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CLIMATE CHANGE WAR OR CLIMATE CHANGE PEACE

(Draft for comment only)

PART I – SPOILING FOR WAR!

Peter Vintila - 2007

Abstract

Climate change is forcing us to think again about how we conduct ourselves as material beings on the planet as we go about our (peaceful) business. For the same reasons we should now also be thinking again about war, about why and when we go to war and about what we do when we are at war – not just to each other, but to the planet and to our capacities for managing its complexities in difficult times. Yet, this appears to be widely overlooked – not just by those who think about war but by many who think and write about climate change as well.

Reflection on war and international relations more generally is dominated by *realism*, a doctrine teaching that we have no real alternatives to war, threat of war and vigorous preparation for war. If that's the case, then we and the planet on which we live are probably lost causes. At the same time, climate change policy and discussion often overlook the ways in which war (and thinking about war) are crucial to the planet's future – war is very, very dirty and that's important, but its only one point. War also acts to extinguish the cultural space, the social capital – call it what you will – needed by difficult negotiation and successful climate change treaty making. War and defence also cost a great deal of money – around $1.35 trillion globally each year now. That rate of spending is probably about four times as much as top of the range climate change mitigation would cost – around $300 billion pa and falling while the costs of alternatives falls or new costs normalise.

We can try and bleed that money from energy consumers using carbon pricing and trading instruments but in global terms they are looking unworkable as well as unfair. Or, if we were really serious about saving the planet, we could divert some defence dollars. We probably aren't serious but we should at least register the availability of this option for the historical record. We should have to tell our children that their planet is broken not because the world was too poor to mend it but because we thought that a $1 trillion war machine wasn't big enough, did not permit enough or sufficiently precise violence.

Diverting some defence dollars would have numerous advantages. Rich and poor nations alike would pay (at least ¾ of the world's nations have armies!) and no-one would go hungry. International tensions would reduce, the calm called for by treaty making would expand. And, of course, treaties could also have the real public funding support they so desperately need. They could break free of mad user-pays neo-liberal user-pays constraints. These, in short, are the arguments that this paper begins to explore. In making a case for alternatives to war, it invokes the wisdom not just of that great 18th Century philosopher and peacenik, Immanuel Kant, but also of that great 20th Century poet, pothead and peacenik, John Lennon. *All both were saying, is give peace a chance.*

SPOILING FOR WAR!

1. Introduction

Effective climate change policy on global or national scales must overcome many obstacles. Although in different ways, neo-liberalism and realism[1] affirm competitive power relations. They stand, therefore, as serious impediments to the trust and co-operation without which there can be no effective international climate change treaty making or policy. It's difficult to think of a more serious obstacle. This paper, as its title suggests, focuses mainly on realism and its material expression in destructive warfare, international tension and defence spending. It makes passing reference to neo-liberalism or, at least, briefly comments on the ties of kinship that make these two traditions such a formidable joint foe. In a word, realism provides a foundation (in force and violence) for social order that classical and neo-liberalism lack. The paper, too long as it stands, does not comment on state socialism which, judged on the former Soviet and Chinese records, may be a worse enemy of the planet than the capitalism that neo-liberalism and realism jointly attend. But whether it is markets themselves that achieve higher environmental standards, or the democracy that usually tempers them, is surely a moot point.

To be sure, social democracy looks battered and worn. Its historic allies as well as foes are hostile to its enterprise. Even in its residual and remembered forms, however, it still looks like the best thing we have going for us. But, again, this paper is mainly about realism and war in the context of climate change – and not about capitalism, socialism or social democracy for that matter. I am currently preparing another paper on climate change and democracy. I draw attention to the things I do not talk about here for the sake of perspective and clarification.

2. Fighting more over less

How violent will humans become as the planet begins to plead exhaustion? Fighting seems to come more easily to us than talking or treaty-making. Conflict comes easier than co-operation, possessing its own rationality and complex calculus. Indeed, the world's most influential body of international relations theory, realism, involves both the assertion of this rationality and the often painstaking calibration of political positions involving the use of force. Australia's Defence Minister, Dr Brendan Nelson has recently provided us with a depressing reminder of how realism may play itself out, as the planet's exhaustion gradually – or suddenly[2] – overtakes us.

