# 1NC

## 1

### OFF

#### Debate is structured as a marketplace for information where we fetishize notions of “pedagogy” and is an extension of semiocapitalist logic through immaterial manors. Communication within the university isn’t one that develops subjectivities and psychic identity rather a system geared towards fragmentation and futuristic productivity.

**Berardi 12** [David Hugill and Elise Thorburn, 9-26-2012, "Interview with 'Bifo': Reactivating the Social Body in Insurrectionary Times," Critical Legal Thinking, [https://criticallegalthinking.com/2012/09/26/interview-with-bifo-reactivating-the-social-body-in-insurrectionary-times //](https://criticallegalthinking.com/2012/09/26/interview-with-bifo-reactivating-the-social-body-in-insurrectionary-times%20//) JB]

* TW – mentions of suicide
* Impact turns fiat and notions of “the aff is a good idea”
* Debate bad and communication gets coopted

A: First of all because **students are increasingly learning in** small parcels, **small fragments**, small fractals **of knowledge**, and they are becoming **more** and more **accustomed to think** of their **knowledge not as knowledge but** as **intellectual availability to exploitation**.  In North American forms of education this is already well established, it is nothing new. It is new in much of Europe and it has begun to provoke some reactions. But it is also a **fact of a networked and globalized world**.  What does precariousness mean today? What is the relationship between precariousness and globalization? It means that you can **buy a fragment of labor** in Bangkok, a fragment in Buenos Aires, and **a fragment in Milan** and that these three **fragments become** the **same product from** the point of view of **capital**.  **Knowledge is** headed the **same** way. You no longer need – from the point of view of capital – to know in the **humanistic sense**, the meaning, the finality, the **intimate contradictions of knowledge**, you just need to know how **particular parcels of knowledge** can be made **functional**. There is something new and something old in this. Herbert Marcuse’s (1964) One Dimensional Man already identified this problem of the functionalization of knowledge but in his time it was only a kind of prediction about how capitalism would be transformed. Today, this functional consideration is the dominant form of our **relationship to knowledge**. So, we should question people about **what is happening to our knowledge**. Are we really learning things, knowing things? Or are we simply learning how to **become part of** the **productive machine**? Additionally, I think we need to ask people, especially young people, **about** their **suffering in the relationship with knowledge**, with communication and so on. I think that the problem of psychic suffering is of central importance our time. Problems of depression, panic, massive suicide, are **very real**.  Do you know that suicide has become the main cause of death among people between 18-25 years old? **Suicide is** becoming a **political weapon**. I’m not only thinking of Columbine or of Mohamed Bouazizi, the man who killed himself and started the Tunisian revolution.  Suicide has something to do with knowledge.  When your **knowledge** is becoming **more and more something** that does **not belong to you**, this is a problem of personal identity, of **psychic identity**.

#### Technology has created an age of constant information and signifiers floating through our phones and computers as media. This creates a dyslexia – reduced attention spans, no time for true human interaction – this leads to information overload, which is too fast for our organic minds to keep up with – that causes depression and drug use. It’s no coincidence that the rise of tech in the 80s was complimented with a drug epidemic. These signifiers come prior to action, thus the role of the ballot is to disrupt semiocapitalism.

**Berardi 09** [Franco Berardi, Italian communist theorist and activist in the autonomist tradition, whose work mainly focuses on the role of the media and information technology within post-industrial capitalism Precarious Rhapsody, by Franco Bifo Berardi et al., AK Press, 2009. P. 40-42 // LEX JB]

* TW – mentions of suicide, not read, but it’s in the card if you chose to read it after the round

The acceleration of information exchange has produced and is producing an effect of a pathological type on the individual human mind and even more on the collective mind. Individuals are not in a position to consciously process the immense and always growing mass of information that enters their computers, their cell phones, their television screens, their electronic diaries and their heads. However, it seems indispensable to follow, recognize, evaluate, process all this information if you want to be efficient, competitive, victorious. The practice of multitasking, the opening of a window of hypertextual attention, the passage from one context to another for the complex evaluation of processes, tends to deform the sequential modality of mental processing. According to Christian Marazzi, who has concerned himself in various books with the relations between economics, language and affectivity, the latest generation of economic operators is affected by a real and proper form of dyslexia, incapable of reading a page from the beginning to the end according to sequential procedures, incapable of maintaining concentrated attention on the same object for a long time. And dyslexia spreads to cognitive and social behaviors, leading to rendering the pursuit of linear strategies nearly impossible. Some, like Davenport and Beck , speak of an attention economy. But when a cognitive faculty enters into and becomes part of economic discourse this means that it has become a scarce resource. The necessary time for paying attention to the fluxes of information to which we are exposed and which must be evaluated in order to be able to make decisions is lacking. The consequence is in front of our eyes: political and economic decisions no longer respond to a long term strategic rationality and simply follow immediate interests. On the other hand, we are always less available for giving our attention to others gratuitously. We no longer have the attention time for love, tenderness, nature, pleasure and compassion. Our attention is ever more besieged and therefore we assign it only to our careers, to competition and to economic decisions. And in any case our temporality cannot follow the insane speed of the hypercomplex digital machine. Human beings tend to become the ruthless executors of decisions taken without attention. The universe of transmitters, or cyberspace, now proceeds at a superhuman velocity and becomes untranslatable for the universe of receivers, or cybertime, that cannot go faster than what is allowed by the physical material from which our brain is made, the slowness of our body, the need for caresses and affection. Thus opens a pathological gap and mental illness spreads as testified by the statistics and above all our everyday experience. And just as pathology spreads, so too do drugs. The flourishing industry of psychopharmaceuticals beats records every year, the number of packets of Ritalin, Prozac, Zoloft and other psychotropics sold in the pharmacies continually increases, while dissociation, suffering, desperation, terror, the desire not to exist, to not have to fight continuously, to disappear grows alongside the will to kill and to kill oneself. When, towards the end of the 1970s, an acceleration of the productive and communicative rhythms in occidental metropolitan centers was imposed, a gigantic epidemic of drug addiction made its appearance. The world was leaving its human epoch to enter the era of machinic posthuman acceleration: many sensitive organisms of the human variety began to snort cocaine, a substance that permits the acceleration of the existential rhythm leading to transforming oneself into a machine. Many other sensitive organisms of the human kind injected heroin in their veins, a substance that deactivates the relation with the speed of the surrounding atmosphere. The epidemic of powders during the 1970s and the 1980s produced an existential and cultural devastation with which we still haven’t come to terms with. Then illegal drugs were replaced by those legal substances which the pharmaceutical industry in a white coat made available for its victims and this was the epoch of anti-depressants, of euphorics and of mood regulators. Today psychopathy reveals itself ever more clearly as a social epidemic and, more precisely, a socio-communicational one. If you want to survive you have to be competitive and if you want to be competitive you must be connected, receive and process continuously an immense and growing mass of data. This provokes a constant attentive stress, a reduction of the time available for affectivity. These two tendencies, inseparably linked, provoke an effect of devastation on the individual psyche: depression, panic, anxiety, the sense of solitude and existential misery. But these individual symptoms cannot be indefinitely isolated, as psychopathology has done up until now and as economic power wishes to do.

