life systems to which humans can rightfully ascribe transcendent value. With its biospheric social justice focus, the Global Earth Corps will be defined by the inclusion of many cosmologies—one planet many worlds. As with military service, the values of loyalty, duty, discipline, commitment, and faith can be cultivated, in a highly participatory, critical, and consensus-seeking fashion. Persistent regional conflicts and even so-called "state failure" must be addressed within the context of a much larger terrestrial peace built by and for the international community. Peacebuilding will, for the first time, develop around planetary socio-ecological principles that override and transcend regional conflicts because of their more compelling scope, vision, and commitment to the benefits accrued by direct engagement in long-term collective mutual aid. Out of this foundation of mutual work, societies engaged in, and benefiting from, the labors of the Global Earth Corps will gain the perspectives and powers yielded by the highest form of peace and leisure, that is playfulness. Thus, our ninth strategy is to overcome the growing militarization of human subjectivity and the weaponization of thought with the endlessly playful and generative power of playful creation.

Table 1. Potential projects for a Global Earth Corps (GEC), including target regions, purpose, and potential personnel.

Global Earth Corps Project	Region(s)/AORs	Purpose/Goals	Institutions/Personnel
(1) Reforestation and Ecosystem Restoration	Forest biomes in tropics, subtropics, temperate, & boreal zones	Propagation of native species, especially broadleaf trees for carbon sequestration, ecosystem restoration, & biodiversity enhancement	GEC, collaboration with local people, universities, government agencies, NGOs
(2) Sustainable Agriculture & Aquaculture	Agricultural & Aquacultural zones worldwide	Improvement of food production and processing systems for ecosystem integrity, soil improvement, carbon sequestration, food sovereignty, and biodiversity	GEC, collaboration with farmers, universities, government agencies, NGOs
(3) Hazardous Waste & Greenhouse Gas, Reduction, Management, & Remediation	Industrial regions worldwide	Cleanup & treatment of hazardous wastes & GHGs; ecosystem restoration; technological innovation for waste management	GEC, collaboration with local people, universities, government agencies, NGOs
(4) Systematic Cleanup of Oceanic Plastic and Riverine/Near-Shore Sources	Mid-oceanic gyres, especially within the "Great Pacific Garbage Patch;" Circum-Pacific	Removal of plastic wastes of all sizes; restoration of marine habitats & species; elimination of waste sources	GEC, collaboration with local people, universities, government agencies, NGOs
(5) Green Energy Technologies—Installation, Improvement, and Innovation	Worldwide	Training in the invention, improvement, and implementation/installation of green energy technologies used in industry, households, and public utilities.	GEC, collaboration with local people, universities, government agencies, NGOs
(6) Refugee Aid, Socially Just Resettlement, and Green Social Ecology	Worldwide & contingent on outcome of polycrises	Mitigation of refugee crises spawned by global climate emergency and political economic strife; Sustainable resettlement and repatriation; Diminution of driving forces behind emigration	GEC, collaboration with local people, universities, government agencies, NGOs
(7) Peacebuilding Through Green Community Infrastructural Development and Education	Worldwide	Peacebuilding at community level through training in community service-learning projects for educational and other civic institutions	GEC, collaboration with local people, universities, government agencies, NGOs
(8) Climate and Ecological Public Health	Worldwide	Public healthcare provision responsive to socio-ecological problems generated by climate emergency & associated forms of structural violence	GEC, collaboration with local people, universities, government agencies, NGOs
(9) Cultural Survival and the Continuing Development and Application of Traditional Ecological Knowledge [17]	Indigenous peoples' homelands & applicable worldwide	Research and practice oriented training in traditional indigenous and folk ecological knowledge and its application.	GEC, collaboration with indigenous people, local people, universities, government agencies, NGOs

