

# Climate Change and Migration in the age of Imperialism's four horsemen

**Brian Parkin**

*For centuries during which life for many was indeed nasty, brutish and short, it was a commonplace in Christian Europe to believe that the convergence of natural disasters with man-made calamity would herald an Apocalypse. And despite around three centuries in which reason and scientific inquiry have displaced religion and superstition as temporal authorities, a renewed period of capitalist crises and imperialist tensions- combined with increasingly irrefutable evidence of potentially catastrophic climate change- has once again raised the spectre of Apocalypse. The sudden collapse of the neoliberal financialised order in 2008 has seen many governments run for protectionist measures whilst further exacerbating social tensions with the persistence of austerity and fiscal stringency. And this, combined with an accelerated desperate diaspora from renewed imperialist wars as well as drought-stricken regions has added human flight to the growing list of global capitals casualties.*

*The rise in the numbers of those desperate to seek refuge is just the beginning, as the unconstrained consequences of the interconnections between capitalist crises, imperialist conflict and climate change take hold. In this piece, I lay stress on the way which in which the intersectional relationship of these components can only be overcome through the intervention of a revolutionary class.*

## **Introduction**

For socialists, the end of capitalism couldn't come too soon. The persistence of a reified mode of production dependent upon the extraction of value from alienated and degraded labour, whilst subjecting the bulk of humanity to want and oppression are reasons enough to call for urgent redress. But when the by-products of late capitalism in the form of wars and protracted crises come to be augmented with the advancing symptom of climate change, then that urgency assumes a greater meaning.

However, the scale and speed of anthropogenic atmospheric warming has led many to regard the dire need for mitigating strategies to render the socialist project a more distant hope- if not an entire write-off. Yet the range of ideas prompted by the climate debate, represent a spectrum in which it is possible to argue that capitalism - the source of the problem - can be cast as the principal obstacle to the resolution of global warming.

In the years prior to the Russian Revolution of 1917 (whose centenary we are celebrating), Marxists of the Second International<sup>1</sup> developed further Marx's emphasis on the international and expansionist nature of capitalism. In doing so, they came to an *intersectional* understanding of the contemporary development of capitalism. This took the form of intensified concentration, monopoly, finance-industrial- state interdependency (oligarchy), culminating with war as a possible form of heightened competition by other means. And drawing on the earlier work of English economist *J A Hobson*, they named this latest period as *imperialism*.<sup>2</sup>

Imperialism gave the International a greater sense of urgency to speed the advent of socialism - if only as a way of averting a forthcoming and certain global catastrophe. But it was on this very issue that the International foundered, and with few honourable exceptions, surrendered its internationalist credentials.

This episode of disgrace notwithstanding, the destructive dynamics of international capitalism have assumed even greater possibilities since 1914 and the prospects confronting humanity as set out by Rosa Luxemburg as 'Socialism or Barbarism' still resonate. But today, as an additional dimension in a possible intersectional but still hopefully avoidable apocalypse, we have to factor in an increasing possibly irreversible climate change.

### **A climate of credibility**

For much of the early 20<sup>th</sup> century, socialists of a variety of hues assumed the powers of prediction by which they could foretell the ultimate crisis of capitalism, as if to the day, minute and second. Yet, despite the messianic portents of Trotsky's *Transitional Programme*<sup>3</sup>, the final death agony of capitalism has been a long time a-coming, and with it, the reputations of otherwise worthy men and women have foundered.

Socialists today are confronted with the task of addressing the renewed onset of capitalist crises against a growing sense of alarm that we are facing runaway climate change. This means creating a narrative which argues for the overthrow of capitalism as a necessary condition, not only for emancipating humanity, but also to bring our planet's eco-systems back into a sustainable equilibrium. And

---

<sup>1</sup> The Second International was established in 1889 and by the turn of the 20<sup>th</sup> century comprised the majority of working class parties of Europe, North America as well as some colonial territories. Although the political composition of the International was highly variegated, it was the German Marxist SPD, along with its Austrian, Polish and Russian counterparts who dominated the debates - particularly regarding warnings of imperialism and its inherent drive to enhanced competition through war.

<sup>2</sup> J A Hobson, *Imperialism: A Study*. London 1902.

<sup>3</sup> Leon Trotsky. The 1938 transitional programme of the 4<sup>th</sup> International, *The Death Agony of Capitalism and the Tasks of the Fourth International*. The slavish repetition and dogmatic refusal to review this document in light of contemporary events, has led to a vulgar and ahistoric variant of Marxism notable for its economic and historically deterministic doctrine. For this, fault should not lie at Trotsky's door; all great prophets have their pretenders.

insofar as we agree with environmentalists on the urgency for change, we also have to dispel the notion that such change is possible within the context of capitalism<sup>4</sup>.

