

WORKING PAPERS

Big Pictures: Capitalism, Imperialism, Climate Change, War, and Migration

Stephen Reyna

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Working Paper

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Big Pictures: Capitalism, Imperialism, Climate Change, War, and Migration

Stephen Reyna

Research Partner, Max Planck Institute for Social Anthropology

Series Editors: Anna Triandafyllidou, Richa Shivakoti, and Zhixi Zhuang



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Abstract

In 1979 Lyotard published *The Postmodern Condition*, which attempted to understand the nature of the world we lived in, ushering in a babel of postmodern thought. Lyotard promulgated an epistemic taboo popular among his followers: Don't do metanarratives, i.e., broad ranging research seeking understanding of big pictures of conditions. This talk is based upon an opposing epistemic ethic: If you don't get the big picture, you could die. Moreover, I don't think we are in any pomo condition; rather we are all in a rather frazzled modern (frazmo) condition.¹

This talk offers two big pictures -a diptych if you will- of the advanced, frazmo condition. The first picture is of the recent past. The second is of a looming future. Represented in the picture are capitalism (both advanced capitalism and that in the developing South), states (imperialist and developing), climate change, war, and migration. Bear in mind, the word 'pictures' is a metaphor for what are abstract models. Specifically, they are models that picture the conditions of migration. The first picture represents them in the recent past. The second picture represents them in a possible future. Both pictures are of the causal conditions of migration. Then, after drawing the big pictures, the question is posed: What is to be done -now, especially with regard to the study of migration?

¹ Material for this talk were taken from a larger text in preparation, *Power: A History, Everywhere, all the Time, Especially Now and Then*.

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The Past

Advanced Capitalism and Climate Change

Advanced capitalist economies and climate change go together like love and marriage. Global temperatures have increased on the order of 1.2°C. The evidence is incontrovertible (Cline, 2014; Koch, 2012) that capitalism pumps greenhouse gases, especially CO₂, due to its reliance upon petroleum energy, into the atmosphere causing climate change involving global warming. It is equally evident that it has been the advanced capitalist economies (OECD countries) that have historically spewed the largest amounts of greenhouse gases. One study (Riley, 2017) reports just one hundred fuel companies are directly or indirectly responsible for 71% of global emissions. The Center for Global Development (CGD, 2024) based upon 2011 data estimated that about 60% of all greenhouse emissions came from advanced economies.

Developing Capitalism and Climate Change

Developing economies in the Global South have historically not been major contributors to climate change. However, as they have increasingly developed industrial and commercial capitalist sectors they have become important polluters of greenhouse gases. This is especially the case as they have relied on less expensive and more polluting energy sources, such as coal. The Center for Global Development (CGD, 2024) estimates that they contribute roughly 40% of all greenhouse emissions.

Climate Change and Capitalism

There is evidence of a reciprocating relationship between capitalism and climate change. Just as capitalism causes climate change, climate change reciprocates and harms capitalism in both advanced and developing economies. Extreme heatwaves, floods, rising seas, droughts, and fires harm agriculture, manufacturing, insurance, and finance. There is debate over how great the damage is. There is little debate that it has been considerable. Researchers report that a 1°C increase in global temperature leads to a 12% decrease in global GDP (Milman, 2024).

Imperial States and War

The discussion turns to warfare at this point and allows clarification of the term. There are currently two major types of international and intranational war, both involve physical violence. International war can be that of imperial or non-imperial states. Intranational war can be civil war or that between non-governmental militia. There is a body of literature that explains, while formal empires are no more, informal ones exist and are in competition with each other, with the key competitors being the US, China, and Russia.² Informal imperialism in different ways provokes warfare. The US has fought major overt, covert, and proxy wars in Korea, Vietnam, Afghanistan, Iran, Iraq, Ukraine, and Gaza to maintain, or enhance, its position as the world's

² US pundits and propagandists are keen to label Russia and China as 'evil empires.' They are less willing to admit that the US too is an empire. However, there is a convergence of scholars on the Left (Harvey, 2003), Centre (Gaddis, 1997; Ferguson, 2004) that judges America to be an imperial 'order'. It is possible that informal empires are more war-prone than their formal counterparts, because they lack colonial administrations to keep the peace. The founding document of US post-World War II imperialism was NSC-68. It was a National Security Council memorandum that the US sought (NSC-68: 21) 'world leadership' and insisted that 'a strong military posture' was 'essential' for this. Currently, the US operates under a security doctrine of 'full spectrum dominance' (Romaniuk & Bergers, 2017) by which it can defeat any opponent.

dominant informal empire. Reyna (2016) has shown that a number of these wars since then have been to maintain, or enhance, control over fossil fuels; the better to control other countries' access to them, the better to maintain imperial dominance.