#### Financial absolutism is framed by accelerationism – appropriation of resources becomes the end goal of desire. Extinction has already happened but the race for space through appropriation allows that semiotic cycle of wealth to survive.

**Berardi 18** [Excerpted from *Breathing: Chaos and Poetry* by Franco “Bifo” Berardi, published by Semiotext(e) © Franco “Bifo” Berardi, 2018. All Rights Reserved, [https://courtauld.ac.uk/research/events-archive/vital-exhaustion/expiration-the-last-breath-franco-bifo-berardi-2018 //](https://courtauld.ac.uk/research/events-archive/vital-exhaustion/expiration-the-last-breath-franco-bifo-berardi-2018%20//) JB]

According to an **Oxfam report** that was made public at the Davos conference in January 2018, in 2016 inequality peaked: **82 percent of** the **wealth** produced that year **was hijacked by** the **1 percent** of the world’s population that already owns two-thirds of the world’s wealth.3 This is **not a joke** or an **exaggeration**: this is a documented **proof of** the demented nature of **financial absolutism**. Like a drain pump, financial capitalism has been sucking life from the organism of human society, at a rate that is accelerating by the second. The question is, why are people doing this? Why is a small fraction of humankind accumulating an unimaginable amount of wealth, while the gross majority of humankind is regressing toward misery? **What motivates this enormous appropriation** of common resources? Indeed, is there a motivation, or does the logic of financial accumulation automatically produce this irrational and immoral effect? Lastly, what is the point of accumulating and hoarding uncountable billions that could never all be exchanged for goods or pleasure in this lifetime? I don’t think that greed sufficiently explains this extreme concentration of wealth in the hands of a precious few. Should we rather explain this irrational inequality in terms of an evolutionary survival instinct? Can I even speak of an evolutionary instinct of humankind, does such a thing exist? Probably not, but I’m trying to find a sort of autopilot in human evolution. The survival instinct is alert today, because we sense (even if we tend to deny the evidence and reject this knowledge in our collective unconscious) **that** civilized **life on planet earth is approaching its end**. Our collective unconscious senses that the **final stampede** is drawing near because of so many unstoppable and irreversible processes: proliferation of nuclear weapons, global warming, water scarcity, demographic expansion and desertification, and, last but not least, **mental collapse**, spreading depression and panic. It is totally understandable at this point for **a human to be**, whether consciously or not, **preparing for a flight from planet hell**. And preparing to escape from hell is inconceivably expensive. **The 1 percent** of humankind **is preparing for this flight**, and they need huge amounts of **financial resources** to do so. Dystopian science fiction? Perhaps. Don’t forget, however, that in the last fifty years dystopian **science fiction has** produced the **most accurate roadmaps of our social and political becoming**.

#### Post digital infosphere, the notion of “private entities” appropriating is overdetermined by capitalist desire – the network economy means that privatization is static and collapses to the semiotic economy.

**Berardi 09** [Franco Berardi, Italian communist theorist and activist in the autonomist tradition, whose work mainly focuses on the role of the media and information technology within post-industrial capitalism Precarious Rhapsody, by Franco Bifo Berardi et al., AK Press, 2009. P. 59-60 // JB]

Capital reacted, following the dictates of liberalist ideology, with the **coercive privatization** of the products of collective knowledge and the submission of **experimentation** to **economic competition**. The **privatization** of collective knowledge has **encountered resistance** and opposition everywhere, and cognitive **laborers** have started to **realize** that their **potential is superior to the** power of the **merchant**. Since **intellectual labor is** at the center of the **productive** scene, **the merchant no longer possesses** the juridical or material **instruments to impose** the principle of **private property**. Given that the most precious **goods in** social **production have** an immaterial and **reproducible character**, we have discovered that the **private appropriation of goods makes no sense**, while the reasons sustaining the **privatization of material goods** in industrial society have weakened. In the sphere of **semiotic-capital** and **cognitive labor**, when a product is consumed, **instead of disappearing** it remains available, while **its value increases** the more its use is shared. **This is** how the **network economy** works, and this **contradicts** the very principle of **private property** on which capitalism was founded until now.

#### Thus, the alternative is to symbolically take the system hostage through it’s own method of exhaustion. We do this through radical passivity and a method of the Wu Wei – only radical passivity can escape the infosphere

**Berardi 11** [Franco Berardi, Italian communist theorist and activist in the autonomist tradition, whose work mainly focuses on the role of the media and information technology within post-industrial capitalism “Chapter 4 Exhastion and Subjectivity.” After the Future, by Franco Bifo Berardi et al., AK Press, 2011. P. 107-108 // LEX JB]

* TW – mentions of suicide, not read, but it’s in the card if you chose to read it after the round