As has been argued elsewhere, a distinctive feature of late capitalism is the extent to which energy companies - particularly the petroleum interests- have been able to bend state foreign policies, as well as domestic environmental legislation, to their will. The signal failure of the Paris COP21 climate agreement lay in its subordination to the language and rationale of neoliberalism (not to mention the persuasive powers of the energy corporations). Effectively, this meant that the deal relegated the whole question of tackling the abatement of global emissions to market forces (kicking real action into the long grass).

Yet, an essential task for socialists is not to accept the ‘catastrophism’ explicit in many climate forecasts. Certainly, the world is set to go to hell on a handcart - but that was always the case unless the rampages of capital were ended. And rather than socialists now belatedly appending climate change mitigation to their shopping list, it is high-time that the halting of climate change became woven into the fabric of our internationalist banners

### **A climate of chaos**

In medieval Christendom an ever-fearful population was accustomed to balancing a precarious life on Earth with the very real prospect of eternal damnation in the after-life. And popular among the images of life-threatening forces were the Four Horsemen of the Apocalypse - War, Famine, Pestilence and Conquest<sup>5</sup>. It is ironic that many centuries on and despite the advent of science and reason, the four horsemen still stalk us - thanks to the persistent crises of capitalism.

But unlike the inhabitants of the dark and middle ages of Europe, we have no excuse in thinking that the blights confronting humanity arise from the sources of divine intervention or predestination. And apart from the irresponsible excesses of human economic activity, exacerbating the extremes of natural processes and events, it is clear that the four horsemen have become a posse doing pretty well in the pay of big business and their client governments.

---

<sup>4</sup> The American Marxist and eco-socialist John Bellamy Foster has long argued that incremental ‘eco-reformism’ is both unrealisable and idealistic.

<sup>5</sup> The Bible. New Testament, *Book of Revelations* 6.2. In some versions the fourth horseman was Death (usually regarded as a consequence of Conquest). *Revelations* itself is generally regarded as a Greek translation from the much earlier Hebrew and is considered to be an allegorical update in that it suggests a first century AD account of the fall of the Roman Empire of which the persecution of the Christians was a part. *Revelations* has also earlier antecedents in a suppressed Jewish rising that can be found in the book of *Daniel* of the Old Testament c.160 BCE.

In the case of **war**, the persistent use of armed force as the default mode for obtaining and maintaining economic hegemony and access to resources are now the established means of dispute resolution – particularly when it comes to strategic energy supplies. Unable to plan the rational and responsible management and extraction of fossil fuels, capitalism - via the devices of its most 'developed' phase (i.e. imperialism) - can and often does deploy quite incredibly advanced technologies of weaponry to resolve market 'blockages'.

**Famine** follows rapidly as food resources and distribution systems become disrupted or destroyed, while gangsterised black markets arise, operating on the currencies of fear and extortion. Warfare, often conducted amid civilian populations, leads to the dislocation of civil society and the wrecking of already under-developed water and sanitation systems. Its effects upon an already malnourished population provide the perfect petri dish on a societal scale for the pathogens of **pestilence** to flourish.

Equally, the power of big Agricapital through promoting credit for the purchase of GM seeds and modern fertilisers can lead to a combination of farm failure through debt, as well as the over-working of marginal soils. Amid such conditions farmer suicides are not uncommon.

## **A chaos of climate**

Since the earliest period of human social development, the capture and use of fire was probably the most revolutionary means by which we developed the abilities to form settlements and to modify the natural environment. From the earliest fire in a cave inhabited by the earliest *hominids* right through to internal combustion engines that can power people across continents, the residues of carbon based fuels<sup>6</sup> in the atmosphere, now present us with the evidence of our technological prowess. Yet along with such prowess this brings in train the combustion bi-products which threaten the future existence of our species.

In previous times emissions from burning bio-mass<sup>7</sup> would have been sufficiently modest to have been contained and recovered within a natural 'carbon cycle'<sup>8</sup>, leaving the climate unaffected. But with the advent of capitalism this all changed. The combined effects of its rapid phases of accumulation through industrial growth, the influences on the chemistry of the atmosphere and consequently the

---

<sup>6</sup> By carbon based fuels is meant all fuels derived from biological sources - either grasses or firewood harvested from living plants. These are referred to as bio-mass. But by far the most common fuels are the fossilised remains of micro-organisms (in the case of oil and natural gas) or peat and various types of coal which are the fossilised products of vegetation.

<sup>7</sup> In pre-industrial times bio-mass; wood, straw, peat, dung etc, would have been the staple domestic fuels. Also, in the case of metals smelting and working, charcoal - the anaerobically burned carbon residue of wood would have been used to produce the necessarily high forge or furnace temperatures.

<sup>8</sup> The carbon cycle is a natural process by which carbon gases - mainly carbon dioxide (CO<sup>2</sup>) are absorbed by terrestrial vegetation and marine 'phytoplanktons' and locked-up in 'carbon sinks' in the form of plant tissue.

very dynamics and equilibria of natural processes have resulted in a chain reaction of climate events.