There is evidence linking US climatic change with military preparedness. During the presidency of Obama, it was announced (White House, 2015, 2), 'Climate change is an urgent and growing threat to our national security'. This was because, 'Extreme weather events' were '...affecting energy production and delivery facilities, causing supply disruptions of varying lengths and magnitudes and affecting other infrastructure that depends on energy supply. Increasing risk of flooding affects human safety and health, property, infrastructure, economies, and ecology in many basins across the United States'. Further, it was stressed (Ibid., 3) 'These impacts' of climate change 'increase the frequency, scale, and complexity of future defense missions ...'. Essentially, the US government recognized that climate change would harm its advanced capitalist economy and would cause 'increase' in 'future defense missions'.

Developing States and War

Developing state wars -sometimes labelled 'tribal', other times 'ethnic', still other times 'small'-are commonly reported (Kaldor, 1999; Munkler, 2005). There are lively debates over causes of these wars. They are often civil wars involving non-state militias contesting with central governments either for control of the state itself or the natural resources within its territory. This is to say, as Halvard Buhaug (2010) puts it, that the politics of who controls what in the state are major causes of developing state wars.

Recall that climate change harms the fragile economies of these states, leading to greater poverty accompanied by civil unrest in already impoverished places; and, as Humphreys (2003) points out, 'Poverty makes civil wars more likely...'. This suggests that climate change harms developing states' economies, which increases these states' political problems associated with poverty, provoking civil war.

Climate Change and War

There is debate over whether climate change itself provokes war. The US at the highest levels of authority links climate change with its security. During the presidency of Obama, it was announced (White House, 2015, 2), 'Climate change is an urgent and growing threat to our national security'. Empires, from Assyria to America fight over their security.

Marshal Burke et al. (2009) reports a robust historical relationship between temperature and the incidence of civil wars in Africa, with temperature being an indicator of climate change. He found that the probability of armed conflict throughout Africa rose 50% in the exceptionally warm years between 1981 and 2002. Buhaug (2010) found little correlation between climate change and the frequency of civil war, arguing instead, as previously noted, that the primary causes of civil war are political. It is entirely possible that both views are correct. It is certainly plausible that climate change harms both advanced and developing capitalist economies, which harms exacerbate political conflicts that lead to wars. The Center for Climate and Security supports this hypothesis stating (Femia & Werrell, 2013), 'There is a significant causal link between a warming climate ... and the likelihood of intra- and inter-state conflict'.

Migration and War

It is possible to hypothesize that migration can cause war. The argument is especially relevant to the situation in developing states of the South when a new population migrates into a region and becomes embroiled in political disputes over its natural resources, especially the land itself, conflict escalates to become armed conflict. I (2010), for example, have explained the war in

Darfur as the result of climate change deterioration of pasture and water conditions in the southern margins of the Sahara. This caused the pastoralists there (Zaghawa and Arabs) to migrate south into the better-watered, farmed land, largely of the Fur and Masalit. This caused conflict over access to land between the pastoralists and farmers, which developed into full-scale warfare. However, in this instance climate change provoked migration and migration provoked war.

Climate Change and Migration

There is evidence (Piquet et al., 2021; Cattaneo et al., 2019) that climate change has considerably increased both in-country and cross border migration. This is especially the case in countries from the developing South. For example, drought in Mauretania in the early 1970s drove an estimated half of the rural population off the land and into the capital, Nouakchott. Similarly, in the previously mentioned Darfur region in the 1980s, climate change in the form of drought led to pasture and waterpoint losses at the Sahara's margins provoked pastoralist migrations southward into better watered territory. In 2022 floods in Pakistan and droughts in East Africa resulted in forced migration of 33 million persons (Huang, 2023). Internal Displacement Monitoring Center (IDMC, 2018, 2) estimated that on the order of 22.5 million people were internally displaced by environmental disasters each year since 2008. Environmental disaster is climate change in action.