The process of collective subjectivation (i.e. social recomposition) implies the development of a common language-affection which is essentially happening in the temporal dimension. The semiocapitalist acceleration of time has destroyed the social possibility of sensitive elaboration of the semio-flow. The proliferation of simulacra in the info-sphere has saturated the space of attention and imagination. Advertising and stimulated hyper-expression (“just do it”), have submitted the energies of the social psyche to permanent mobilization. Exhaustion follows, and exhaustion is the only way of escape: Nothing, not even the system, can avoid the symbolic obligation, and it is in this trap that the only chance of a catastrophe for capital remains. The system turns on itself, as a scorpion does when encircled by the challenge of death. For it is summoned to answer, if it is not to lose face, to what can only be death. The system must itself commit suicide in response to the multiplied challenge of death and suicide. So hostages are taken. On the symbolic or sacrificial plane, from which every moral consideration of the innocence of the victims is ruled out the hostage is the substitute, the alter-ego of the terrorist, the hostage’s death for the terrorist. Hostage and terrorist may thereafter become confused in the same sacrificial act. (Baudrillard 1993a: 37) In these impressive pages Baudrillard outlines the end of the modern dialectics of revolution against power, of the labor movement against capitalist domination, and predicts the advent of a new form of action which will be marked by the sacrificial gift of death (and self-annihilation). After the destruction of the World Trade Center in the most important terrorist act ever, Baudrillard wrote a short text titled The Spirit of Terrorism where he goes back to his own predictions and recognizes the emergence of a catastrophic age. When the code becomes the enemy the only strategy can be catastrophic: all the counterphobic ravings about exorcizing evil: it is because it is there, everywhere, like an obscure object of desire. Without this deep-seated complicity, the event would not have had the resonance it has, and in their symbolic strategy the terrorists doubtless know that they can count on this unavowable complicity. (Baudrillard 2003: 6) This goes much further than hatred for the dominant global power by the disinherited and the exploited, those who fell on the wrong side of global order. This malignant desire is in the very heart of those who share this order’s benefits. An allergy to all definitive order, to all definitive power is happily universal, and the two towers of the World Trade Center embodied perfectly, in their very double-ness (literally twin-ness), this definitive order: No need, then, for a death drive or a destructive instinct, or even for perverse, unintended effects. Very logically – inexorably – the increase in the power heightens the will to destroy it. And it was party to its own destruction. When the two towers collapsed, you had the impression that they were responding to the suicide of the suicide-planes with their own suicides. It has been said that “Even God cannot declare war on Himself.” Well, He can. The West, in position of God (divine omnipotence and absolute moral legitimacy), has become suicidal, and declared war on itself. (Baudrillard 2003: 6-7) In Baudrillard’s catastrophic vision I see a new way of thinking subjectivity: a reversal of the energetic subjectivation that animates the revolutionary theories of the 20th century, and the opening of an implosive theory of subversion, based on depression and exhaustion. In the activist view exhaustion is seen as the inability of the social body to escape the vicious destiny that capitalism has prepared: deactivation of the social energies that once upon a time animated democracy and political struggle. But exhaustion could also become the beginning of a slow movement towards a “wu wei” civilization, based on the withdrawal, and frugal expectations of life and consumption. Radicalism could abandon the mode of activism, and adopt the mode of passivity. A radical passivity would definitely threaten the ethos of relentless productivity that neoliberal politics has imposed. The mother of all the bubbles, the work bubble, would finally deflate. We have been working too much during the last three or four centuries, and outrageously too much during the last thirty years. The current depression could be the beginning of a massive abandonment of competition, consumerist drive, and of dependence on work. Actually, if we think of the geopolitical struggle of the first decade – the struggle between Western domination and jihadist Islam – we recognize that the most powerful weapon has been suicide. 9/11 is the most impressive act of this suicidal war, but thousands of people have killed themselves in order to destroy American military hegemony. And they won, forcing the western world into the bunker of paranoid security, and defeating the hyper-technological armies of the West both in Iraq, and in Afghanistan. The suicidal implosion has not been confined to the Islamists. Suicide has became a form of political action everywhere. Against neoliberal politics, Indian farmers have killed themselves. Against exploitation hundreds of workers and employees have killed themselves in the French factories of Peugeot, and in the offices of France Telecom. In Italy, when the 2009 recession destroyed one million jobs, many workers, haunted by the fear of unemployment, climbed on the roofs of the factories, threatening to kill themselves. Is it possible to divert this implosive trend from the direction of death, murder, and suicide, towards a new kind of autonomy, social creativity and of life? I think that it is possible only if we start from exhaustion, if we emphasize the creative side of withdrawal. The exchange between life and money could be deserted, and exhaustion could give way to a huge wave of withdrawal from the sphere of economic exchange. A new refrain could emerge in that moment, and wipe out the law of economic growth. The self-organization of the general intellect could abandon the law of accumulation and growth, and start a new concatenation, where collective intelligence is only subjected to the common good. The global recession started officially in September 2008 and lasted officially until the summer of 2009. Since the summer of 2009 the official truth in the media, in political statements, in economic talk was: recovery. The stock exchange began to rise again and the banks started again paying huge bonuses to their managers and so on. Meanwhile, unemployment was exploding everywhere, salaries were falling, welfare was curtailed, 90 million more are expected to join the army of poverty in the next year. Is this recovery? Our conditional reflex (influenced by the Keynesian knowledge that recovery is the recovery of the “real economy”) answered: no, this is not recovery, capitalism cannot recover only by financial means. But we should reframe our vision. Finance is no longer a mere tool of capitalist growth. The financialization of capitalism has made finance the very ground of accumulation, as Christian Marazzi (2010) has explained in recent works such as The Violence of Financial Capitalism. In the sphere of semiocapitalism, financial signs are not only signifiers pointing to some referents. The distinction between sign and referent is over. The sign is the thing, the product, the process. The “real” economy and financial expectations are no longer distinct spheres. In the past, when riches were created in the sphere of industrial production, when finance was only a tool for the mobilization of capital to invest in the field of material production, recovery could not be limited to the financial sphere. It took also employment and demand. Industrial capitalism could not grow if society did not grow. Nowadays we must accept the idea that financial capitalism can recover and thrive without social recovery. Social life has become residual, redundant, irrelevant.

### OV

Graphical user interface, text, application, chat or text message

Description automatically generated

#### The decision to not disclose the affirmative 30 minutes before the round is complicit within semiotic structures where competitive incentives overdetermine the spirit of clash of positions. This 1] proves uniqueness for Berardi that these educational spaces aren’t dedicated to the movements they presume rather competitive capitalist structures 2] we don’t say fairness is a voter but when the 1AR’s framework block says weighing case is key to fairness, their framing negates – 4 minutes of prep is not enough to put together a coherent 1nc or update generics—30 minutes is necessary to learn a little about the affirmative and piece together what 1nc positions apply and cut and research their applications to the affirmative. DTD – deter future abuse, competing interps because I asked them if they were sure, and gave them a chance to meet the shell so it’s their fault so they need to defend their own norm.