Until about forty years ago the main concern about the burning of carbon fuels was around low-level pollution in the form of smog and more seriously, acid rain. But a number of relatively low-cost technologies<sup>9</sup> have proved able increasingly to control these mainly sulphur dioxide (SO<sub>2</sub>) and nitrogen oxide (NO<sub>x</sub>) emissions (although the speed and scale of urbanisation without planned mass transit infrastructures is now permitting the internal combustion engine to overwhelm all previous abatement strategies in many cities<sup>10</sup>).

But by far the greatest concern is that emission of carbon dioxide from the burning of fossil fuels is quickening the rise in the mean global temperature.

It is both an irony and a paradox that we have developed the scientific means of understanding both the causes and possible means of reducing climate change, whilst being locked into a mode of production for which the appetite for petroleum remains insatiable. In a period of late capitalism, in which global 'trade' is bound into an imperialist system of enforced unequal relations of exchange<sup>11</sup>, the resulting arrested development of social relations and technical solutions (that impede the rates of accumulation and profit) are deemed the enemy of enterprise<sup>12</sup>.

That climate change is a result of industrial development propelled by fossil fuels in the service of capitalism and the profit motive, leads us to an unescapable conclusion: namely, that the overthrow of capitalism and its global manifestation in imperialism are key to saving our planet. To suggest otherwise is to deny the Faustian pact between governments and big business that ensures a licence to

---

<sup>9</sup> Sulphur dioxide has traditionally been a product of power stations and large industrial plant. This is increasingly being controlled with the fitting of Flue Gas Desulphurisation (FGD) plant. Nitrogen dioxide is now usually controlled by fitting Selective Catalytic Reduction (SCR) equipment to both motor vehicles and power stations and refineries.

<sup>10</sup> In many developed economies various clean air acts of legislation were brought into effect by the mid-1950's- initially to prohibit localised pollution from the burning of solid fuels. But by the early 1960's photo-chemical smogs produced from a combination of massively increased motor vehicle exhaust fumes and sunlight forced the introduction of catalytic converters which could restrict NO<sub>x</sub> emissions by c.70%. But it is the sheer growth in motor vehicle usage that has returned many urban areas to centres of respiratory and cardiovascular disease. The acid rain 'precursors' mentioned above should not be confused with 'greenhouse' gases in that they actually contribute to atmospheric *cooling* for the brief periods they remain aerosols.

<sup>11</sup> Here I am using the general definition of imperialism to be found in Hobson, Hilferding and Lenin in being a particular phase of capitalist development whereby national capitals through a combination of technical advantage, capital centralisation and financial power through bank securities, can exert market influence and commodity prices in ways that amount to imposed unequal exchange - both on 'lesser' capitals as well as on raw material producing states. Here the militarisation of this process is a given.

<sup>12</sup> Hence the symbiotic relationship between energy companies and many governments who invest considerable time and money in the misinformation of climate denial. For an entertaining account of this symbiosis see Greg Palast, *Vultures Picnic: A tale of oil, high finance and investigative reporting*. Constable and Robinson, London 2012.

wrest profit from both labour power and our planet's resources<sup>13</sup> with neither political accountability nor environmental responsibility.

## **Migration as population flight**

Migration - the non-nomadic movement of populations, is as old as the history of humanity. Of equal age has been the impact of human activity upon the natural environment. It is now generally accepted that progressive deforestation in what is now central Africa induced population movements of both nomadic herding groups as well as the seeking of sites for more permanent settlement. Much of the surface of the globe that we often assume to be a natural landscape is in fact an artefact brought about by over 100,000 years of human activity<sup>14</sup>.

With a small human population, their impact on the natural environment would have been gradual, especially when set against environmental changes brought on by natural processes - which would be equally slow. This meant that earlier human populations would have had time to adapt either by migration or through the development of technologies by which the problems of environmental change could be mitigated. For example, the sinking of wells in seasonally arid periods.

In more recent periods - particularly since the last ice age of around 11,700 years ago, natural pressures for population movement have given way to problems associated with the growth of bigger settlements. Examples include diseases associated with transmission through close proximity or water-borne parasites and pathogens such as malaria and cholera<sup>15</sup>. But with the growth of class society and conflict, war has grown to be a major driver behind mass migration.

## **Surpluses and slavery**

If we think in terms of 'push' and 'pull' factors that encourage populations to move away from one place towards another, we can see how in earlier times a combination of war and religious persecution provided a 'push' factor. This was

---

<sup>13</sup> The issue of nature as a source of wealth was a debate in which Karl Marx had no hesitation in becoming involved. In 1875, he took the leadership of the infant German Social Democratic ('Workers party') movement to task over their 'Gotha programme' over their apparent failure to recognise nature as a source of wealth. He wrote 'First part of the Paragraph: *'Labour is the source of all wealth and culture.'* Labour is not *the source* of all wealth. *Nature* is just as much the source of use values (and it is surely of such that material wealth consists!) as labour, which itself is only the manifestation of a force of nature, human labour power'. *Marginal notes to the programme of the German Workers party (Critique of the Gotha Programme) 5th May 1875. K Marx and F Engels: Selected Works p.13.*

<sup>14</sup> Scientists have denoted the natural history of the Earth by 'periodisation' - periods defined by particular geological characteristics. Hence presently we are living in a *Pleistocene* period which is around 65 million years old. Within the *Pleistocene* is a later Upper period of 126,000 years (around when modern humans became widespread) within which is a *Holocene* dating back to the end of the last great ice age of around 11,700 years ago.

