



# Against Doomsday Scenarios: What Is to Be Done Now?

John Bellamy Foster, John Molyneux and Owen McCormack

John Molyneux and Owen

**McCormack:** Given the extreme summer weather and the UN Intergovernmental Panel on Climate Change (IPCC) report, just how bad are things now? What do you believe the time scale is for catastrophe and what do you think that catastrophe will look like? Are things worse than the IPCC report claims? Some, including Michael Mann, have warned against “doomsday scenarios” that might deter people from acting. In your view, are doomsday scenarios the truth that needs to be told?:



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declared with respect to climate change, it is now “code red for humanity.” This is not a doomsday forecast but a call to action.

Still, the word catastrophe is scarcely adequate in the present age of catastrophe capitalism. Catastrophes are now ubiquitous, since extending to the scale of the planet itself. We are experiencing throughout the globe a series of

**John Bellamy Foster:** We should of course avoid promoting “doomsday scenarios” in the sense of offering a fatalistic worldview. In fact, the environmental movement in general and ecosocialism in particular are all about combating the current trend toward ecological destruction. As UN general secretary António Guterres recently

extreme weather events due in large part to climate change, each of which rank as “catastrophic” by historical precedents, sometimes lying outside the range of what was previously thought to be physically possible. The extreme conditions experienced this summer in the Northern Hemisphere—including floods in Europe; Hurricane Ida in the United States, which not only devastated New Orleans, but also ended up killing people in floods in New York and New Jersey; and the worsening drought and wildfires in California and the entire Pacific Coast of the United States—clearly represent something qualitatively new.

The latest report of the IPCC, its Sixth Assessment Report: The Physical Science Basis, explains that the various climatic and extreme weather events will tend to compound, as in the case of droughts, desertification (dustbowlification), soil erosion, wildfires, and weakening monsoons, on the one hand, and a melting cryosphere, sea-level rise, megastorms,

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and flooding, on the other—thereby intensifying and extending these catastrophic events, which will appear to come from everywhere at once. Moreover, the human consequences go deeper with temperature increases diminishing world grain production and putting strains on the world food supply; climate change contributing, along with the destruction of ecosystems by agribusiness, to the emergence of novel zoonoses, such as COVID-19 (along with numerous other health hazards); whole populations in cities throughout the planet exposed to unprecedented flooding; the prospect of climate refugees

running into the hundreds of millions; and numerous other equally dire consequences, imposed on present and future generations.

The IPCC, which has a record of scientific reticence, tells us that we will see in the next couple of decades, and indeed throughout this century, growing cataclysms and a shift toward an Earth System that is increasingly unsafe for humanity, even in the most optimistic scenarios. Thus, in the most “rosy” scenario provided by the IPCC (SSP1-1.9)—the only one of its scenarios where the increase in average global temperature at the end of the twenty-first century is projected to be below 1.5°C—the best that can be hoped for is a situation where a 1.5°C increase is staved off until 2040 and global temperatures only increase by a tenth of a degree after that, so that by the end of the century or the beginning of the next century the increase in global average temperature over preindustrial levels can be reduced to 1.4°C, removing humanity from the extreme danger zone. The point is that even in the most optimistic scenario—which would require a global ecological revolution on the part of humanity in order to be achieved, leading to carbon emissions peaking halfway through this decade and net-zero emissions being achieved by 2050—the overall climate catastrophe facing humanity will be extremely dire.

The second most optimistic scenario is one of staying below a 2°C increase (somewhere around 1.7°C). It too would require a global ecological revolution. The other three scenarios offered by the IPCC are basically unthinkable, for which the word apocalyptic is appropriate. In fact, we are currently headed toward the IPCC’s most apocalyptic scenario (SSP5-8.5), in which global average temperatures this century would, in the “best estimate,” rise by 4.4°C, which would, according to current scientific assessments, mean the collapse of industrial civilisation, raising questions of human survival. In an ominous statement leaked from Part II of the Sixth Assessment Report, on “Impacts,” which will not be published until February, the IPCC says that if humanity is driven into extinction during the “sixth extinction” arising from anthropogenic causes, evolution will not bring the human species back.