6. Conclusions

The radical transformation of international relations and global geopolitics is a serious proposition, but there may be few human qualities as endearing as playfulness. We derive pleasure from activities that seem to have greater consequences in our imaginations and in our relationships with family, friends, and community, than they do in the often more alienating and anonymous world of labor alone. Through play, our psyches are free to create new forms of personhood, new identities, and new social possibilities. Like work and public life in general, play too can be highly structured, especially in the form of games, which have proliferated to encompass an enormous diversity of forms and activities, from card games, to sports, to online games, to war games, and much more. Built into the design of these activities are physical and mental challenges that blur the boundaries between the imagination and the "real world". Playfulness in general appears to be present in many more organisms than many of us would like to admit [48], but the realms of imaginative play, leisurely play, and structured play collectively comprise an essential component of the human cognitive niche, a highly evolved element of our psyches bearing different degrees of intentionality that are unique to our species. As a whole, our games reflect who we think we are, who we think we ought to be, what we regard as the best and worst human qualities, and the things that we aspire to for ourselves and others. In competitive games there are winners and losers. These games create an element of excitement by imposing existential boundaries on our leisure and lending profound purpose for behaviors and activities that might otherwise be viewed as absolutely absurd. It is when we forget that all games, when viewed from an objective distance are absurd, that we often run into trouble. All games are devoid of those things that can be deemed "matters of ultimate concern"—matters of life, death, destiny, and the afterlife as they are determined by culturally constructed patterns of any given cosmos, matters taken up by religion [49] and, in this essay placed within the institutional and epistemological category of *Cosmos*. The boundaries between the ludic and the grave can be blurry. Still, we will become far wiser as a species when we recognize that the difference between competitive games and the real life of the biosphere is that in the first there are definitive winners and losers, but in the second all that ultimately matters is adaptation, resilience, and evolution. The first principal of biospheric realism is that revenge does not yield justice, nor does justice include revenge. History does not repeat itself, it doesn't even rhyme, and that becomes abundantly clear at those moments when humans are brave and adventurous enough to change the nature of their games and the genre of their narratives. Upon this single collective decision, the prospect for all life on earth depends. If the olive branch has become a symbol of peace between nations, there is hope that the olive tree is a symbol of a more durable, imaginative, active, and perpetual peace and playfulness taking root within and among all nations.

Declaration of Competing Interest

The author declares that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Notes

1. Translation by Robert Strassler [50] (p. 1270).
2. Marx [51] was right to say that history repeats itself "the first time as tragedy, the second time as farce" in reference to the way that authoritarian regimes reproduce themselves in absurd and tendentious forms due to perduring class dynamics. I also appreciate the idea that "History never repeats itself, but it does often rhyme," a quote attributed to Mark Twain (but the source is unknown). In this essay, however, I adopt a broader view of time and change, which is encompassed within the concept of geohistory.
3. Geohistory, in this usage, holds the same temporal scope as "Big History" [52], but is explicitly political in its demands for social, economic, environmental, and political justice. By placing all human institutions in the context of the spatio-temporal unfolding of the biosphere, geohistory is the empirical framework for transdisciplinary earth studies (described below).
4. Examples include the Mesopotamian flood myth and its protagonist, Utnapishtim, described in the earliest Sumerian poems associated with *The Epic of Gilgamesh*, which date from the Third Dynasty of Ur (2100–200 BCE).
5. Periods of political economic crisis within polities (broadly defined in this essay to include non-state groups) typically generate millenarian movements animated by a collective will to create new cosmopolities. Examples abound in the anthropological and historical record.
6. I use this word in terms of its derivation in the Greek *idios*, referring to that which is private, singular, idiosyncratic, and irrational.
7. See, however, Coggins [33] and Conversi [34] for exceptions, and these are discussed below.
8. The Cost of War Project [53] website explains that the $8 trillion in post-9/11 military expenditures includes items within the budgets of not only the Department of Defense, but also the Department of Homeland Security, the State Department, Veteran's Care, and interest on debt.
9. Wu [22] (p. 806) notes that "This is where classical geopolitics and mainstream realist theories converge. Since its inception, the balance of power has attracted more scholarly effort than any other single proposition about international politics. However, within the tradition of balance of power, one can identify three main strands: balance of power theory, theories of power balances and theories of balancing. Balance of power theory is concerned with the recurrence of balances of powser in the system; theories of power balances seek to explain the emergence of systemic balances of power; and theories of balancing seek to explain the conditions that lead states to adopt balancing

strategies. Those three subgenres of theories related to the balance of power, albeit intersecting with one another, are logically and analytically distinct. After decades of great efforts, contemporary realists have developed a refined (systemic) balance of power theory, as well as a large variety of theories of balancing. Though both kinds of theory contain some form of theories of power balances, mainstream realist theories, so far at least, have generally made little progress in explaining the recurrent emergence of balances of power in the system. This is [a] prominent lacuna that classical geopolitics is promising to fill in."