<sup>15</sup> The over-loading and stagnation of quite elaborate canal and reservoir systems and consequent epidemics is thought to have been the major contributory factor behind the collapse of the Kmer civilisation of ancient Cambodia c. 1300 CE.

often associated with fear-driven flight with little or no 'pull' of a certain place of safety to flee to.

It is only with the emergence of class societies and the production of surpluses upon which relative prosperity could be based that an economic 'pull' factor developed in the form of security, shelter and nutrition that stable settlements offered.

However, an essential phase of pre-capitalist societies is a process called 'primitive accumulation' in which intensified labour power is often harnessed forcibly to forms of production, which have low-productivity, by way of producing surpluses which are then at the disposal of the dominant classes and elites. In these (usually) slave societies either slaves in the form of those captured in battle, or a vanquished population overrun by conquest might form the involuntary workforce of governed provinces or colonies. But in much later phases of early capitalism and in an extension of 'primitive accumulation' we find the dislocation and often forcible resettlement of rural populations through land enclosures and 'clearances'. In Britain, this forced internal migration occurred as late as the 15<sup>th</sup>-17<sup>th</sup> centuries in England with enclosure and as recently as the mid-18<sup>th</sup> century in the case of the highland clearances of Scotland.

Although himself, bitterly opposed to the slave trade, Adam Smith - the founder of modern political economy - explained the economic rationale for slavery in relation to certain crops best suited for cultivation in the 'Americas'.

In our sugar colonies....the whole work is done by slaves, and in our tobacco colonies a very great part of it. The profits of a sugar plantation in any of our West Indian colonies are generally much greater than those of any other cultivation that is known in Europe or America; and the profits of a tobacco plantation are superior to those of corn...(therefore)..the number of slaves accordingly is much greater, in proportion to that of whites, in our sugar than in our tobacco colonies<sup>16</sup>.

Hence the apparent technical development of capitalism in raising productivity no longer being a guarantor of social progress. Despite the rise of the Reformation in much of Europe (which was an essential contribution to the 'Enlightenment' and the eventual rise of liberalism), a frenzied scramble for colonial possessions in the New World saw a widespread disregard of humanitarian Christian values with the rise of the slave trade. It is estimated that between the late 16<sup>th</sup> century and the early 1800's some 10-15<sup>17</sup> million Africans were sold into slavery for the cultivation of 'new' crops in the colonies of America, the Caribbean and the northern coast of Latin America.

---

<sup>16</sup> Adam Smith, *The Wealth of Nations*, ch 11, *The Discouragement of Agriculture* p. 489.

<sup>17</sup> J Rawley and S Behrendt, *The Transatlantic Slave Trade*, Lincoln 2006. Rawley and Behrendt although stating that any exact estimate of Africans actually traded, it is possible through ships manifests and maritime insurance records to estimate the number dying ('lost') in transit to be reliably put at 2 million.

In the cases of the enclosure of the English rural population and the clearances of the highland Scots, a 'pull' factor in the form of moving to the growing cities provided the human feed-stock of a new proletariat for the industrial revolution<sup>18</sup> or alternatively for an initial population of 'planters' for colonial settlements<sup>19</sup>. Although in both cases there was little in the way of choice involved, they provide early examples of what has euphemistically come to be termed 'economic migration'.

Another form of enforced migration - but by no means as barbaric as the African slave trade - was the transportation of criminals to penal colonies, such as Australia. These places were considered inimical to slavery, due to their distance from the slave trade and sparsity of indigenous population to capture and turn into slaves<sup>20</sup>. Many of those transported - usually for lesser crimes - were classified as indentured labour - effectively as a working possession of a master willing to pay their upkeep.

Continued further phases of mass migration affecting European populations marked the 19<sup>th</sup> century with, for example, the human made catastrophe of the Irish potato famine creating an effective depopulation of the Irish countryside and mass out-fluxes to the UK mainland and the United States. During the same period a heightening of repression in Eastern Europe, and the Russian Empire created a westward migration movement of people escaping serfdom, pogroms, poverty and political persecution. Essentially these migrants were refugees and were mainly Jews escaping murderous persecution. And although initially permitted entry into the UK, it wasn't long before a deep-seated anti-Semitic streak in the British ruling class was revealed with the passing of the Aliens Act (1905), which under the stewardship of arch-imperialist Winston Churchill was able to 'stem the tide of the un-Christian and subversive alien filth.'<sup>21</sup>

## **Migration in the age of imperialism**

The intensification of capitalist competition has created global markets ushering in the imperialist period. This has been characterised by war, the uprooting of

---

<sup>18</sup> The early and often traumatic movement of populations from countryside to the towns takes place in a developmental phase of capitalism usually called 'primitive accumulation'.