War and Migration

There is evidence that warfare -both the wars of imperial and developing states- has caused migration. Two sorts of warfare have been responsible for the population movements. The first are the wars of informal empires, especially those of the US, the second are the 'small' wars of countries in the developing South. Since the US chose to engage in the global war on terror (GWOT) between 2001 and 2019, it is estimated that American warring has caused the displacement of an estimated 37 to 59 million people (Vine, 2020). This does not include figures from the US proxy war in the Ukraine of an estimated 6 million Ukrainian refugees spread across Europe, and 8 million more displaced within Ukraine by late 2022.

The 'small wars' of the South have been prolific migration producers. In Chad, civil wars since 1966 have driven large populations from unsafe areas in the countryside into the capital, N'Djamena. In Darfur, civil war drove millions from Sudan to neighboring Chad. In Congo, near Goma, strife between the local peoples and Rwandan-supported militias has also displaced millions. Civil strife against brutal dictatorial regimes supported by the US in Guatemala, El Salvador, Haiti, and Honduras has led to great population displacements north to the US. The Sri Lankan civil war (1983-2009) led to a million internally displaced persons and 700,000 external migrants, largely from the Tamil population, defeated in the conflict. Civil war in Myanmar (2021-present) has led to great population displacement among 900,000 Rohingya.

The preceding information allows for the drawing of Big Picture 1: The conditions of migration in the recent past.

Big Picture I

This Big Picture is represented by three generalizations. They are:

1. Migration has been importantly caused by climate change and war.
2. Advanced and developing capitalist economies have been principal causes of climate change.

3. War multiply caused -by imperial state geopolitical competition, struggles in Global South countries for control over the state and its resources, climate change, and migration- have been causes of migration.

Big Picture I is no picnic in the park. Migration is the misery of people on the run from war and climate change. One report (Savell, 2023a) announces that since 9/11 and the onset of the US GWOT there have been between 4.5 to 4.7 million direct and indirect deaths as a result of wars. Another study concludes that on the order of 5 million people per year die globally from the direct or indirect effects of climate change (DARA, 2012). War and climate change themselves are the product of advanced and developing capitalist economies and imperial and developing states competitive politics. Part of this picture is that climate change harms advanced and developing economies. More of this harm will appear when this picture is re-painted for the near future -say that of your grandchildren.

The Future

Advanced and Developing Capitalism and Climate Change

Saxifrage (2017) reported in 2017 that CO₂ levels continued to 'accelerate'. Between 1970 and 2008 the earth warmed 0.18°C per decade; while in 2023 Hansen and colleagues predicted the rate of increase would rise to 0.27°C to 0.36°C each decade (in Hausfather, 2024). As of 2024, this acceleration had spewed 422.26 ppm of CO₂ in the atmosphere, its highest level. Increases in CO₂ levels are positively related to increases in temperatures. A number of predictions have been offered concerning the level of temperature increases between the years 2050 and 2100. The United Nations (UN, 2019) conveyed, 'Even if countries meet commitments made under the 2015 Paris Agreement, the world is heading for a 3.2 degrees Celsius global temperature rise over pre-industrial levels'.

Estimates of global warming are probably too low. Most of the information bearing upon greenhouse gas emissions is delivered by local and regional areas to central governments, who convey it to the UN. It has been found that large gaps exist between reported emissions and the actual amount of greenhouse gases released into the atmosphere. The underreporting is said to be 'massive' (Schnell, 2021). One study reported that US cities underreport their emissions by 18.3%. This figure is significant because three-fourths of CO₂ emissions come from cities (Gurney et al., 2021). The International Energy Agency (IEA, 2023) announced in 2022 that methane emissions were globally 70% higher than the official figures provided by governments to the UN. Consequently, existing estimates of global warming predicting temperature increase of 3.2°C are conservative.