### Case

#### The affirmative’s model for politics is uniqueness for the K – semiocapitalism is the root cause

Bifo 12 [Franco Berardi, Italian communist theorist and activist in the autonomist tradition, whose work mainly focuses on the role of the media and information technology within post-industrial capitalism, “After the Future”, Published: 2012, DOA: 7/5/19 // JB]

As soon as the economic breakdown began, as if by miracle, three planes flew through the skies of Washington and New York. After the events of September 11, 2001 (S11), miraculously, the capitalism on the verge of bankruptcy could 59 invest the energies of the whole society (that displayed signs of exhaustion) in the direction of war. **The general** **mobilization of these energies began with a call to a Holy War** **of the West** **against the** **evils of the** **world**. Here begins the great Manichean campaign of **Good versus Evil**. The **Good is represented by a group of oil magnates** who have notoriously **robbed public funds that led to the collapse of giant companies**. Since the **war on** the **Afghan** **population** **failed to produce any of the promised results**, i.e. the arrest of the heads of the Al Qaida organisation accused of being responsible for the S11 attacks, **the war must be re-launched**. A new target is chosen: the former ally and accomplice Saddam Hussein is the target. The motivations for a war on Iraq are ridiculous. “Saddam is an enemy of humanity”. Of course, he was one already when he acted on behalf of the American administration and occupied Iran, as are many of the American allies such as Sharon and the Saudi dynasty. “He used illegal weapons”. As he did in 1988 with the financial and political support of the US. “He can make nuclear weapons”. Which is improbable. Anyway, the violations of the nonproliferation treaty are multiple, starting from Israel. “We need to bring democracy to the Middle East”. Nothing could be more hypocritical. Democracy in the Middle East would require the departure of Israeli forces from the occupied territories, the recognition of the political rights of the Kurdish people, and a reduction of the role of the large oil corporations that for fifty years have been robbing the resources of those countries whilst influencing their political life in a direct and authoritarian manner ever since they sponsored a military coup in 1953 against Premier Mohammed Mossadeq for trying to nationalize the Iranian oil industry. **The ideology of** **security is the product of** **a paranoia** **fuelled** **by** **the** **media and geared to** **create** **an economic system of global security that** **can** **always feed on new paranoia**. “We need to protect our quality of life”. **This is the only sentence that corresponds to truth in the whole of the war propaganda**: 20% of humanity does not wish to give up the consumption of 80% of the world resources. What are the possible scenarios of war in Iraq? One is that of a rapid victory for the aggressors, the capture and trial of Baghdad’s criminal, the imposition of a relatively peaceful protectorate, the American democratization of the Middle East, the progressive clearance of conflict zones, the imposition of a planetary military dictatorship for good purposes. But does anyone believe this to be possible? The **more realistic scenario entails the possibility of a fall of the Pakistani regime with** the gain of **two hundred nuclear warheads** for the Islamic fundamentalists. The most probable consequence of aggression against Iraq is the explosion of Empire, the inauguration of the Empire of Chaos. Meanwhile, something came to change the whole scenario: in the framework of a paranoid **clash between fundamentalist and nationalist fanaticism and nazi-capitalist fanaticism**, a third actor has finally emerged, that we have been 60 waiting for since S11, which has been built with the stubborn labor of the global movement against corporations. The third actor came into being on February 15th, 2003 as millions upon millions marched in cities around the globe in protest against the war in Iraq. It is the movement of global everyday life that rebels against war mongering dementia. What we saw on F15 is a movement that is destined to expand and radicalize. **But at that stage it will be a matter of working towards pushing the process of exiting the war to coincide with that of dissolving of the neoliberal domination of global capitalism, in order to repose the dynamic of anti-capitalist conflict in society. Capitalism brings war as clouds bring storms, but in the course of the war the conditions for a re-dislocation of capitalism are created. The question of subverting the forces that produced the war will emerge. Then it will not be sufficient to eliminate the criminal class that produced the war. It will be necessary to clarify that war is only the continuation of liberalist devastation by other means, hence, it will be necessary to cut the roots of the process that led to catastrophe.**

### Framing

#### The K OW and turns the aff –

#### (1) Form v Content – the K indicts the rhetoric or the pedagogical way that the aff is exported to fit in the debate space and is also the best model for clash because you clash with our theory of power instead of plan focus which we’ve indicted. It’s not unfair to expect you to defend your epistemological consequences anything else is academically irresponsible.

#### (2) Epistemology – neoliberalism imposes that our knowledge is formed through an endless cycle of production which means the 1AC “skills” are irrelevant and the exportation of their pedagogy is flawed

#### (3) Neoliberalism controls the value to life through affectivity which presupposes evaluation of body counts. Extinction has already happened and the criticism controls that value.

#### (4) It’s illogical – form over content because it doesn’t matter how right you are if you used violent discourse to get there – just like how “all lives matter” semantically means all lives matter but we know it’s racist because of it’s representations – logic outweighs because it’s a litmus test to determining what is an argument. No amount of fairness can make an argument logical

#### (5) Fiat is illusory none of their policymaking offense is solved but our representations can be rectified with a rejection which outweighs on ballot proximity

Lbl

### Adv

Public sector fill in – if their inherency is right that means its desirable to go to mars which means states will pursue it too

#### Even nuke winter theorists concede it’s not an existential risk

Shulman 12

Carl Shulman (Research Fellow at the Machine Intelligence Research Institute; Previously, he worked at Clarium Capital Management, a global macro hedge fund, and at the law firm Reed Smith LLP. He attended New York University School of Law and holds a BA in philosophy from Harvard University). “Nuclear winter and human extinction: Q&A with Luke Oman.” Overcoming Bias. 5 November 2012. JDN. http://www.overcomingbias.com/2012/11/nuclear-winter-and-human-extinction-qa-with-luke-oman.html