The Minister confirmed that Australian defence forces are in Iraq not just as freedom fighters but to help secure a resource that is running out. He and other senior members of the Government to which he belongs have sought to back peddle on what looks like an ignoble admission but the following disclosure is now on the public record:

> Obviously, the Middle East itself, not only Iraq but the entire region is an important supplier of energy – oil in particular – to the rest of the world, and Australians and all of us need to think what would happen if there were a premature withdrawal from Iraq…. For those reasons in particular…. one of which is energy security, it's extremely important that Australia take the view that it's in our interests, our security interests, to make sure that we leave the Middle East and leave Iraq in particular in a position of sustainable security.[3]

Perhaps, like the weapons of mass destruction account before it, the freedom fighter story is wearing thin.[4] Did Brendan Nelson sense the need for a more plausible narrative? The

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[1] According to the Internet Encyclopaedia of Philosophy "Political realism … takes as its assumption that power is (or ought to be) the primary end of political action… On the international stage, nation states are seen as the primary agents that maximize, or ought to maximize, their power. The theory…that nations and politicians only pursue power or self-interest. ..Political realism in essence reduces to the political-ethical principle that might is right." www.iep.utm.edu/p/polreal.htm

[2] Where a great deal of civilian policy discussion ignores abrupt climate change, the national security literature takes a keen interest in it – see discussion below.

[3] West Australian, July 6th 2007, p17.

[4] Richard Tanter, (July 2007) The Abuses of Realism and Australian Security Interests: the 2007 Defence Update, Austral Policy Forum 07-14A . Tanter refers to the "dirty little secret and says:

> "The first is the elephant in the room problem: the obvious and undoubted perceived interest – a perceived benefit to Australia from western access to oil – cannot be mentioned in polite company. When the Minister for Defence launched the Update with a general reference to the importance of energy security in the region, he was pilloried by the media and the political opposition, and then disowned by his leader and party. No, said the Treasurer, "Australian soldiers don't risk their lives for petrol prices." What the entire

problem with this latest objective (ie "sustainable security") is that it may prove as elusive as weapons of mass destruction in Iraq. But that's an issue for others.

My concern, again, is with a more elementary question: the human propensity to go to war when supplies run short – a propensity that looms much larger as the planet's customary largesse begins to give out. Of course, those of us who are a bit more alert don't need Australia's Defence Minister to remind them of this. Human history and especially the history of great ancient empires speaks repeatedly of aggression in this context. Jared Diamond has become another David Attenborough telling insightful stories that bring ecology and geography to human history and politics.[5] And Thomas Homer-Dixon's just published, *The Upside of Down*, brings a sharper energy focus to these questions. The book's second chapter, for example, provides a remarkable account of the energy crises that accompanied the fall of Ancient Rome. It concludes in the following terms:

> Without constant inputs of high quality energy, complex societies aren't resilient to external shock. In fact, they almost certainly can't endure. These ever present dangers drive societies to relentlessly search for energy sources with the highest possible return on investment (EROI). They also drive societies to aggressively control and organise the territories that supply energy...[6]

It's meant to sound familiar and the questions I want to raise are, in a sense, far from new. I want, however, to give them a more overtly political inflection by asking whether this pattern of hostile events and aggressive behaviour is inevitable: is war inevitable as we seek to secure shares not just of energy but of diminishing life support capacity more generally?[7] And, if so, what will that mean as shortage and crisis become more commonplace. What will it cost as climate change takes its toll and we start to argue more seriously over shares of water and food as well as oil and energy? If realists are right, we may be in deepening trouble. In addition to the fact that the planet is wearing out, our increasing numbers on an exhausted planet mean that more of us will be fighting more often. As well, of course, fighting becomes more dangerous as weapons continue to become more toxic, invasive and powerful. So what will increasing violence that uses increasingly potent weapons systems cost? And what will it cost not just in terms of money and immediate suffering, but in the long haul and taking a larger view: what will be its ecological and political impacts; and its implications for how we manage an exhausted or damaged planet. How damaged will it be and how good will we be at caring and repairing? And are we not likely, in fighting to secure diminishing life support capacity, to further damage an already depleted common fund? Is fighting still rational and shouldn't we be thinking more seriously about alternative ways of responding to the challenges of a hungry humanity on a finite planet?

They may be as old as the state itself, but wars between states over strategic resources are different today. Until quite recently, this kind of human aggression played itself out on an expansive and relatively robust planet – one, again, that looked unbreakable. Governments

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> affair elided, and which is almost never discussed in parliament, the media, or by the commentariat, was the deep, unchanging and destructive character of the western concern to control Middle Eastern energy sources."

[5] Jarad Diamond (1999) *Guns, Germs, and Steel: The Fates of Human Societies*, Sagebrush Education Resources.

[6] Thomas Homer-Dixon (2007) *The Upside of Down*, The Text Publishing Company, Melbourne. "EROI" stands for energy return on energy investment – if you get back twice the energy you put in, the EROI is 2.