Unsurprisingly, current estimates of rising temperatures are higher. A data analysis performed for the World Bank by the Potsdam Institute for Climate Impact Research and Analytics (World Bank, 2012, 1) found that, 'present emission trends put the world plausibly on a path toward 4°C warming within the century.' Such a high predicted path of global warming was something of an outlier at the end of the first decade of the 21st century. It is not so today. The National Center for Atmospheric Research state in 2024, matter-of-factly (UCAR, 2024), 'Climate models predict that Earth's global average temperature will rise an additional 4°C (7.2° F) during the 21st Century if greenhouse gas levels continue to rise at present levels'. A further Stanford University report (Ryan, 2019) re-iterated this point, judging that a 4°C temperature increase is '...the path we're on if societies do not substantially reduce the emissions...'. Consider harms attendant upon temperature increases.

At 2°C, a 'threshold' will be crossed which will 'activate ...tipping' (Steffan et al.,2018). '[M]ajor cities ...will become unlivable (Wallace-Wells, 2019, 3). At the same time destroying 'many natural ecosystems' (Lynas, 2020). A 3°C rise will result in environmental effects that will

produce an estimated damage of the world economy in the order of hundreds of trillions of dollars (Botkin et al., 2007), which Lynas (Ibid.) believes will imperil the 'stability of human civilization'. Lynas (Ibid), further, predicts a 4°C rise will result in 'a full-scale global collapse of human societies ... accompanied by a mass extinction of the biosphere'. Lynas, finally, judges that at 5°C the 'climate impacts' will be 'so extreme that they will leave most of the globe biologically uninhabitable'. To be clear: This is talk of 'mass extinction'.

One might think with climate scientists predicting that 'global collapse' was on the way that something would be done to stop the folly. Indeed, there are individual, international, and national programs to mitigate and adapt to global warming. With regard to individual action there are too few people actively reducing their carbon footprint, with rather little they can do to actually reduce carbon emissions.³ Internationally, the UN through its Intergovernmental Panel on Climate Change (IPCC) has been authorized with researching and formulating policy to combat climate change. Unfortunately, the UN, while authorized to formulate climate change policy, lacks the authority or resources to implement such policy. Implementation is to take place at the national level by UN member states.

Nationally, China, India, and the US are the three largest emitters of greenhouse gases, comprising roughly 51% of the global total. China and India continued to increase their emissions in 2023. The US reduced its emissions by a small percentage. The current reality is that the climate politics of UN member states have been ineffective in fixing high levels of greenhouse gas emissions. In 1950, when climate change was beginning to be recognized as a problem, the world emitted 6 billion metric tons of CO₂ into the atmosphere. By 1990, when fixes were first implemented, 22 billion metric tons were emitted, by 2020 the figure was at 34 billion metric tons, and in 2023 it was at 37 billion metric tons, 'a new record high' (IEA, 2024).

In certain ways, the structure of those combatting climate change and those hindering the struggle, resembles that of opposing elite classes at the end of the Middle Ages. Then, there were landed aristocracies in competition with a rising class of mercantile capitalists. Presently, there is an aristocracy of fossil fuel capitalists, and their allies, opposed by a rising class of renewable energy capitalists, who accumulate their profits producing goods that oppose climate change (ranging from solar panels to giant wind turbines). In 2022 the subsidies to the fossil fuel industries were \$7 trillion, which was 7.1% of the global GDP, and a \$2 trillion increase since 2020 (IMF 2024). While the International Renewable Energy Agency estimates that the direct subsidies to renewable energy (principally solar and wind) will rise from about \$166 billion annually to \$209 billion -chickenfeed compared to what the fossil fuel industry gets. All of which suggests that the landed aristocracy of the fossil fuel industrialists, and their allies in finance and government will hold their own against renewable energy capitalists.⁴

Climate Change and Capitalism

It looks like climate change will cause a 4°C global temperature increase within the near future. A 2°C will lead to many major cities where economic activities occur becoming 'unlivable'. A 3°C

³ A person's 'carbon footprint' is the amount of greenhouse gases they emit over some period of time. To keep the global temperature, rise at 2°C, or below, every person will need to average carbon footprints of 1.87 tones per year by 2050. Currently, the US carbon footprint is 18.3 tons per capita, that of China is 8.2 tons (Cho, 2018).