<sup>19</sup> Of course, a major source of mass migration from the 17<sup>th</sup> century onwards was in the form of slavery as virtually the sole form of labour in colonial plantations usually organised along pre-feudal lines.

<sup>20</sup> It would seem, that the universal preference of colonial authorities in relation to native populations was extermination either by exile to the arid interior or any number of genocidal means through exposure to western pathogens.

<sup>21</sup> These words were used by Winston Churchill when defending his decision to use the army and artillery in the famous 'Siege of Sidney Street' of 3<sup>rd</sup> Jan 1911 in which Latvian anarchists, suspected of an armed robbery at the London Royal Exchange building were cornered. A later investigation revealed that the leading member of the gang - 'Peter the Painter' was in fact the non-Jewish Janis Zhaklis, an exiled member of the Latvian Social Democratic Workers Party. He escaped, only to turn up in Petrograd in 1917.

whole populations and environmental degradation. It has pushed the fabric of societies and our planet's intricate network of ecosystems to the point of crisis.

Capitalism as a mode of production, characterised as commodity production based on wage labour, is also a set of social relations of production prone to crisis. As such, when the 'system' is booming there is an almost insatiable demand for labour. And when it slips into reverse labour is shed. At its inception and at the stage of primitive accumulation, the demand for labour can usually be sourced from the internally displaced indigenous population, but further phases of expansion require a larger pool of labour.

Following the Second World War, much of Western Europe was rebuilt through the combined agencies of the US funded Marshall Plan, which enabled massive state infrastructural investment. Consequently, economies such as the UK and France experienced the 'long boom', and drew on their former colonies to meet shortfalls in labour supply. For the better part of 30 years this economic 'pull', drew in workers and their families in their thousands, and did much to transform the cultural mix of the host countries. Initially, migrant populations to the UK from Ireland or Eastern Europe<sup>22</sup> often faced a xenophobic reception from an already impoverished settled population - a situation usually exploited by employers, eager to see workers compete in a wage race to the bottom. But with the arrival of black or Asian migrants from the former colonies, the experience could often be one of discrimination and out-right racist hostility.

For a country like Germany with no former colonies upon which to draw labour and an economy experiencing a massive industry-led recovery, the sources of available labour were more constrained and with no post-colonial 'obligation' required. The treatment of migrant workers as *Gastarbeiters* (guest workers) marked by an outright denial of basic civil rights - let alone the opportunity to integrate and seek permanent settlement<sup>23</sup>.

But by far the greatest migration of modern times has been the flow of a Chinese rural peasant population into the booming cities during China's past 20 years of industrial transformation. It has been estimated that over 300 million people have undertaken an internal migration which requires them to have employment contracts as a basic right of settlement and to stay in barrack-like dormitories on the perimeters of pollution-choked mega-cities. With a growing appetite for the

---

<sup>22</sup> Immigration from Europe all but ceased with the passing of the Aliens Act (1905) but resumed to a modest degree following the end of the Second World War.

<sup>23</sup> Such workers were usually drawn from Turkey, Spain and Southern Italy and were required to live in barrack-like accommodation and with no tenure once the work permit had expired. Their 'guest' status denied them the right to bring their families with them and the mandatory hostel living was designed to make them available for mandatory police and immigration agency checks. For a moving account of their plight see John Berger and Jean Mohr, *A Seventh Man*, London 1975. Also see Colin Barker, *International Socialism* No 75 (1<sup>st</sup> series) p.38 for a tribute to *The Seventh Man's* photographer Jean Mohr.

fight against poverty wages and government official 'unions', this mass of humanity, in flexing its muscles, could become a revolutionary force for change.

### **Climate and Imperialism: welcome to the imperialist Anthropocene<sup>24</sup>**

With the concept of an Anthropocene we are in effect overlaying a transparency of late human activity measured in less than three centuries over a geological record of periods measured in millions of years. We are also suggesting that it is within such a period of a few human generations that the climate has been subjected to stresses that now threaten the viability of sustainable human existence on Earth.

It is clear from the carbon record dating from the late 18<sup>th</sup> century that levels of carbon dioxide have been building up in our planet's troposphere. The natural 'greenhouse' which has made our world inhabitable and sustainable for millennia has been progressively augmented by emissions to critical levels datable from the beginning of the Industrial Revolution of around 250 years ago. The result has been to trap reflected ultra-violet radiation from sunlight. This is the greenhouse effect which has inevitably resulted in a progressive rise in the global mean temperature.

Having once got going, the capitalist mode of production, forever calling upon science and technical innovation, has grown exponentially. And with that growth has come the spread of industries on a global scale demanding ever more labour power and natural resources. By the time that Frederick Engels was collating Marx's *Capital*<sup>25</sup>, the internal combustion engine had not been patented, electricity was only just emerging from the entertainment stage as a bourgeois parlour trick, the principal source of horse-powered transport was the horse, airborne travel was the stuff of Jules Verne or HG Wells and street lighting was by town gas, the sole source of which was coal, mined by men crawling in a darkness and danger with hand-tools little changed since Roman times.