[7] Psychological theories of aggression can offer only limited assistance here. Those grounded in ethology (eg Konrad Lorenz' *On Agrression*), arguing for the instinctual basis of aggression have, on a wearying planet, signed our collective death warrant. Humanist psychologists, like Erich Fromm, approach the question with more subtlety. [See Fromm (1974) *The Anatomy of Human Destructiveness*, Jonathan Cape, London.] Fromm distinguishes between malignant aggression (involving calculated destruction and cruelty for their own sakes) and benign or self-defensive aggression. Instinct is at work in the latter (in so far as humans are like animals) but much more (culture and culturally (mal)formed character) is at work in the latter. Even though this means that such conduct is not our given lot and can be changed, it leaves little, if any, room or hope for rational resolution. Violent character needs therapy, not rational persuasion. In the long term, it needs wholesale cultural transformation – so that our culture no longer produces these pathological forms. But we are almost as far from salvation here as we are with the ethologists.
Even if the psyches of the world's realists and war fighters are grounded in instinct or pathology, they frequently claim their positions to be rationally grounded. My critique of realism takes this self-assessment at its word and argues that the position is mistaken in its reasoning (not simply irrational or pre-rational), that a wearying planet makes it more mistaken and that differences can be resolved here by means of argument. ie we can do something at least, without killing or committing. This not to deny instinctive aggression or pathological violence – or the need for fairly radical cultural transformation. It is to say, rather, that these arguments are perhaps of limited use in the contemporary critique of warfare. It is also to have faith in the idea that most people could and would change their minds about contemporary war if the facts and the nature of conflicts were placed before them. This is not to make a case for utterly detached or disembodied reason. It simply involves the belief, or the hope, that reason retains an important measure of leverage here – and, really, the only point of departure we have.

the world over, including our own, still live in this imaginary space. Here realism, despite its name, is in the grip of deeply magical thinking. But some are becoming disenchanted as this imagined world loses meaningful connection with the exhausted, more fragile and more confined one we actually find ourselves inhabiting.

Again, this is not to say that basic resource shortages and ecological pressures are new. They have, indeed, brought social and political ruin on imperial scales in the past. But today, these pressures are becoming more fundamental, more intensive and more extensive. As we alter global carbon cycles, temperatures, ocean currents and climate we do not simply place fresh water or arable land or food at risk locally or temporarily. We are doing deeper and more durable damage to productive systems and processes that have refreshed and replenished life's necessities for longer than we have walked on two legs. Differently in different places, to be sure, but, for the most part, with sufficient predictability to make multiplying human life and durable social order possible. When, today, we damage these so-called "ecological services" or this reliable "natural capital", there isn't another continent on which civilisation, our own or even another, can renew itself.

Unlike the world's ancient civilisations, our 21st Century industrial civilisation much more fully envelops, occupies and uses the planet. That's a new condition and, in a sense, the down side of globalisation. It is a human triumph, of course, to grasp the whole world in your hands, to encircle it with air and sea ports, with phone towers and fibre optics and, as the name itself says, a worldwide web. But when you've done that, it's also important to understand that there is no more. The new geography of enclosure and finitude brings us closer to some kind of endgame as well. Future wars will be fought in this much more confined and fraught space – on a board, to extend the metaphor, that could run to checkmate very quickly. Refraining from war, playing peace, on the other hand, could long extend it – but this point anticipates later argument.

Finitude and fragility bring not just finality and an end to expansion. As we approach limits, they bring volatility as well. It may sound paradoxical, but less can and often does mean more to fight over, so occasions for fighting will multiply. And current conflicts over oil, although bitter and destructive, may prove to be just rehearsals for bigger things to come. War's theatre will not just be tighter and more damage prone, it will also be called upon to host the rupturing pressures of violent exchange more often – if, again, we cannot find other ways of negotiating these problems. A part of what we need to do here is to examine war's theatre with fresh eyes; to more fully register its finitude, its volatility and vulnerability and the extent of its exhaustion. In part, this is just a matter of focus: when we think about war we most often imagine its armies and weapons, the defeated and their losses or the victors and their spoils. Human figures and human artifice crowd the foreground, while war's theatre is more typically just blurred background. Now that we know that war's theatre is a finite and fragile planet, we need to foreground it more often and monitor it more carefully.