The most obvious path from nuclear war to human extinction is nuclear winter: past posts on Overcoming Bias have bemoaned neglect of nuclear winter, and high-lighted recent research. **Particularly important is a 2007 paper by** Alan **Robock,** Luke **Oman, and** Georgiy **Stenchikov:** “Nuclear winter revisited with a modern climate model and current nuclear arsenals: Still catastrophic consequences.” Their model shows severe falls in temperature and insolation that would devastate agriculture and humanity’s food supply, with the potential for billions of deaths from famine in addition to the direct damage. **So I asked Luke Oman for his estimate of the risk that nuclear winter would cause human extinction**, in addition to its other terrible effects. **He gave the following estimate: The probability I would estimate for the global human population of zero resulting from the** 150 Tg of black carbon **scenario in our 2007 paper would be in the range of 1 in 10,000 to** 1 in **100,000. I tried to base this estimate on the closest rapid climate change impact analog that I know of, the Toba supervolcanic eruption approximately 70,000 years ago.** There is some suggestion that around the time of Toba there was a population bottleneck in which the global population was severely reduced. Climate anomalies could be similar in magnitude and duration. Biggest population impacts would likely be Northern Hemisphere interior continental regions with relatively smaller impacts possible over Southern Hemisphere island nations like New Zealand. Luke also graciously gave a short Q & A to clarify his reasoning: Q1: What food sources would you expect to sustain surviving human populations with severe nuclear winter? The months of existing grain stocks? Slaughtering livestock herds? Intensive fishing? Electric greenhouse agriculture? Simply less-effective agriculture? A: My thought was that **food sources would be mainly fishing as well as less-effective agriculture**, assuming little or no access to fertilizer or fuel. Q2: If nuclear arsenals become much larger in the future, e.g. 100x as large, damage would presumably scale sublinearly (only so many cities to ignite). Could the detonation of millions of nuclear weapons make a material difference to your estimate? A: Yes it would make a difference but as you state I would definitely think it would scale sublinearly. The largest thing that I would think, more so than the number above a certain point, would be how much the Southern Hemisphere is involved. In the 2007 paper scenario it is assuming largely NH mid-high latitude injection so there is likely large difference in black carbon aerosol amounts in the respective hemispheres. This is one of the largest differences between the 150 Tg of BC scenario and that of Toba, which was a tropical eruption and presumably spread much more evenly over both hemispheres. Q3: Am I right in thinking that **the estimate is based on the reasoning that many Toba-level events must have taken place in the last tens of millions of years, but did not wipe out our** prehuman **ancestors** (even if perhaps eliminating some other lineages of hominids, or bringing human ancestor populations near minimal sustainable size), so the probability per event must be low (plus our access to modern technology)? A: Yes that was my thinking. Q4: 1 in 10,000 to 1 in 100,000 is quite a low probability, although one that could be justified if we were sure that similar events had happened many times. However, it is also low enough for model uncertainty to matter. In particular, how much probability mass can we place in nuclear winter being less or more dangerous than a Toba-level eruption? Should we assign a 1-10% probability in it being materially worse than Toba in terms of human extinction risk? In other words, how fat are the tails of the distribution for nuclear winter climate models? A: Yes there is definitely plenty of model uncertainty when dealing with these kinds of scenarios. This question sort of goes back to my answer to number 2 in that the impacts would likely be different in the respective hemispheres, with the Northern Hemisphere more likely to be Toba-like in climate impacts. My thought for the extinction question was to treat the Southern Hemisphere as the rate limiting step. So, in the scenario we assumed, the NH climate impacts might have a 20-30% chance of being materially worse but the SH maybe around 1-5% chance of being worse. Also, I was thinking of something in the range of 1,000-5,000 as the Minimum Viable Population (MVP) but if it is on the high end it could lower my estimated probability somewhat, but probably not significantly. Probably one of the biggest uncertainties on my end is my climate change estimate for Toba. Papers after ours suggest a smaller climate impact due to different aerosol size assumptions than we used. So if indeed there was a population bottleneck around Toba and the climate anomalies were significantly smaller than we assumed, this would likely significantly raise extinction probabilities. **Q5: There are widespread popular claims that nuclear winter would create a significant chance of human extinction. Could you name other climate scientists who would estimate higher probability** than yourself? A: I haven’t really read any accounts where there was a probability placed on human extinction. I certainly could be offbase with my estimate, it is not something I have done before. **I don’t know** offhand **anyone that would estimate higher** but I am sure there might be people who would. **[I asked two colleagues] who did respond back to me, saying in general terms “very close to 0” and “very low probability.”**

#### Even the creators of nuclear winter theory acknowledge that it could never wipe out everyone.

Robock ’10 [ROBOCK 2010 (Alan, Department of Environmental Sciences, Rutgers University, “Nuclear Winter,” WIREs Climate Change, May/June, Wiley Online Library via University of Michigan Libraries)]

While it is important to point out the consequences of nuclear winter, it is also important to point out what will not be the consequences. Although extinction of our species was not ruled out in initial studies by biologists, it now seems that this would not take place. Especially in Australia and New Zealand, humans would have a better chance to survive. Also, Earth will not be plunged into an ice age. Ice sheets, which covered North America and Europe only 18,000 years ago and were more than 3-km thick, take many thousands of years to build up from annual snow layers, and the climatic disruptions would not last long enough to produce them. The oxygen consumption by the fires would be inconsequential, as would the effect on the atmospheric greenhouse by carbon dioxide production. The consequences of nuclear winter are extreme enough without these additional effects, however.

#### Even the worst possible nuclear war would leave 90% of the world’s population unhurt—huge areas would not be affected.

Martin ’82 [MARTIN 1982 (Dr Brian Martin is a physicist whose research interests include stratospheric modelling. He is a research associate in the Dept. of Mathematics, Faculty of Science, Australian National University, Journal of Peace Research, No 4, http://www.uow.edu.au/arts/sts/bmartin/pubs/82jpr.html)]

To summarise the above points, a major global nuclear war in which population centres in the US, Soviet Union, Europe and China ware targeted, with no effective civil defence measures taken, could kill directly perhaps 400 to 450 million people. Induced effects, in particular starvation or epidemics following agricultural failure or economic breakdown, might add up to several hundred million deaths to the total, though this is most uncertain. Such an eventuality would be a catastrophe of enormous proportions, but it is far from extinction. Even in the most extreme case there would remain alive some 4000 million people, about nine-tenths of the world's population, most of them unaffected physically by the nuclear war. The following areas would be relatively unscathed, unless nuclear attacks were made in these regions: South and Central America, Africa, the Middle East, the Indian subcontinent, Southeast Asia, Australasia, Oceania and large parts of China. Even in the mid-latitudes of the northern hemisphere where most of the nuclear weapons would be exploded, areas upwind of nuclear attacks would remain free of heavy radioactive contamination, such as Portugal, Ireland and British Columbia. Many people, perhaps especially in the peace movement, believe that global nuclear war will lead to the death of most or all of the world's population.[12] Yet the available scientific evidence provides no basis for this belief. Furthermore, there seem to be no convincing scientific arguments that nuclear war could cause human extinction.[13] In particular, the idea of 'overkill', if taken to imply the capacity to kill everyone on earth, is highly misleading.[14]

#### Nano “Slaughter” bots are not effective weapons that actors will use the idea of them is just to breed fear

**Scharre 17** (Senior Fellow and director of the Technology and National Security Program at the [Center for a New American Security](https://www.cnas.org/) (CNAS))Scharre, Paul. “Full Page Reload.” IEEE Spectrum: Technology, Engineering, and Science News, 22 Dec. 2017, 14:45, spectrum.ieee.org/automaton/robotics/military-robots/why-you-shouldnt-fear-slaughterbots. //Lex AKo