Yet even by then capitalism was leaving its indelible imprint on the carbon record. But it is within the intervening 117 years that capitalism has evolved through the processes of consolidation and monopoly into its ultimate and most barbaric phase of imperialism. To return briefly to measures of geological time we can remind ourselves of the Upper Pleistocene period we live in and within that period the last 11,700 years since the last ice age we call the Holocene. But more recently in relation to climate change, scientists have noted marked

---

<sup>24</sup> Anthropocene is a concept of growing scientific consensus that asserts that the industrial phase of human activity has marked a new geological era. This has most recently (and persuasively) been set out by Andreas Malm, *Fossil Capital: The Rise of Steam Power and the Rots of Global Warming*, London October 2015, Verso.

<sup>25</sup> Volume 3 was edited from Marx's final notes and published in 1898, the same year that Otto Benz sought a patent for his 'Benzol' powered engine and Nikola Tesla was being ridiculed by Eddison for his advocacy of alternating current as a means of electricity distribution.

variations in both the climate and carbon records which have led some now to suggest an alternative name for an 'intermediate' period we are living in.

In May 2000 climate scientist Paul Crutzen and geologist Eugene Stoermer presented a paper in which they suggested a new age that 'denotes the present time as an interval in which many natural processes are being profoundly altered by human activities'<sup>26</sup>. This age they suggested should be called the *Anthropocene* or an 'age of man' in which the consequences of human activity - particularly the impact on the troposphere, stratosphere and the oceans - overtake and negatively 'enhance' the natural rates of change and the impacts on our planet's eco-systems. Among the outcomes of these changes they marked out global temperature rises, a persistent rise in sea levels, stratospheric ozone depletion and the acidification of the oceans.

Whatever the merits of the idea of an Anthropocene scientifically, the basis of the concept does locate discernible changes in the carbon record and related climatic change within the narrow historical period of capitalist development. Furthermore, the dates they denote are reflected in the ocean sediments and coral reef records indicating a rapid rise in ocean acidification from 250 years ago - the generally agreed date for commencement of the Industrial Revolution. But more compelling still is the evidence of acceleration of CO<sup>2</sup> build up and ocean acidification dating from 1950 - the date which denotes the beginning of the 'long boom', in which capitalism grew fourfold in terms of output in less than 20 years. And it is the extension of this period in terms of hydrocarbon fuels consumption which now marks a speeding up of CO<sup>2</sup> concentrations whilst the rate of consumption of petroleum intensifies<sup>27</sup>.

But another dimension of the Anthropocene has to be the sudden and massive rise in migrations which are the result of an intensification of resource conflict, which is now blighting the Middle East. As the energy hub of the world, this region has been the site of imperialist rivals putting their surrogate dogs into fights by proxy. The present-day tragedies of Syria, Iraq and beyond demonstrate the terrifying 'push' of endless war without the 'pull' of burgeoning economies willing to accommodate refugees into their labour markets.

The imperialist Anthropocene period is one in which capitalist competition and conflict within and around the world's most strategic energy hub confronts humanity with economic anarchy, social collapse, mass human displacement and climate catastrophe.

---

<sup>26</sup> Crutzen and Stoermer, *Global Change No 1 letter*, 3<sup>rd</sup> may 2000.

<sup>27</sup> This convergence crisis is referred to in *As Middle East goes nuclear, global warming goes critical*. (Part 3, ch 6, *Imperialist dimensions of a hotter world*). Brian Parkin, Rs21 website August 2015.

When we add climate factors to the present period of crisis within the MENA (Middle East and North Africa)<sup>28</sup> region we see that extensive periods of drought since 2006, helped create the conditions for the Arab Spring of 2011. The food shortages that resulted from the droughts combined with unpopular neoliberal austerity, which included VAT on food plus the very public suicide of an impoverished food seller, became the stuff of which revolutions sometimes happen.

But regardless of deep divisions, the major imperialist players initially recognised their mutual interest in subverting the Arab Springs of 2011 in a way that sought to restore despotism and a functioning energy economy to the region. And although chaos has ensued in many instances, the world's main hydrocarbon hub has been restored to rude health.

### **The end of the world is nigh?**

The inauguration of Donald Trump into the US presidency in January 2017 would seem to mark a break of a period in which the world's pre-eminent carbon economy had at last appeared to fall in line with a commitment to emissions abatement as a contribution to arresting climate change.

Prior to Trump's enthronement, Barak Obama used his outgoing presidency to ratify the (highly unsatisfactory and neoliberal) Paris COP21 protocols, as well as use presidential directives to rescind the highly contentious and unpopular XL Keystone and North Dakota Access pipeline projects. At the same time, congressional curbs on the export of US crude and petroleum products remained in place, thus limiting the scope for further Arctic oil exploration and US onshore fracking activity.