3. Perspectives on war and climate change

Humans of course, have been thinking about the implications of a finite planet for almost half a century and, arguably, for longer.[8] But that thinking remains partial. For the most part, it focuses on the human economy at peace. Or rather, too little of it has focused on the implications of a finite and fragile planet for war and preparation for war. That's not quite true and a number of arguments variously explore – intentionally or by default – links between war and climate change. Thus, a growing national security literature now focuses directly on climate change. Even if just implicitly, a sustainable development literature often proposes peaceful alternatives to more bellicose national security responses. A fragmented and half forgotten peace movement literature left to us by the Cold War also still has very valuable things to say. Remarkably, however, those who most authoritatively inquire into or forecast our climate futures fail to engage with the question at all. If they are leaving it to the national

[8] This thinking has been underway for half a century or so – arguably since the publication of Rachel Carson's now iconic *Silent Spring* published in1962 . Arguably Carson's work on toxic side effects of modern industrial agriculture and her concern for birdlife in particular (hence the title – a spring without birdsong), initiates the modern environmental movement. Long before that, however, John Stuart Mill was already seriously worrying, in aesthetic as much as industrial terms, about the crowding out of nature in the new industrial cities of the late 19th Century. See especially Chapter 6 of his *Principles of Political Economy* and his discussions of the "stationary state".

security establishment to theorise (and Brendan Nelson to put into practice), they are making a big mistake. These issues are briefly sketched below in a discussion that reflects successively on the contributions of national security experts, activists and climate scientists.

Security experts

A rapidly growing national security and strategic defence literature now anticipates increasing international tension as climate change and its associated turmoil begins to bite and urges more carefully crafted military preparedness accordingly. This literature bears the unmistakeable imprint of its originating impulse and, not surprisingly, of realist thinking. As the term "national security" itself implies, the state and its interests, however conceived, are of central concern and, indeed, realism has often been criticised before for its "state-centrism". The discourse of national security, even where it responds to climate change, is ultimately not concerned with the condition or disposition of a fragile planet. It is about securing territory, or assets necessary to national prosperity or survival. It seeks to identify new kinds of (climate-change related) threats but the response it ultimately urges is as old war. Indeed, it is war or better-preparedness for war given the shape and idiosyncrasies of emerging threats.

From the perspective of the case I want to mount, the national security argument actually faces in the wrong direction. When this argument looks upon an exhausted planet troubled by climate change, it does not pause to ask whether this planet can bear the weight of more war. Rather, the planet presents as an ensemble of new and as yet incompletely understood occasions for conflict. National security research rises variously to the challenge posed by this incomplete understanding. Its mission, again, is better understanding of new threats and risks and better ways of shaping the devices of national security to meet those threats. If the planet buckles under the additional pressures, then so be it.

Of course these claims need to be substantiated in a more careful review of the national security/climate change literature – and here I will provide just a single quick illustration that draws on an important example even if it is occasionally marked by a kind of tragic absurdity. That example is provided by a Pentagon commissioned report prepared by consultants working with a committee of eleven senior retired Generals. Unlike their commander-in-chief, the generals are deeply concerned about climate change. That's better than Presidential indifference but the shape of their concern is deeply worrying, nevertheless:

> Economic and environmental conditions in already fragile areas will further erode as food production declines, diseases increase, clean water becomes increasingly scarce and large populations move in search of resources. Weakened and failing governments, with an already thin margin for survival, foster the conditions for internal conflicts, extremism and movement towards increased authoritarianism and radical ideologies…. The US may be drawn more frequently into these situations either alone or with allies, to help provide stability before conditions worsen and are exploited by extremists. [9]

Why does this sound prescient? And are the Generals saying that the mass human suffering they identify matters here not principally for its own sake but because it might trigger or incubate extremism or radical ideologies? Whether this is so or not, the thrust of the argument is clear enough: climate change necessitates intelligence and military preparedness. No serious questions are raised about the sustainability or war itself. To be sure, the generals do express a clear preference for low carbon emission weaponry and "Think globally, destroy locally" may become the climate conscious war-fighting slogan of the 21st Century. One waits for the recommendation to plant trees as carbon offsets. In their discussion of the world's most vulnerable and unstable continent, Africa, they also highlight the importance of protecting US oil interests – without any sense of irony. It should not surprise us the US military is the largest consumer of oil in the world. The Generals want their oil and they want to eat it, too.

You might say that old Generals cannot be expected to have serious second thoughts about the enterprise of war as such. Perhaps not, but the problem is deeper than this and it ultimately relates, again, to the assumptions of realism. If war is inevitable, how can the planet refuse to play along? How can it turn out to be a fragile theatre of war? When something is inevitable, questions of cost or compliance don't even arise. From within this perspective,

[9] *National Security and the Threat of Climate Change* (April 2007) p6. This report was prepared by the CNA Corporation who engaged a military advisory board the members which included 11 retired generals. http://securityandclimate.cna.org/report/National%20Security%20and%20the%20Threat%20of%20Climate%20Change.pdf see also http://www.euractiv.com/en/climate-change/climate-change-national-security-issue/article-163201

climate change constraints can only look like occasions for more and new kinds of conflict and war – ones that we'd better get ready for. They couldn't possibly be signalling that war is now too expensive, or becoming an ecological impossibility.