This is a guest post. The views expressed here are solely those of the author and do not represent positions of IEEE Spectrum or the IEEE. Killer drones in the hands of terrorists massacring innocents. Robotic weapons of mass destruction breeding chaos and fear. A video created by advocates of a ban on autonomous weapons would have you believe this dystopian future is right around the corner if we don’t act now. The short video, called “Slaughterbots,” was released last month coinciding with United Nations meetings on autonomous weapons. The UN meetings ended inconclusively, but the video is getting traction. It’s gotten over 2 million views and has sparked dozens of news stories. As a piece of propaganda, it works great. As a substantive argument for a ban on autonomous weapons, the video fails miserably. Obviously, a world in which terrorists can unleash swarms of killer drones on innocent civilians would be terrible, but is the future the video depicts realistic? The movie’s slick production quality helps to gloss over its leaps of logic. It immerses the viewer in a dystopian nightmare, but let’s be clear: It’s very much science fiction. The central premise of “Slaughterbots” is that in the future militaries will build autonomous microdrones with shaped charges that can fly up to someone’s head and detonate an explosive, killing the person. In the film, these “slaughterbots” quickly fall into the hands of terrorists, resulting in mass killings worldwide. Lethal Micro-drone Image: Slaughterbots/YouTube The lethal microdrones depicted in “Slaughterbots” use facial recognition to identify their targets, then fly up to them and detonate shaped explosives. The basic concept is grounded in technical reality. In the real world, the Islamic State has used off-the-shelf quadcopters equipped with small explosives to attack Iraqi troops, killing or wounding dozens of Iraqi soldiers. Today’s terrorist drones are largely remotely controlled, but hobbyist drones are becoming increasingly autonomous. The latest models can navigate to a fixed target on their own, avoid obstacles, and autonomously track and follow moving objects. A small drone equipped with facial recognition technology could potentially be used to autonomously search for and kill specific individuals, as “Slaughterbots” envisions. It took me just a few minutes of searching online to find the resources necessary to download and train a free neural network to do facial recognition. So while no one has yet cobbled the technology together in the way the video depicts, all of the components are real. I want to make something very clear: There is nothing we can do to keep that underlying technology out of the hands of would-be terrorists. This is upsetting, but it’s very important to understand. Just like how terrorists can and do use cars to ram crowds of civilians, the underlying technology to turn hobbyist drones into crude autonomous weapons is already too ubiquitous to stop. This is a genuine problem, and the best response is to focus on defensive measures to counter drones along with surveillance to catch would-be terrorists ahead of time. “There is nothing we can do to keep that underlying technology out of the hands of would-be terrorists. Just like how terrorists can and do use cars to ram crowds of civilians, the underlying technology to turn hobbyist drones into crude autonomous weapons is already too ubiquitous to stop.” The “Slaughterbots” video takes this problem and blows it out of proportion, however, suggesting that drones would be used by terrorists as robotic weapons of mass destruction, killing thousands of people at a time. Fortunately, this nightmare scenario is about as likely to happen as HAL 9000 locking you out of the pod bay doors. The technology shown in the video is plausible, but basically everything else is a bunch of malarkey. The video assumes the following: Governments will mass-produce lethal microdrones to use them as weapons of mass destruction; There are no effective defenses against lethal microdrones; Governments are incapable of keeping military-grade weapons out of the hands of terrorists; Terrorists are capable of launching large-scale coordinated attacks. These assumptions range from questionable, at best, to completely fanciful. Of course, the video is fictional, and defense planners do often use fictionalized scenarios to help policymakers think through plausible events that may occur. As a defense analyst at a think tank and in my prior job as a strategic planner at the Pentagon, I used fictional scenarios to help inform choices about what technologies the United States military should invest in. To be useful, however, these scenarios need to at least be plausible. They need to be something that could happen. The scenario depicted in the “Slaughterbots” video fails to account for political and strategic realities about how governments use military technology. First, there is no evidence that governments are planning to mass-produce small drones to kill civilians in large numbers. In my forthcoming book, Army of None: Autonomous Weapons and the Future of War, I examine next-generation weapons being built in defense labs around the world. Russia, China, and the United States are all racing ahead on autonomy and artificial intelligence. But the types of weapons they are building are generally aimed at fighting other militaries. They are “counter-force” weapons, not “counter-value” weapons that would target civilians. Counter-force autonomous weapons raise their own sets of concerns, but they aren’t designed for mass targeting of civilians, nor could they be easily repurposed to do so. Second, in the video, we’re told the drones can defeat “any countermeasure.” TV pundits scream, “We can’t defend ourselves.” This isn’t fiction; it’s farce. Every military technology has a countermeasure, and countermeasures against small drones aren’t even hypothetical. The U.S. government is actively working on ways to shoot down, jam, fry, hack, ensnare, or otherwise defeat small drones. The microdrones in the video could be defeated by something as simple as chicken wire. The video shows heavier-payload drones blasting holes through walls