The trouble is that if we go beyond a 1.5°C increase, and especially beyond a 2°C increase, more and more climate

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feedback mechanisms, such as the loss of arctic ice and thus the weakening of the albedo effect (the earth's reflectivity), the release of methane and carbon dioxide from the melting tundra, the burning of the Amazon, and the degradation of the ocean as a climate sink will compound the climate problem and create an irreversible situation, increasing the possibility of runaway climate change that would in effect feed on itself, to the extent that the very existence of humanity would be in question.

There is still a possibility of avoiding absolutely catastrophic climate change on the level that would threaten human existence altogether. But to accomplish this would require revolutionary changes in social relations, as well as in technology and ways of living. Such a revolution would need to begin within the capitalist system but would lead beyond capital. There is no other way. As Karl Marx indicated, the struggle against capitalism is not simply about human freedom, it is also about human survival.

I have a lot of respect for Michael Mann's work on climate change and his fight against the absolute climate denialism of the right. I was, therefore, surprised to see his attacks on the left as "doomsayers" in his recent book, *The New Climate War*. He seems, by his own admission, to have been affected by what he called "mob-like" attacks on him by followers of Naomi Klein, for his questioning of her opposition to carbon markets (as if green capitalism were the solution). He sharply criticises British climatologist Kevin Anderson for his claims that mainstream-liberal climate science has been too complacent and that there is a need to overthrow the current political-economic hegemony, as if this were not perfectly obvious at this point. Mann was sharply critical of Bernie Sanders's Green New Deal plan and has naively advanced the view that Joe Biden is "a climate change pioneer."

There is no doubt that Mann knows the science well, and he is worth paying attention to in that respect. But he seems to

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have no understanding whatsoever of the existing social relations of production of capitalism, leading him to dismiss as mere "doomsayers" everyone who points to the extreme urgency of the world's present plight, rooted in the nature of our social system, and the need to

change the social rules of the game—as if they were giving up, simply by insisting on the need for radical social change. He clearly believes there is some moderate, responsible, enlightened approach based on the existing political-economic system and the actions of established political elites, and to deviate from that is to be "defeatist" and a "doomsayer."

I am reminded here of Marx's remark in *Capital* that natural scientists often "venture quite at random" and without

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understanding when they move beyond their own specific areas of expertise, and present themselves as authorities on social questions, which they do not even bother to take seriously or investigate. The climate problem (and Earth System emergency in general) does

not arise from Earth processes directly, but from the inner drives of our contemporary socioeconomic system, namely



capitalism. Failure to understand the nature of capitalism means that one can have little to offer with respect to organising social action and solutions.

**JM/OM:** Is there still time to avert disaster? Do you have any hope that existing powers and the present system will be able to avert the catastrophe of runaway climate change? Will they even seriously try? Some people are giving Biden a certain amount of credit for moving in the right direction—what do you think?

**JBf:** We are now in a position, as I have indicated, where what we can only call catastrophic developments associated with the crossing of planetary boundaries (namely, climate change, the decline of biological diversity, ocean acidification, the disruption of the nitrogen and phosphorus cycles, the elimination of ground cover, the loss of freshwater, chemical pollution, and so on) are unavoidable. The COVID-19 pandemic is itself a manifestation of the destruction of ecological systems by agribusiness, which is bound to create new zoonoses, transmitted by the circuits of capital. But climate change represents at present our most serious problem because of the speed with which it is developing and its irreversible character, often likened to a tipping point leading over the edge of a cliff (as much as some like Mann may dislike the metaphor). We are in a dangerous situation. But we can still avoid such dire, irreversible consequences, likely fatal to humanity, if sufficient social action is taken, allowing us to stop short of what scientists have designated as the climate tipping point (usually now thought of as requiring to stay below 1.5°C, or at most below 2°C, although this is inherently inexact).

But this is only possible, as the leaked Part 3 of the Sixth Assessment Report (not scheduled for publication until March, and then in redacted form), on “Mitigation,” tells us, if we are willing to carry out fundamental structural change. And, as

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the report also informs us, at this point we would need to alter dramatically the “demand-side” of the equation, that is, the amount and structure of what is produced and consumed, including a shift to low-energy paths, rather than simply counting on the massive ecomodernisation of energy systems, much less new technologies that do not exist at scale. Time is so short that the demand-side strategies, which require challenging the current production system, are the only

changes that can be effected rapidly enough and on the scale required.