The whole of the developing national security and climate change literature is like this – whether prepared by soldiers, civilian consultants or academics. It may vary in quality, sophistication and tone – from the subtle and scholarly to the gung-ho and gauche. But it all does the same work and all points in the same basic direction.[10] Again, it's about securing a share, not protecting a common pool. That's the template and that's also the script to which Brendan Nelson was speaking. Perhaps he has just read the Generals' report on climate change and noted its honesty concerning oil interests. Ultimately, however, as this awareness is pushed by the reciprocating spectres of migrating millions and suicide bombers, it is also likely to merge with an uglier manifestation of green politics: a life-boat ethics movement increasingly in evidence in anti-immigration sentiment in the developed world.[11] At its very heart this thinking works at translating ecological into strategic constraints. Again, the planet's capacity to bear the weight of war and its huge machinery hardly comes into the picture.

In the final analysis, war in the realist imagination remains like economic growth in the liberal imagination: it can be waged with unlimited ferocity, whenever necessary, over anything, until the last man is standing and by any means. The realist fantasy of permanent war or permanent preparedness for war complements the neo-liberal fantasy of permanent economic growth. It literally and metaphorically rides shotgun. Despite the declared aspiration to fight more low emission wars, conventional military thinking has not made the serious journey to a finite planet. It cannot, for that journey involves travel in the direction of disarmament.

Peace activism and new critique of militarism – and realism

A huge sustainable development literature likewise reflects the new vulnerabilities and volatilities of a climate changing world and urges green preventative development strategies involving either climate change mitigation, adaptation or both. Either implicitly or explicitly, this literature maps out courses of action that seek the prevention of war. By its very nature, however, this sprawling literature stops short of a more robust engagement with questions of war, climate change and ecology more generally as these systems or phenomena intersect. Argument of this kind may be geared to avoiding conflict but it does not usually seek to inquire into it. Given the global dimensions of climate change, the strategic interest it is generating and the need for international mitigation planning, reflection on war now needs to proceed further. What will war and preparation for war mean in a climate changing world?

The initial answer is, in principle at least, easy. When fighting breaks out, constructive climate change problem solving stops. The world's effort to contain climate change falters. But that's not all: war will almost certainly inflict worse ecological damage than did the peace (however problematic) preceding it. The streets will be filled with tanks and armoured trucks instead of just-for-fun SUVs! War is very bad news. The internet provides a rich, even if piecemeal, source of information and I will return this to this point later in the paper.[12]

[10] I am currently preparing another paper that examines a number of more sophisticated contributions to this literature: *National Security means Global Insecurity: Military Preparation for Climate Change.* It will be posted on this website in coming months.

[11] George Lucas and Thomas Ogletree, Eds. (1976) *Lifeboat Ethics*, Harper and Row, New York.

[12] Some more systematic sources here include S. Lanier Graham (1993) *The Ecology of War*, Walker and Company, New York; Abeer Majeed (2004) *The Impact of Militarism on the Environment*, a report written for Physicians for Global Survival (Canada) www.pgs.ca ; JE Austin and CE Bruch. Eds. (2002) *The Environmental Consequences of War*, Cambridge University Press.

www.huembwas.org/Pictures3/Tanks/tanks1.jpg

www.damox.com/.../Hummer/Hummer_H1_black.jpg

Even just preparation for war will be create new problems calling for careful analysis. If, on the advice of the General's report noted above, the US spends the next two or three decades further enhancing its national security and war-fighting capacities to deal with climate change strife, that will be unfortunate, expensive and, perhaps now, also tragic.

A lot of resources will be devoted to a futile exercise – see box below – as the world continues to slip beyond US international policing reach. US military spending will continue to rise sharply. If one counts the war on terror. According to Chalmers Johnson, the US spent some $750 billion in 2006, including a $120 billion appropriation for the war on terror.[13] That's well over half of total global spending estimated at around $1.3 trillion and in the decade ending in 2005, US expenditure has risen by some 50%.[14]

And of course the rest of the world does not stand still, looking on while the US breaks new records. World military spending as a whole was up by almost 40% in the decade ending 2005 and now exceeds the highest Cold War levels. The world's next four big spenders are also on steep, mostly steeper trajectories. Thus, over the same decade, China was up by 165%, Russia by 48%, India by 82% and the UK by 54%.[15]