However, with Trump, Rex Tillerson - former Exxon/Mobil CEO, climate change denier and former US petro-emissary to Russia's state owned Rosneft oil corporation, has been appointed Secretary of State. At the same time, the US Environment Protection Agency has been wrapped up - along with all references to global warming being struck from the records of the Department of Energy.

And although too early to say, the initial signs of widespread anti-Trump unrest combined with erratic lurches in foreign policy, may well curtail - if not end - the slide of the most scientifically endowed economy into laughing stock status and a presidentially decreed dark age. Meanwhile, at the time of writing his unilateral exit from the COP21 agreement heralds the worst.

### **Beginning of the end?**

---

<sup>28</sup> MENA: Middle East and North Africa. The war in Syria alone has resulted in 7.6 million displaced of which 4m are seeking refuge beyond the country's borders.

For over three decades neoliberalism has run rampant at the expense of the working class and poorest of the world. But such a dismal interpretation of the world just will not do. If the point of interpretation is not merely to understand the world, but to change it, then we are required honestly to recognise the scale of the crisis, whilst identifying those symptoms of resistance that one day might bring about a revolutionary change.

In the course of those 30 years in which an understanding of global warming, its causes and possible mitigation strategies have been widely discussed, there has been scant evidence of a global effort being made to deal with the most pressing crisis ever to confront humanity.

At a time in human history when the only disasters that should befall us are cosmic or seismic events beyond our control, we are once more confronted by the four horsemen that, for a few perhaps optimistically naïve decades, had seemed like phantoms of the past. And given models of local governance and social and emergency support based on market principles, we need look no further than the example of Hurricane Katrina to see how we may fare in the future. On 29<sup>th</sup> August 2005, a hurricane struck the city of New Orleans and in the space of a few hours had killed hundreds, displaced over 1 million people and virtually destroyed the civic infrastructure of one of the biggest cities in the richest and most powerful nation on Earth.

The majority of the victims were black, poor and uninsured, while the neoliberal city administration, as well as cutting flood defence funding, had also virtually abolished its emergency and welfare budgets. The fate of the poor of New Orleans presages the lot of the victims of climate change tragedies to come. They scrambled for high ground and shivered as they waited for Red Cross tents, food parcels and medical aid. And for many, a year later, they were still in emergency accommodation (as it should be noted on a smaller scale for British cities flooded like Carlisle).

The case of Hurricane Katrina and its aftermath is illustrative for two reasons. Firstly, because the hurricane itself was with certainty a result of climate change. Katrina was the final of a vector of five storms that had been identified several days earlier forming in the Western Atlantic<sup>29</sup>. The pattern and seasonal occurrence of that vector was consistent with previous episodes that had long convinced weather scientists that several once in a hundred years' events *happening five times within a single decade* was consistent with a trend towards a new and possibly permanent period of extreme weather.

---

<sup>29</sup> US Weather Bureau, Eastern seaboard report. August 24<sup>th</sup> 2005.

Furthermore, the 2016 event named Hurricane Sandy, which hit the North Eastern seaboard of the US, was the latest in a chain of warnings that with more warm and moist air from the lower sub-tropical regions moving northwards, the cities of New York, Boston, Baltimore and Washington could soon be within the hurricane season belt. And New York has scant, if any, effective protection against rising sea levels.

Even when faced with relatively limited and seemingly isolated events, the sheer inability to plan for and invest in the essential contingency planning and aftermath resolution showed how unprepared even the most advanced economies are in the face of growing crisis.

Yet the evidence of the scale of things to come seems to fly in the face of the official view of most governments. Although less inclined these days to outright climate denial, they nonetheless opt for wishful thinking over responsibility. But a glance at even 'central case' (least-worse) scenarios, the data which now informs the scientific mainstream demonstrates how overwhelming and sudden the climate change crisis could be.

### **The end of the world in statistics?**

In April 2014, the International Panel on Climate Change (IPCC)<sup>30</sup> published an interim report showing that we are now heading for a global temperature rise of 2°C over the pre-industrial period by 2040. It also confirmed that sea temperature rises since 1950 have been higher than at any similar period on available record and, since the mid-19<sup>th</sup> century, has been higher than any time in the past 2000 years. Furthermore, it added that sea level rises are also higher than at any point over the past 2000 years, whilst greenhouse gas concentrations in the atmosphere are now the highest in 800,000 years.

Another report by Climate Central<sup>31</sup> using a combination of IPCC data and satellite topography imaging concluded that between 147 and 216 million people currently live on land that will be below sea level by 2100. Another report<sup>32</sup> as early as 1990 had projected a figure of there being over 200 million 'climate refugees' by 2050 due to a combination of crop failure and sea level rise which translates to 1 in every 45 persons being a climate change refugee by the mid-point of the 21<sup>st</sup> century. And yet another report<sup>33</sup> predicted on current data a 30 percent fall in crop yield in Central and South-East Asia as early as 2050. Additional data<sup>34</sup> also suggested a crop failure of 50% for Sub-Saharan Africa

---

<sup>30</sup> IPCC Interim report 2014. Geneva, Switzerland

<sup>31</sup> Climate Central, *New Analysis Shows Global Exposure to Sea Level Rise*. New York 23<sup>rd</sup> September 2014.