⁴ Solomon (2024) declares global warming is 'solvable', implying that global temperature increase up to 4°C will not be reached. Central to the argument is that environmental problems have been solved in the past (for wealthier populations), so they can be resolved in the future. Such logic is risible. While some environmental problems have been solved, the earth is awash in unsolved, rising ecological disaster. Further, climate change may be technically solvable, but atmospheric warming is not a technical problem. It is one of capitalist and political elites whose interest is in producing as much fossil fuels as possible. Solomon's analysis of the power of these elites is wanting.

rise will result in environmental effects that will produce an estimated damage to the world economy in the order of hundreds of trillions of dollars (Botkin et al., 2007). Bilal and Känzig (2024) further report that a 3°C will cause 'precipitous declines in output, capital, and consumption that exceed 50% by 2100'. By the time temperatures rise to 4°C there will be 'full scale collapse' of the capitalist economies of advanced and developing economies. Originally, capitalism caused climate change, at 4°C climate change will cause elimination of capitalism. There is an irony here; unfortunately, it is one of 'mass extinction'.

Imperial States and War

Empires war with each other. Since 1945, the US has been the dominant informal empire in the world; in competition with the Soviet Union between 1945 and 1990, since then in competition with Russia and China. John Tures (2003) used a "United States Military Operations" data set made by the Federation of American Scientists to estimate the frequency of US military activities since 1945. He found that the US engaged in 263 interstate military operations, an average of 4.6 operations per year. However, 176 of these operations occurred in the 11 years between 1991 and 2002, at a rate of 16 operations per year. Castro and Adler (1999) concur, reporting that since 1989 the number of military deployments has 'drastically increased.' Stephanie Savell (2023b, 1) reporting on the second decade of the 21st century corroborates earlier reports, stating:

"Between 2021 and 2023, the first three years of the Biden administration, the U.S. government conducted counterterrorism operations in 78 countries, including ground combat in at least nine countries and air strikes in at least four. In 73 of the 78 countries, the U.S. trained and assisted foreign security forces in counterterrorism."

Currently, the US is actively engaged in two proxy wars in the Ukraine and Palestine. Is this warring in support of imperial objectives? Reyna (2016) has argued that for the period of 1990 through 2016 that this was the case. US government policy is quite clear. It seeks military supremacy so that it may continue geopolitical supremacy, which means that it seeks to be able to influence other countries domestic and foreign affairs. The Ukraine war is to weaken Russia and strengthen US powers in the western region of the Eurasian super-continent, while that in Palestine is to strengthen Israel as an 'aircraft carrier' attendant to American interests in the oil rich/geopolitically strategic the Middle East. What are the prospects of continued or increased US imperial warfare?

The current geopolitical situation resembles that of Europe in the 1890s. Then, the competing imperial states -the UK, Germany, and France- were arming themselves, and creating alliances preparatory to the First and Second World War. Currently, the competing imperial states are arming themselves, and creating alliances, preparing for what would be a Third World War. Such a war should be accorded a high probability.

Developing Economies, and War

If climate change increases, poverty will increase in the developing states of the Global South, which could increase small wars in the near future. An earlier literature, of which Robert Kaplan (1994) was at the forefront, predicted a 'coming anarchy' in countries with developing economies based upon fratricidal, ethnically driven civil wars. One recent study (Burke et al., 2009), based upon African data, predicts higher risk of civil war.

Climate Change and War

There is evidence linking climatic change with US military preparedness and war. During President Obama's administration it was announced (White House, 2015, 2), 'Climate change is an urgent and growing threat to our national security'. This was because, 'Extreme weather events' would gravely harm the economy. Further it was stressed (Ibid., 3) 'These impacts' of climate change 'increase the frequency, scale, and complexity of future defense missions ...'. The US government recognized that climate change would harm its advanced capitalist economy and would cause 'increase' in 'future defense missions'.