In my view, the best historical analogy for the present world situation is Cuba's Special Period following the demise of the Soviet Union. All at once in the early 1990s, Cuba had to do without the massive fossil fuel inputs (and petrochemical inputs) from the USSR on which its economy had come to depend. Fortunately, as the dialectical biologist

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Richard Levins explained, Cuba had seen the growth of ecological science in the form of “ecologists by conviction” of extraordinary ability, who were then joined in the Special Period by “ecologists by necessity.” Despite the U.S. blockade, Cuba was able to provide for its basic agricultural needs and reconstruct its economy based on organic agriculture and the development of socialist ecological

science, creating a better society. This meant of course increased pressure on the population due to the external pressures they were under and the loss of external resources coming from the previous Eastern bloc. But Cuba in large part succeeded, in the process turning itself into the most ecological nation on earth (according to The Living Planet

Report), while protecting and even increasing the quality of its human development. Tragically, it is Cuba's success that has caused Washington in recent years to tighten the blockade, utilising the methods of financial war. None of this, however, takes away from the depth of Cuba's achievement.

The hard truth is that we are already, due to the continuing destruction of the planetary environment by the capitalist

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world economy, facing deteriorating ecological conditions, which will, in the most optimistic IPCC scenario, continue to deteriorate this century. For example, there is absolutely no hope that sea-level rise can be turned around (though it might be lessened) in this century. It will continue to rise to the end of the century, and possibly for a millennium depending on what we do and how soon. Much the same could be said of mega storms, desertification (dustbowlification), and so many of the other problems facing us. Our first priority has to be to decrease carbon emissions as fast as

possible, which in the rich countries means now by double digits annually. This would require an emergency mobilisation of the whole society and controls on corporate production. It would also require social and ecological planning. This might strike one as too extreme or too utopian, but such categories do not apply when we are in the midst of a planetary emergency, which promises to be extremely dangerous (or worse) for humanity as a whole, threatening all present and future generations.

In the very beginning of the ecological era, in the mid-1970s, the Marxist sociologist Charles H. Anderson wrote a book

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called *The Sociology of Survival: The Social Problem of Growth*, in which he addressed climate change, ecological imperialism, and the enormity of the environmental problem, arguing that humanity needed an ecological revolution if it were to survive. The book disappeared almost as soon as it was published, receiving little attention from the left. Anderson, who was clearly despondent, committed suicide shortly after. But if there was one social-scientific thinker who approached reality

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So far, the emphasis of the ecosocialist movement has rightly been on mitigation, in the hope that we can simply stave

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off disaster. But now the situation has changed, and we must enter the struggle on two planes at once. Not only do we have to take those actions to guarantee the survival of civilisation and humanity, but we also need to take measures to protect populations in the present, because catastrophe, in one sense or another, is now at our door. For ecosocialists, this is less of a

contradiction than for others. It is precisely the emphasis on both substantive equality and ecological sustainability, that is, the struggle for sustainable human development in terms that go back to Marx's arguments in the nineteenth century, which defines the ecosocialist movement. It is simultaneously a struggle over the present as history and the future as history, which demand essentially the same actions in the face of the enormous perils of our time. Whatever transpires, there is only one answer in the twenty-first century, and that is the creation of an ecological socialism aimed at the sustainable development of all of humanity. This obviously will not happen everywhere at once, but will emerge in pockets and then expand, while also inevitably facing counter-revolutionary trends, emanating from the centres of imperialism and monopoly-finance capital.

**JM/OM:** In your book *The Return of Nature*, you show that ecological thinking has deep roots in the Marxist tradition. Do you see climate change as the ultimate expression of the metabolic rift first formulated by Marx?