<sup>32</sup> IPCC 2<sup>nd</sup> quarterly report 1990, Geneva, Switzerland.

<sup>33</sup> IPCC Working Group 2: *Climate Change Impacts, Adaptation and vulnerability*. P. 10, April 2007, Geneva.

<sup>34</sup> IPCC *Ibid*, p.11.

over the same period. Nicholas Stern<sup>35</sup>, in 2006 modelled regional water resource impacts for the Southern African and Mediterranean regions based on a 4°C rise and concluded that there would be a 50% loss of fresh water by 2050.

A recent report<sup>36</sup> by the International Energy Agency (IEA) has estimated that far from meeting a 2°C limit in mean temperature rise by 2040, the present data indicates a more probable continued rise to 3.6°C - possibly by mid-century. The report also projects a rise of 14 billion barrels per day of crude oil to 2040 with an overall rise of 20 percent in greenhouse emissions over the same period.

Perhaps one of the few good things to emerge from these reports is the increased use of the term 'climate refugees' when referring to the victims of environmental chaos. And given the intersectional relationship between capitalism with its imperialist manifestation in growing conflicts with the deepening global economic crisis and a quickening climate crisis, it is high time we dropped the term 'economic migrant' and simply used the term refugee to describe all of those in flight from capitalisms chaos and terror.

### **Another solution? Revolution**

In science fiction movies that deal with the theme of Apocalypse and how to survive it, a kind of global version of the *Titanic* is usually played out with those privileged enough to have access to the first-class lifeboats being the chosen ones to survive. And the rest of us get to flounder among the icebergs - although with climate change, of course, there won't be many icebergs (or perhaps too many as the polar icecaps melt).

Of course, missing from such fictional narratives is the same omission we find in the various quack strategies that belatedly recognise the scale of the climate crisis. Nowhere do we find suggestions of how to divest the energy companies and their client governments of their assets. Nowhere do we find a recognition of the horrors of war with a courage to stop them. And nowhere do we find anything but crocodile tears at the sight of poverty and disease in a world of plenty. Such things are reflections of the natural functions of markets or the result of human nature and all its flaws - so we are told.

About thirty years ago vast swathes of land were put under cotton cultivation in the west of Texas. For the cultivation and harvesting of the cotton crop thousands of Mexican workers were invited over the border to work in the fields. In their migration for wages they were also seeking refuge from acute poverty and a violent narcotics war that ravages the border towns. But they were also seeking refuge from a Mexican economy that through the imperialist snare of the North

---

<sup>35</sup> Nicholas Stern; *The Stern Report; Economics of climate change; the Stern review*, Columbia University Press, Colombia, NY 2006.

<sup>36</sup> IEA World Energy Outlook 2015, *New Policies Scenario*. Factsheet.[www.worldenergyoutlook.org](http://www.worldenergyoutlook.org)

American Free Trade Agreement<sup>37</sup> allows US oil companies to divest Mexico of oil revenues by insisting on maintaining output even when the world oil price could not cover the costs of production. NAFTA however has had a far from easy ride. When the agreement was signed in January 1994 a revolt of landless labourers - many forced into US cash crop migrant labour resulted in the Zapatista revolt. This has since grown to initiate the seizure of land and water rights as well as both labour unions and human rights campaigns. Against the most seemingly impossible odds, it shows that resistance will through.

But in West Texas - like all the southern US states - crops have been falling in yield because of droughts for the past five years. Rainfalls have not come and the aquifers are all but dry. But not too dry to prevent oil companies obtaining access to land for the purpose of fracking the underlying Permian shale strata for oil. This only furthers the depletion of the aquifers - or contaminates them - by abstracting the water from the rock. As a result, the water table continues to fall and because of climate change the droughts continue. When the fracked oil is eventually combusted, another contribution to the cycle of poverty and climate chaos will be released. So, the Mexican cotton workers are laid off and return to the poverty of their broken petro economy or they are absorbed - often as 'illegals' into the lowest levels of the US labour market, where fierce competition ensures the lowest wages and life chances.

This pathetic microcosm illustrates the combined cycle of imperialist abuse, climate degradation, labour market insecurity and a refugee workforce locked into a pact of poverty and fear that is the daily lot of millions. It is this same process, albeit on a global scale that is not only destroying our humanity. It is also costing us our Earth.

Only by winning the world, it seems, do workers - quite uniquely - have a chance of saving it.

*Brian Parkin, Leeds rs21, May 2017.*

---

<sup>37</sup> The North America Free Trade Agreement was signed between the USA, Canada and Mexico on 1<sup>st</sup> Jan 1994. The agreement essentially enshrines US corporate and dollar hegemony in exchange for the junior partners enjoying US cover in matters of international tariffs and trade as well as incorporation into US copyright law.