so that other drones can get inside, but the solution is simply layered defenses. Military analysts look at the cost-exchange ratio between offense and defense, and in this case, the costs heavily favor static defenders. Video: Slaughterbots The “Slaughterbots” video shows heavier-payload drones blasting holes through walls so that smaller drones can get inside. In a world where terrorists launch occasional small-scale attacks using DIY drones, people are unlikely to absorb the inconveniences of building robust defenses, just like people don’t wear body armor to protect against the unlikely event of being caught in a mass shooting. But if an enemy country built hundreds of thousands of drones to wipe out a city, you bet there’d be a run on chicken wire. The video takes a plausible problem—terrorist attacks with drones—and scales it up without factoring in how others would respond. If lethal microdrones were built en masse, defenses and countermeasures would be a national priority, and in this case the countermeasures are simple. Any weapon that can be defeated by a net isn’t a weapon of mass destruction. Third, the video assumes that militaries are incapable of preventing terrorists from getting access to military-grade weapons. But we don’t give terrorists hand grenades, rocket launchers, or machine guns today. Terrorist attacks with drones are a concern precisely because they involve DIY explosives strapped to readily available technology. This is a genuine problem, but again the video scales this threat up in ways that are unrealistic. Even if militaries were to build lethal microdrones, terrorists are no more likely to get their hands on large numbers of them than other military technologies. Weapons do proliferate over time to nonstate actors in war zones, but just because antitank guided missiles are prevalent in Syria doesn’t mean they’re commonplace in New York. Terrorists use airplanes and trucks for attacks precisely because successfully smuggling military-grade weapons into a Western country isn’t that easy. Lethal micro-drone Image: Slaughterbots/YouTube In “Slaughterbots,” AI-powered microdrones are built en masse, and there seems to be no defenses and countermeasures to stop them. Fourth, the video assumes terrorists can carry out coordinated attacks at a scale that is not plausible. In one scene, two men release a swarm of about 50 drones from the back of a van. This specific scene is fairly realistic; one of the challenges of autonomy is that a small group of people could launch a larger attack than might otherwise be possible. Something like a truck full of 50 drones is a reasonable possibility. Again, though, the video takes this scenario to the absurd. The video claims that 8,300 people are killed in simultaneous attacks. If the men in the van depict a typical attack, then this level of casualties would equate to over 160 coordinated attacks worldwide. Terrorist groups often launch coordinated attacks, but usually on the scale of single digit numbers of attacks. The video assumes not just superweapons but ones that are in the hands of supervillains. The movie uses hype and fear to skip past these crucial assumptions, and in doing so it undermines any rational debate about the risk of terrorists acquiring autonomous weapons. The video makes clear we’re supposed to be afraid. But what are we supposed to be afraid of? A weapon that chooses its own targets (which the video is actually ambiguous about)? A weapon with no countermeasure? The fact that terrorists can get ahold of the weapon? The ability of autonomy to scale up attacks? If you want to drum up fears of “killer robots,” the video is great. But as a substantive analysis of the issue, it falls apart under even the most casual scrutiny. The video doesn’t put forward an argument. It’s sensationalist fear-mongering. “If you want to drum up fears of ‘killer robots,’ the video is great. But as a substantive analysis of the issue, it falls apart under even the most casual scrutiny. The video doesn’t put forward an argument. It’s sensationalist fear-mongering.” Of course, the whole purpose of the video is to scare the viewer into action. The video concludes with UC Berkeley professor Stuart Russell warning of the dangers of autonomous weapons and imploring the viewer to act now to stop this nightmare from becoming a reality. I have tremendous respect for Stuart Russell, both as an artificial intelligence researcher and as a contributor to the debate on autonomous weapons. I’ve hosted Russell at events at the Center for a New American Security, where I run a research program on artificial intelligence and global security. I have no doubt Russell’s views are sincere. But in attempting to persuade the viewer, the video makes assumptions that are not supportable. Even worse, the proposed solution—a legally binding treaty banning autonomous weapons—won’t solve the real problems humanity faces as autonomy advances in weapons. A ban won’t stop terrorists from fashioning crude DIY robotic weapons. Nor would a ban on the kinds of weapons the video imagines do anything to address the risks that arise from counter-force autonomous weapons. (In fact, it’s not even clear whether a ban would prohibit the weapons shown in the video, which are actually fairly discriminate.) By focusing on extreme and implausible scenarios, the video actually undermines progress on real concerns about autonomous weapons. Nations who are leading developers of robotic weapons are likely to dismiss the fears raised in “Slaughterbots” out of hand. The video plays into the hands of those who argue that these fears of autonomous weapons are overhyped and irrational. Autonomous weapons raise important questions about compliance with the laws of war, risk, and controllability, and the role of humans as moral agents in warfare. These are important issues that merit serious discussion. When Russell and others engage in spirited debate on these topics, I welcome the conversation. But that’s not what “Slaughterbots” is. The video has succeeded in grabbing media attention, but its sensationalism undercuts the kind of serious intellectual discourse that is actually needed on autonomous weapons.