**JB:** Marx's notion of the metabolic rift (or the "irreparable rift in the interdependent process of social metabolism" of humanity and nature) was a recognition of the alienated mediation between the capitalist "social metabolism" and the "universal metabolism of nature." Marx originally explained this in terms of the depletion of the soil, as chemical

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nutrients such as nitrogen, phosphorus, and potassium were sent to the new urban centres of the Industrial Revolution, where they contributed to pollution, and never returned to the soil. This was a phenomenon that Marx, following the German chemist Justus von Liebig, called the robbery system associated with industrialised capitalist agriculture. Metabolism, which first emerged as a concept in the early nineteenth century among cell

physiologists, was quickly integrated with thermodynamics within physics and was to emerge as the basis of all systems ecology. The physician and scientist Roland Daniels, to whom Marx dedicated *The Poverty of Philosophy*, first introduced Marx to the notion of metabolism (Stoffwechsel) and employed it in a broad ecological sense, emphasising the interdependence of life and the interconnections of the inorganic and organic. Marx then built on this in his writings beginning in the 1850s, using it to address the larger question of the material substratum and how this related to material flows, in a capitalist context, and later developing the notion of metabolic rift based in part on Liebig's soil chemistry. It was the concept of metabolism that became the basis of ecosystem analysis and then Earth System analysis. It is significant that the greatest theorist of ecological crisis in England, in the generation after Charles Darwin, was the biologist E. Ray Lankester, a close friend of Marx (and Darwin and Thomas Huxley's protégé). It was Lankester's student Arthur G. Tansley, the founder of British plant ecology (and a Fabian-style socialist), who introduced the materialist concept of ecosystem, influenced by the Marxian mathematician Hyman Levy.

Brett Clark and Richard York made a major theoretical breakthrough in an article on the "Carbon Metabolism" in *Theory and Society* in 2005 (later reprinted in our joint book *The Ecological Rift* in 2010), in which they applied Marx's metabolic rift analysis to the problem of climate change. This then led to a wide-ranging (and still increasing) set of

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applications of Marx's method to ecological problems, creating an integrated socioecological critique.

Nevertheless, I would hesitate to say that climate change is "the ultimate expression of the 'metabolic rift,'" since climate change is, in fact, only one of the

planetary boundaries that are currently being crossed in the Anthropocene, defining the limits of the earth as a safe place for humanity. Each of these boundaries currently being crossed (such as loss of biodiversity and the disruption of the nitrogen and phosphorous cycles), as a result of anthropogenic change, represent an Earth System emergency for humanity. The common denominator of all of them is the growth of capitalist accumulation. The Anthropocene crisis has in fact been defined within science as an “anthropogenic rift” in the biogeochemical cycles of the Earth System.

The Return of Nature, going beyond my earlier Marx’s Ecology, tells the story of how socialists played leading roles—even the leading roles—in developing an evolutionary ecological critique, building on Darwin’s evolutionary theory, Marx’s materialism, and Frederick Engels’s dialectics of nature, giving rise to a dialectical systems analysis rooted in metabolic processes and the concept of emergence. The story extends from Darwin’s and Marx’s deaths in 1882–83 to the modern ecology movement, focusing particularly, within science in Britain, on Lankester, Tansley, H. G. Wells, J. B. S. Haldane, J. D. Bernal, Joseph Needham, Lancelot Hogben, and Levy. These developments within science overlapped with a related aesthetic and cultural path to ecology within Marxism in the British Isles, building on the radical Romantics, in the work of figures like William Morris, Christopher Caudwell, George Thomson, and Benjamin

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Farmington. Many of these thinkers traced the same path as Marx’s own development with respect to materialism, extending from Epicurus to materialist dialectics and radical conceptions of science, which Marx often treated synonymously with dialectics. This legacy of critical historical-materialist ecology,

precisely because it saw ecology from the first as dialectical and interlocked with society, is crucial to the development of our contemporary critique.

**JM/OM:** Do you have any expectations for the 2021 UN Climate Change Conference (COP26)? What do you think the conference will do?