Futility of US defence spending

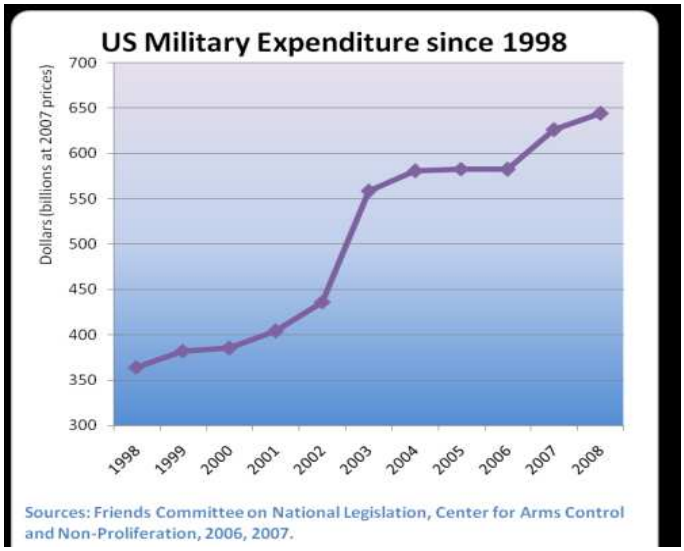
Chalmers Johnson's widely read "Blowback Trilogy" suggests that empires ultimately collapse under the weight of their imperial endeavours as the result of a profound negative synergy. The effort of war debilitates the empire's home or centre economically and politically. At the same time, far from pacifying a resistant hinterland, this effort creates more hatred and enmity. In the third volume of the Trilogy, Johnson explains how a military machine encompassing some 800 overseas military bases and installations spread across 130 countries do their politically destructive work:

> *"Americans cannot truly appreciate the impact of our bases elsewhere because there are no foreign military bases within the US. [They include] such unwelcome features as the networks of brothels around their gates, the nightly bar brawls, the sexually violent crimes against civilians and the regular hit-and-run accidents. These, together with noise and environmental pollution are constant blights we inflict on local populations to maintain our lifestyle. People who live near our bases must also put up with the racial and religious insults that our culturally ignorant, high handed troops think it is their right to dish out. Imperialism means one nation imposing its will upon others through the threat or actual use of force. Imperialism is a root cause of blow back." Nemesis* (2006) Metropolitan Books New York, p6-7.

[13] See the Chalmers Johnson "Blowback Trilogy' and in particular the third volume, *Nemesis* (2006) Metropolitan Books New York, p7. US defence spending also accounts for some 40% of US Government outlays. See http://www.globalissues.org/Geopolitics/ArmsTrade/Spending.asp

[14] See http://www.sipri.org/contents/milap/milex/mex_trends.html and http://www.globalissues.org/Geopolitics/ArmsTrade/Spending.asp

[15] US absolute expenditure still outstrips all of these big spenders combined even in purchasing power parity terms – 2006 expenditures in purchasing power parity terms for world's top 5 spenders were US $529 billion, China $188b, India $114b, Russia $83b and the UK, $51b. The following the US on the big spenders league table totalled $435b. http://www.globalissues.org/Geopolitics/ArmsTrade/Spending.asp#WorldMilitarySpending.



http://www.globalissues.org/Geopolitics/ArmsTrade/Spending.asp

These developments, war and preparation for war, renewed arms racing, may well fatally damage the prospects of international climate change planning and co-operation. A world heavily committed to and prepared for war, a world whose political possibilities are defined by hard-edged national security and realist imperatives cannot and will not successfully plan to mitigate global climate change. A world so composed simply lacks the international trust or social capital necessary to do the work.

In any event, I argue below that the Kyoto Protocol already bears witness to this and we might even say that a cruel inverse law applies here: the better prepared the world and its states are for war, the less well prepared will they be for climate change... War is not like neutral or empty space in this universe; it's more like anti-matter. It devours or annihilates its socially constructive and order-building opposites. These features of war – the destruction of order, entropic vectors and discord – are old, as old as war itself. But we need to think a lot more about the ways in which the new pressures and aggravations of climate change will play into and give new shape and perhaps new kinds of finality to war's ancient capacities for social and material destructiveness.