#### Space colonization is good and possible – new tech and adaptation solves extinction and their impacts

Kennedy ’19 [Fred, served as the inaugural Director of the Defense Department’s Space Development Agency during 2019, and led the Defense Advanced Research Projects Agency’s Tactical Technology Office from 2017 to 2019. I served as a senior advisor for space and aviation in the White House Office of Science and Technology Policy in 2016, “To Colonize Space Or Not To Colonize: That Is The Question (For All Of Us)”, 12-18-2019, Forbes, https://www.forbes.com/sites/fredkennedy/2019/12/18/to-colonize-or-not-to-colonize--that-is-the-question-for-all-of-us/?sh=65a8d2702367]//pranav

It’s important to distinguish between colonize and explore. Exploration already enjoys broad approval here in America. In June, 77% of U.S. respondents told Gallup pollsters that NASA’s budget should either be maintained or increased – undeniable evidence of support for the American space program (as it’s currently constituted). By any measure, we’ve done an admirable job of surveying the solar system over the past 60 years – an essential first step in any comprehensive program of exploration. Unmanned probes developed and launched by the United States and the Soviet Union conducted flybys of the Moon and the terrestrial planets not long after we reached Earth orbit, and since then, we’ve flown by the outer planets. Multiple nations have placed increasingly sophisticated robotic emissaries on the surfaces of the Moon, Mars, Venus and Saturn’s largest moon, Titan. Most stunningly, in a tour de force of technology and Cold War chutzpah, the U.S. dispatched humans to set foot on another world, just 50 years and a few months ago. But after only six such visits, we never returned. Moon habitats in lava tubes, crops under glass domes, ice mining at the south pole? No. NASA’s Artemis program may place a man and a woman on the Moon again in 2024. But that’s hardly colonization. For perspective, let’s look closer to home. Sailors from an American vessel may have landed on Antarctica as early as 1821 – the claim is unverified – but no scientific expeditions “wintered” there for another 75 years. The first two of these, one Belgian and one British, endured extreme cold and privation – one inadvertently, the other by design. And yet, 200 years after the first explorer set foot on the continent, there are no permanent settlements (partially as a result of a political consensus reached in the late 1950s, but in no small part due to the difficulty of extracting resources such as ore or fossil fuels through kilometers of ice). Less than 5,000 international researchers and support staff comprise the “summer population” at the bottom of the world. That number dwindles to just 1,100 during the harsh Antarctic winter, requiring millions of tons of supplies and fuel to be delivered every year – none of which can be produced locally. To suggest that Antarctica is colonized would be far overstating the sustainability of human presence there. If Antarctica is hard, the Moon, Mars, asteroids, and interplanetary space will be punishingly difficult. Writing in Gizmodo this past July, George Dvorsky describes the challenges to a human colony posed by low gravity, radiation, lack of air and water, and the psychological effects of long-term confinement and isolation inside artificial structures, in space or on planetary surfaces. Add to this the economic uncertainties of such a venture – where the modern analog of a Dutch or British East India Company would face enormous skepticism from investors regarding the profitability of shipping any good or finished product between colonial ports of call – and it becomes clear why nation states and mega-corporations alike have so far resisted the temptation to set up camp beyond geosynchronous orbit. Perhaps, many argue, we should focus our limited resources on unresolved problems here at home? Yet a wave of interest in pursuing solar system colonization is building, whether its initial focus is the Moon, Mars, or O’Neill-style space habitats. Jeff Bezos has argued eloquently for moving heavy industry off the home planet, preserving Earth as a nature reserve, and building the space-based infrastructure that will lower barriers and create opportunities for vast economic and cultural growth (similar to how the Internet and a revolution in microelectronics has allowed Amazon and numerous other companies to achieve spectacular wealth). Elon Musk and Stephen Hawking both suggested the need for a “hedge” population of humans on Mars to allow human civilization to reboot itself in the event of a catastrophe on Earth – an eggs-in-several-baskets approach which actually complements the arguments made by Bezos. And while both are valid reasons for pursuing colonization, there’s a stronger, overarching rationale that clinches it. I’ll assert that a fundamental truth – repeatedly borne out by history – is that expanding, outwardly-focused civilizations are far less likely to turn on themselves, and far more likely to expend their fecundity on growing habitations, conducting important research and creating wealth for their citizens. A civilization that turns away from discovery and growth stagnates – a point made by NASA’s Chief Historian Steven Dick as well as Mars exploration advocate Robert Zubrin. As a species, we have yet to resolve problems of extreme political polarization (both internal to nation states as well as among them), inequalities in wealth distribution, deficiencies in civil liberties, environmental depredations and war. Forgoing opportunities to expand our presence into the cosmos to achieve better outcomes here at home hasn’t eliminated these scourges. What’s more, the “cabin fever” often decried by opponents of colonization (when applied to small, isolated outposts far from Earth) turns out to be a potential problem for our own planet. Without a relief valve for ideological pilgrims or staunch individualists who might just prefer to be on their own despite the inevitable hardships, we may well run the risk of exacerbating the polarization and internecine strife we strive so hard to quell. Focusing humanity’s attention and imagination on a grand project may well give us the running room we need to address these problems. But the decision cannot be made by one country, or one company, or one segment of the human population. If we do this, it will of necessity be a truly international endeavor, a cross-sector endeavor (with all commercial, civil, and defense interests engaged and cooperating). The good news: Critical technologies such as propulsion and power generation systems will improve over time. Transit durations between celestial destinations will shorten (in the same way sailing vessels gave way to steam ships and then to airliners and perhaps, one day, to point-to-point ballistic reusable rockets). Methods for obtaining critical resources on other planets will be refined and enhanced. Genetic engineering may be used to better adapt humans, their crops and other biota to life in space or on other planetary surfaces – to withstand the effects of low or micro-gravity, radiation, and the psychological effects of long-duration spaceflight.

#### Climate change won’t cause conflict – resiliency and empirics.

Böhm, PhD, ‘16

(Steffen, Warwick, ProfOrganisation&Sustainability@ExeterBusiness, https://theconversation.com/link-between-climate-change-and-armed-conflict-is-exaggerated-new-study-67182, October 17) BW

Can climate change explain the conflict in Syria? Prince Charles once famously listed drought as a root cause of the war. Similar arguments have been made by other campaigners like UN climate envoy Mary Robinson, celebrities such as singer Charlotte Church, and even politicians like Bernie Sanders (who claimed “climate change is directly related to the growth of terrorism”). Their views are supported by academic research on Syria and elsewhere. But now a new study in the journal PNAS suggests that the link between climate change and armed conflict is overhyped. This matters because once an entirely preventable conflict is described as a “climate war” it risks being perceived as “natural”. But though the climate may be changing, these conflicts aren’t inevitable. Calling Syria a climate war, for instance, means ignoring longer-term historical tensions across the region, and lets the humans involved off the hook. Droughts and conflict In their study Nina von Uexkull and colleagues examined the “conflict potential” of the sort of droughts that will become increasingly common under global warming, particularly in already arid and semi-arid areas. The researchers effectively combine three sets of data to look for any links: conflict event data for Asia and Africa over the past 25 years, ethnic settlement data (because ethnicity is often a key cause of conflict), and remote sensing data on what peasants and farmers grow on their agricultural land. Our well-meaning celebrities and politicians would perhaps be surprised to hear that Uexkull and colleagues found the impact of drought on conflict was generally “limited”. Drought does explain some of the variation in whether or not conflicts kick off, but the “substantive effect is modest” compared with ethnic political exclusion, proximity to pre-existing violence or various country-specific risk factors. Having said that, drought does make sustained conflict a lot more likely among groups of people in the least developed countries who depend on agriculture. These people are already very poor and are, as Uexkull and co put it, “particularly vulnerable to natural forces”. As with other climate change impacts, drought-driven conflict will most affect the already poor and vulnerable.

A close up of a map

Description automatically generated

No strong link between agricultural dependence (blue scale) and armed conflicts (red). von Uexkull et al / PNAS

Now, why should these findings not surprise us? First, we already know how resilient many communities can be when faced with climate change. Some rely on ancestral knowledge of how to adapt their agricultural practices to droughts, or they introduce new drought-resistant crops. Some have strong political backers in government, and are able live on hand-outs, while others are able to diversify their incomes. So, what this study by Uexkull and colleagues confirms is that most communities are in fact quite climate resilient. It generally takes a lot more than a dry spell to kick off a war. This should give us some hope that more intense weather events, such as severe droughts, do not automatically lead to more conflict or even civil war among those affected. Second, we already know that the most vulnerable communities, especially smallholding peasants in the poorest countries, are the least resilient to external shocks. These shocks can take the form of rapid political change, fluctuations in global commodity prices or – as discussed – severe droughts and other weather events. Global warming isn’t the first big shock to peasants around the world, and it won’t be the last. The very foundation of Britain’s industrial revolution – starting in the 17th century – was the enclosure of agricultural land, forcing millions of peasants into the cities to find often inhumane work in the sweatshops of Manchester and the other big industrial cities of northern England. The same process is still ongoing today, though the attention has shifted to sub-Saharan Africa, India, Latin America and other so-called “developing countries”. “Development” for peasants often means dispossession, land-grabbing or being exposed to the perils of global free trade. The very existence of the popular Fairtrade label suggests that free trade is not fair enough. Yet, even Fairtrade often cannot sustain small, vulnerable farmers’ livelihoods. My point? Climate change is merely the latest external shock to the livelihoods of poor communities who live off the land. That doesn’t justify it, of course. But it does mean that those worse affected have, to some extent, seen and dealt with this sort of problem before.