**JBf:** I do not have any real expectations for COP26, given past experience. In 2002, in what was called the second Earth Summit (the World Summit on Sustainable Development) in South Africa, I pointed out that despite the initiation of the Kyoto Protocol process, the developed capitalist economies were increasing their carbon emissions, not decreasing them (this can be found in my book Ecological Revolution). The various climate summits have helped keep hope alive but only barely. The same pattern has been repeated again and again. We are now reaching the decisive point. My hunch is that the COP26 will move toward staying below 2°C since there is no pretending with respect to staying below 1.5°C anymore without acknowledging that it is, indeed, a “code red for humanity.” Climate scientists at the University

*Glasgow itself, which is likely to be characterised, unfortunately, by what Greta Thunberg has called “blah blah” and some significant protests. The big action, as in Copenhagen in 2009, will be when the world realises that they have been “sold down the river”... Most likely, COP26 will be a huge failure and people everywhere will then have to decide what to do.*

of Washington came out with a study recently that said if the world’s countries were to pledge to reduce their emissions by 1.8 per cent annually rather than 1 per cent (which of course they are not doing anyway) there would be a 50-50 (coin toss) chance of limiting global heating to below 2°C. I think this is smoke and mirrors, but is the sort of thing that the world’s so-called leaders may grab onto in order to pretend that

they can and will do something, without having to promise too much. They can then say they have saved the world through their mere promises.



Yet, it is always possible, though it seems unlikely at this point, that something will shake this up. Conceivably, China, with its global insider-outsider role, will make a decisive move, or China and the United States will force each other's hands. Maybe there will be a split at the top of the system within elements of the ruling capitalist class and its supporting echelons, given the dangers to all of humanity, breaking away. The French Revolution of 1789, after all, began at the top with the revolution of the aristocracy against the monarchy, and then it spread in successive revolutionary waves, each of which upturned the system, to the rest of society. We could see an explosion emanating from humanity, kindled by a match somewhere.

But frankly, I do not see any of this happening in relation to Glasgow itself, which is likely to be characterised,

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unfortunately, by what Greta Thunberg has called “blah blah” and some significant protests. The big action, as in Copenhagen in 2009, will be when the world realises that they have been “sold down the river” (an idiom incidentally that arose in the U.S. slave trade and seems quite appropriate in relation to the current expropriation of the earth). Most likely, COP26 will be a huge failure and people everywhere will then have to decide what to

do. There will likely be more talk about how to provide international aid to the most endangered countries, such as the world's small, low-lying islands. None of which is likely to materialise. It looks like it is shaping up to be another betrayal, which will of course fall mainly on those who expect to see this century out, and especially on those most vulnerable.

**JM/OM:** There are a number of debates within the movement and among ecosocialists. (1) Should we speak of the Anthropocene or the Capitocene? (2) Should ecosocialists advocate degrowth—and, if so, what about development in the Global South? (3) Do you believe it is meaningful to speak of “the rights of nature”? (4) Is the time right for sabotage and/or violence, such as “blowing up pipelines”? What are your views on any or all of these questions?

**JBf:** This is taking on a lot of questions and debates all at once. I will try to answer them briefly, in succession.

(1) The Anthropocene is a quite precise scientific concept, part of the geological time scale, which is one of the great achievements of modern science. It signifies that anthropogenic forces (via society) are now the main factors in Earth System change. There is no doubting this, and there is no possibility of this changing while industrial civilisation in any sense persists. Even if capitalism were to go away, and socialism were to replace it, we would still be in the Anthropocene. There is no changing this without endangering human civilisation and human existence. Indeed, capitalism is right now driving the world toward an Anthropocene-extinction event (and perhaps Quaternary-extinction event), in which the anthropogenic impact on the earth will conclude with the destruction of civilisation and humanity itself, along with innumerable other species. In this sense, the term Capitocene is simply a category mistake that ignores the results of natural science and represents an unwillingness to confront the reality of the new geological epoch in which we live.