The peace movement needs to extend its critique of militarism in these ways. That said, peace movement activists and artists who sought to imagine a post-holocaust world or to describe and depict the finality of a nuclear winter at the height of the Cold War have left important legacies upon which these new intellectual challenges can draw. Many contributed here but few with the extraordinary insightfulness of Jonathan Schell who commented on nuclear holocaust as follows in the early 1980s:

> One might say that after billions of years nature, by creating a species equipped with reason and will, turned its fate, which had previously been decided by the slow, unconscious movements of natural evolution, over to the conscious decisions of just one of its species. When this occurred, human activity, which until then had been confined to the historical realm, which in turn, had been supported by the broader biological current – spilled out of its old boundaries and came to menace both history and biology… Thought and will now became mightier than the earth that had given birth to them. Now human beings became actors in the geological time span…. [16]

Two and a half decades later, one could just as easily make these observations about global warming. We are still or again in a predicament calling for apocalyptic accounting and description. But climate change is different in one very important respect. To borrow from the language of physics again, its event horizon is at once much closer to us and yet more difficult to see. We can trigger terminal climate change processes without engaging in all out war, indeed, just by stumbling. Limited war, war short of holocaust proportions or even just preparation for war are now hugely consequential – which means, as others have said, that the end may take us by surprise. There may be no need for a command to end the world - no momentous decision to "launch" or "strike" to mark the end of the world. It will happen as a

[16] Johnathan Schell (1982) *The Fate of the Earth*, The Chaucer Press, Suffolk, p113.

result of carelessness, apparently inconsequential miscalculation or delusion. Luckily it is still a minority view, but James Lovelock is not alone in fearing that the threshold has been crossed. But if it has not, then playing with war is like playing with matches in an environment filled with combustible material. Again, too this is not just because of war's material and battlefield impacts. Indeed, the worst damage of all will result from impact on political options and culture once we fully recognise ourselves to be on a finite planet. In that world we need bold and effective global treaties. War, threatened war and preparation for war will place them further beyond our reach. Healing rifts, re-establishing ruptured good will or social capital… these things take time and that, as we know, may be quickly running out. What better evidence of this do we need than a weak Kyoto Protocol.

Nor will the planet wait – it keeps its own time and rhythms, and, to make our predicament worse, they remain hidden from us in the essentially nonlinear and unpredictable world of climate order. Limited warfare, and even excessively war-like posturing, may now prove just as terminally dangerous as the MAD exchange envisioned by Schell in the 1980s. On a limited planet we might say, war of any kind, as well as aggressive posturing or arms racing are fast becoming indefensible as an instruments of policy for both political and material reasons. They threaten to disrupt delicately poised order and crucial resources – political, cultural and material. Examining these huge questions is work that remains to be done. It is work that the national security strategists cannot do and work that contemporary environmental and climate change activists and researchers have barely started.

Climate Nerds

If we approach the problem of war and climate change not from the perspective of war but from the perspective of the official scientific climate change literature, the picture is again highly incomplete. This time we see the ailing planet in close focus, in the foreground, so to speak. Indeed, climate change science is now seeking to measure and monitor the slightest changes of temperature or mood in thousands of locations. Curiously, however, when we move across to this world of nerds and woolly beards, the world of climate change forecasting and scenario building, war is largely absent. It's almost as if focussing on both is too much for any ordinary mortal to bear – only battle hardened old generals, still clinging to the illusions of national security and redemption in a climate changing world, can take it!

Even the bleakest scientific work here – that of James Lovelock – describes a range of devastating positive feedbacks in which climate change, driven by forces that become self propelling, runs out of control and in the direction of apocalypse.[17] As horrific as these scenarios are, they happen in a world in which humans, certainly struggling desperately against the planet's distemper, are presumed at peace. Lovelock not only overlooks the complications associated with conflict between humans, in a strange turn of his own Gaia hypothesis, he even speaks of the need to wage war on the planet. Our solidarity is assumed as we exert ourselves in order to forestall Gaia's final eviction notice. Lovelock's favoured strategies involve massive and accelerated nuclear energy programs, suspended democracy, and a global council of wise elders to govern.[18] Perhaps there could be seats at the table for our climate change savvy Generals!

Yet this is surely high risk if not fanciful stuff. Unless we apply ourselves seriously to peace making, it is almost certain that we will not just drift into our final showdown with nature as united humankind able to struggle as one against the planet's attempt to expel us. It is far more likely that we will be catapulted into a final showdown with Gaia by wars, big or little, that we wage on each other under the generals direction. But Lovelock overlooks what the Generals see: that, as Gaia turns up the heat, we will become a squabbling rabble – using strapped-on plastic explosives or depleted uranium shells to visit last minute retribution on each other. So how does my position differ from that of the Generals? In my imagined future, there is no meaningful military victory or restoration of order. There is no benign council that governs until the world is made safe for American enterprise and democracy again. And conclude here, a short, short note on Lovelock's new "atoms for peace" program: in this

[17] These feedbacks mainly involve the break down of long stable carbon sinks due to initial human induced warming. The released carbon induces further uncontrollable warming, more carbon release and so on. Major sinks include the ocean, frozen peat and surviving forests

[18] James Lovelock (2006) *The Revenge of Gaia*: "We are unintentionally at war with Gaia and, to survive with our civilisation intact, we urgently need to make a just peace with Gaia while we are strong enough to negotiate and not a defeated broken rabble on the way to extinction." p153.

environment it looks like a very bad idea. At the very least we need to be a little more committed to international co-operation and authentic peace making before we pursue that option.