There is evidence from Africa and the Middle East that climate change has had an important role in the causing of warfare. In the *sahel* the 1970s through the 1990s in Mauretania, Chad, and the Darfur in Sudan severe drought led to war. Kelley et al. (2015, 3241) assert 'There is evidence that the 2007-2009 drought contributed' to the Syrian civil war (2011-2020). In each of these cases, climate change was not the sole cause of war. Migration, national and international economic policies, and national and regional political disputes played a role in the warring. The causality, thus, was multiple and not especially well understood but, nevertheless, climate change was part of the causal complex responsible for the war.⁵ As climate change will increase in the near future it is like that both imperial and developing Southern states will war more frequently.

Climate Change and Migration

There are predictions that climate change in the future will drive far higher migration than is currently the case. The Institute for Economics and Peace (McAllister, 2022) puts the figure at 1.2 billion migrants in the year 2050. Other estimates are far lower. The World Bank (Huang, 2023) puts the figure in the same year at a low figure of 44 million climate migrants and a high figure of 216 migrants. These predictions of high migration rates are widely divergent and reflect the paucity of research bearing on the topic.

However, to be clear, as global warming reaches its highest levels, migration should decline. Extreme heat, mass starvation, and climate-related disease will lead to massive die-offs. Exceptional mortality levels will mean fewer people left to move. Those left living will lack resources to move. Those left in less harmed lands will do everything they can to prevent migration.

Imperial War and Migration

Imperial wars have led to forced migration of persons out of war zones. It is likely that there will be imperial wars in the near future. It is not known what their magnitudes will be, though it is entirely possible they will be great, at least as high as was observed for the post 9/11 US wars. It is time to draw Big Picture II, which will feature something quite unique.

Big Picture II

Big Picture II is basically Big Picture I on speed, and then it happens. Again, there are three generalizations. These are:

1. Migration will initially be greatly increased by climate change and war.
2. Advanced and developing economies will increasingly cause climate change.

⁵ The role of climate change, and other factors, is most completely explored in the Syrian civil war. Selby (2019) and Daoudy (2020).

3. Intensified imperial and developing state conflicts will cause increasing war.

Then, it happens. As global warming passes increases from 3°C to 4°C, if the above three generalizations hold as predicted, something unique in human history will occur. It will be a time of frazmo -deeply frazzled modernity- due to the emergence of a 'Black-Hole Power Singularity'. I apologize to cosmologists and astronomers. I have appropriated their terms singularity and black holes to use them metaphorically to picture 'it' -the movement of human being to not being.

Hitherto, the history of human being has been one of accumulation of human powers; slowly prior to humans creating the modern condition, explosively thereafter. However, as climate change and war increase, a singularity -in the sense of something utterly new- will emerge. It will become harder and harder for economies anywhere on the globe to operate due to the destructive effects of extreme climate change on productive force. There will be massively escalating frequency and severity of supply shocks involving destruction of capital stocks, labour supply scarcity, and disordering of supply chains. In conjunction with tremendously increasing frequency and severity of demand shocks due to damage of household and corporate profitability resulting in both reduced consumption and investment.

Essentially, the global economy will shut down, and with its closure, the singularity will fully emerge in the form of a massive dis-accumulation of the powers of human being. It is as if the cratering of human powers is like the gravity in a black hole drawing human being into the darkness of nothingness. Its final expression will occur when there are no more humans migrating, because there are no humans. This, dear listeners, is the Big Picture II of the conditions of migration in the frazmo future; a vast space with a black hole of non-being at its the centre. So, as Lenin liked to say, what is to be done?

What is to be done?

Revolution of course! This may sound glib. It is not. Enormous changes -unavoidable and profoundly destructive- are going to take place as humans are dragged into the black hole of temperature increases from 2°C to 3°C to 4°C. If humans are to survive, they will have to make radical changes, and radical change, is by its very nature, revolutionary. The successful revolutionary needs to satisfy two conditions when going to battle.

The first is to know *what* is happening. The second is to know *what to do* to have the power to alter what is happening in desired ways. The big picture is that climate change and war are the two drivers of migration, and that migration levels are indicators of the strength of black-hole forces. This means that robust knowledge of how climate change and war effect migrations are necessary conditions of what is happening and what to do about it. While there are scattered studies of these topics. There is no single institute devoted to being able to create a grand narrative of how climate change and war influence migration. My suggestion is that it's about time for a Canadian Centre for the Study of Migration, Climate Change, and War to get the Big Picture.

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