10. In 2023 there were between 5.3–6.9 billion smartphone owners worldwide, equivalent to 65–86% of the world population, but since many people owned more than one phone, actual smartphone penetration varied dramatically even within the top ten countries, from 21% in Pakistan to 81.6% in the United States [54–57]. Among Internet users, only 40 per cent of school-age children had access to the Internet at home in 2022, with dramatic disparities within and among countries [58].

11. Strangely, and, I would add, amusingly, these are fighting words. "Biological reductionism!" Critics cry. I understand this objection, but please bear with me long enough to see the broader view of time, space, and their mutability that I propose.

12. In my view, "Oikos" does not simply *encompass* both economy and ecology, it marks a disciplined refusal to see them as separate. No objective materialist account of human agency can separate humankind's endless expansion and transformation of habitats (in the course of building "infrastructure") from its ecological effects. In fact, eighteenth century European and American theorists of "the economy of nature" followed the functioning of natural systems as a model for the study of the movement of goods (economics). Only in the nineteenth century did the study of economics diverge from its foundation in terrestrial processes [59,60].

13. Osiander [29] (p. 282) deconstructs the myth that the Westphalian treaties established the modern institution of national sovereignty by noting that various forms of autonomy and political interdependence were already well established in 17th century Europe, well before the Peace of Westphalia in 1648. He notes that "IR theory, and its still-dominant paradigm, realism, thus developed against the background of what may be called the ideology of sovereignty. It was not realized that, far from being traditional, this ideology had its roots only in the transient nineteenth-century heyday of state autonomy." He adds that as industrialization and control of resources and labor became the very foundations of state power in the 19th century, the concept of sovereignty and its institutionalization gained near-universal appeal. As he says, "In the nineteenth century, this process raised the level of the most important economic circuits from the local to the "national" (that is, state) level; this evolution made the state more integrated and strong and gave us the sovereign state (rather than prince) as, intellectually, we know it...The administrative prowess acquired by the nineteenth-century state as well as the ideology of nationalism also dating from that period endow the territorial state with considerable staying power. But ongoing division of labor ("globalization") puts it under ever-increasing pressure, and with it sovereignty-based IR theory.

14. Russia's invasion of Ukraine, for example has caused major recalibrations in institutional alignments meant to maintain a balance of power. This includes the expansion of NATO and the compounding of complexities that now seem built into the relationship between the US, the PRC, and Russia. The recent conflict between Israel and Palestine, including Israel's invasion of Gaza may be leading to comparable realignments.

15. For additional international comparisons of the military status of nations and their relative capacity for peace see the Global Militarisation Index [61] and the World Peace Index [62]. For an analysis, including specific recommendations for more effective US military force projection worldwide, see Ochmanek [63].

16. In the US, the Civilian Conservation Corps (CCC), Youth Conservation Corps (YCC), and the Peace Corps are analogous to the Global Earth Corps, but the latter institution would be vastly different due to its international, planetary, peacebuilding mission, which would be multilateral, responsive to a multiplicity of socio-ecological needs, and capable of continuous evolution.

17. Some readers may be surprised to learn that the US Military language training systems is among the best in the world. Imagine if such programs were used on behalf of cultures facing marginalization and extinction, rather than on behalf of military "intelligence." Language is arguably the ontological essence of culture, and since an estimated 9 languages are lost each year, and this process is accelerating. There are over 6000 languages on earth, but due to deleterious ecological, economic, and political forces, an estimated 50% may be lost within the next century [64].

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