If we turn from Lovelock to the Intergovernmental Panel on Climate Change (IPCC), we find even deeper aversion to war – or, rather, to its consideration. No doubt the two half thousand scientists who make up that illustrious network are averse to war but my concern here is with the consideration they give, or fail to give, to war. As most people know, the IPCC is a UN sponsored body whose principle responsibility is to review current climate science literature and to synthesise it in regular reports that capture important common findings. Much of the IPCC's reporting involves climate change forecasting and to systematise that work, it models a wide range of formally constructed scenarios. They typically appear in reports as highly opaque acronyms that read like a cast of characters from Star Wars – like B1, B2, A1 and A1F1, to name just four.[19]

The scenarios have been constructed to embody "driving forces such as demographic development, socio-economic development, and technological change".[20] Because we cannot read the future, we don't know how these fundamental emission drivers will play themselves as they variously unfold and interact in the century ahead. Scenario building is important because it generates a range of answers in the form of conditional hypotheses to deal with unknown variables. We can ask: "What if this?" and "What if that?" as many times as we like. The IPPC has apparently asked the question 40 times, but this large number is organised as four "storylines" combining "two sets of divergent tendencies: one set varying between strong economic values and strong environmental values, the other set between increasing globalization and increasing regionalization." [21]

The scenario building process is fundamental to IPCC forecasting and warrants far more critical examination than it appears to have received. Here, however, my concern is with just one point: none of the IPCC's many scenarios or multiple story lines involves reference to war or questions about war. Are we supposed to believe that war or peace or even just high or low tension international environments will matter less those rates of population or economic growth or even technological change? And why, if one is casting a very wide net, leave out war altogether? After all, some pretty far-fetched scenarios are modelled. They include futures involving huge market and technology driven falls in carbon emissions that look like giddy wishful thinking. Perhaps one can include the highly improbable (miraculous?) in order to cover all bases. But then, why leave out an eventuality that is not just extremely important but also very probable. Look at the record of the last century and look around now. Listen to Brendan Nelson. It's not at all clear why this omission has occurred. Political pressure? Blindness? Denial?

But nor does the reason matter here. My point relates to the simple fact of the oversight itself. If the IPCC pays no attention to developments of such profound climate change consequence, how useful and its intelligence be? Perhaps the IPPCC will say that this is not its job or brief. So, is someone else dealing with these questions?" [22] The national security experts who have turned the issue inside out and upside down, perhaps?

Whether this is fair criticism of the IPCC or not, war has its own huge opportunity costs and the greatest of these, of course, is the manner in which it excludes alternatives permitted by peace – like negotiated settlements, international planning and multi-national co-operation. Nor, again, is war simply the temporary absence of peace. It sows the seeds of a much more durable suspicion and mistrust and these live on in both individual and cultural memory. Its weapons and violence destroy not just human artefact and natural capital but also the

[19] See http://www.grida.no/climate/ipcc/emission/002.htm#anc2 and http://sedac.ciesin.org/ddc/sres/

[20] http://sedac.ciesin.org/ddc/sres/

[21] http://www.grida.no/climate/ipcc/emission/002.htm#anc2

[22] Finally, the widespread perception that the IPCC exaggerates the dangers of global climate change looks increasingly like an exaggeration or distortion itself.Treating all scenarios as equally probable on the basis of dubious methodological decision (ie all scenarios are imaginary and therefore equal – or something like that) when patently they are not, can also lead to serious distorted quantitative analysis which appears not to trouble the IPPC. But that's a story for another time. As well as overstating the market's capacity for self-correction here, does the IPCC also overstates the planet's capacity for punishment?

international social capital that active cooperation requires. War and even just preparation for war can cast these long shadows, can radically monopolise or contaminate political space long beyond periods of actual hostility. Cast into this shade, co-operation remains thin and supports only stunted life forms. Arguably, then, war and the culture that sustains it are among the climate's greatest enemies. We should pay more attention to them. In many ways the best evidence we have for the damaging political and cultural impacts of a world highly geared to war in a climate changing world is the Kyoto Protocol – the very picture of a stunted treaty. I consider it briefly below.