Approaching this more concretely, we can say that while, officially, we live at present in the Holocene Epoch in geological time, stretching back about 11,700 years, in truth we are now living in the still-unofficial Anthropocene



Epoch, which stands for anthropogenic factors now being the predominant forces in Earth System change. This connects more closely to human history when related to geological ages, which nest within geological epochs. Viewed from this

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standpoint, we live today officially in the Meghalayan Age of the Holocene Epoch, going back about 4,200 years and often associated with early civilisational collapse due to climate change (though this is in dispute within science). The Meghalayan Age is viewed as the last geological age of the Holocene. Hence, Clark and I, as professional environmental sociologists, have recently argued (in [“The Capitalinian”](#)) that, with the coming of the Anthropocene Epoch, we have entered a new

geological age, the first age of the Anthropocene, which began at the end of the Second World War together with the Anthropocene itself. We propose calling this new geological age the Capitalinian Age because it marks the point at which a globalising capitalism, emerging as a geological force threatening the planet itself, began to disrupt the entire Earth System. Consequently, humanity is now faced with either an end-Anthropocene extinction event, in geological terms, evolving out of the Capitalinian (in the historical age of catastrophe capitalism), or else we will find a way to create a community with the earth, which will require a society of ecological sustainability and substantive equality (ecosocialism), ushering in a new geological age: what Clark and I call the “Communion.” The value of this framework is that it tells us exactly what is at stake. We are thus confronted in the Anthropocene Epoch and the Capitalinian Age with a Great Climacteric, requiring the creation of a world that is coevolutionary with the Earth System, the Communion Age—or we will not survive. In this way, we can understand the relation between human history and geological history as it presents itself in our time.

(2) If degrowth means that we have to decrease our impact on the Earth System; that Less Is More as Jason Hickel argues

*If degrowth means that we have to decrease our impact on the Earth System... I support the notion of “degrowth”... It captures an essential aspect of the problem. The capitalist pattern of growth is no longer possible... But to say that what we are promoting as an alternative is “degrowth,” which merely inverts this distorted conception of growth, risks compounding the confusion... the key issue is the nature of the accumulation system itself, the destructive ecological effects of which cannot be reduced simply to questions of quantitative scale having nothing to do necessarily with qualitative issues, social relations, and so on.... think the only real answer, however, is to make ecosocialism rather than degrowth the principal focus.*

in his book; that exponential accumulation of capital on a world scale cannot occur in a finite Earth System; that we have to move toward a steady-state economy (with decreased economic weight in relation to the present) that promotes sustainable human development; that we need a socialist democratically planned economy that emphasises low-energy solutions and decreases waste and destruction; that the world has to move toward equal per capita levels of energy use, somewhere around the level of Italy today (allowing poor countries to catch up); that we have to emphasise community rather than commodity production—yes, then, I support the notion of “degrowth,” though even then with some reservations. It captures an essential aspect of the problem. The

capitalist pattern of growth is no longer possible.

Yet, the concept of degrowth itself has problems in terms of the way we choose to articulate our strategy. It is simply an inversion of the notion of “growth,” which is the most powerful metaphor of the existing system, introduced after the Second World War to represent the increase in gross domestic product. Here, growth is simply the hegemonic

accounting ledger, based on capitalist double-entry bookkeeping, raised to the national level. It stands for anything (war spending, crime, fossil-fuel production, nuclear waste management, immediately disposable products) contributing to “value added.” It includes everything that passes through the market, whatever the nature of the particular commodity is, and regardless of its wastefulness, destructiveness, irrationality, and the inequality, exploitation, and expropriation embedded in it. If one cuts down a forest, which in capitalist terms is millions of board feet of standing timber, that counts as growth. Ironically, the growth of the Amazon Forest itself would not constitute “growth.” The Amazon is, in fact, being destroyed today in the name of capitalist development.

But to say, then, that what we are promoting as an alternative is “degrowth,” which merely inverts this distorted conception of growth, risks compounding the confusion, treating the ecological problem as simply a question of scale. The question is then reduced to its quantitative aspects, having nothing to do necessarily with qualitative issues, social relations, and so on. It is as though we can go along as we are, but only smaller, thus capturing only one dimension of the problem. While, in fact, the key issue is the nature of the accumulation system itself, the destructive ecological effects of which cannot be reduced simply to questions of scale. (The more sophisticated degrowth theorists, of course, realise this and incorporate qualitative concerns into their analyses.) We also run into the problem in which some influential degrowth theorists, like the French economist Serge Latouche, argue that degrowth is compatible with capitalism, as if capitalism were not a system for the accumulation of capital ad infinitum. Some degrowth theorists have also skirted the issue of the needed development in much of the Global South, which cannot be asked to degrow. In general, the degrowth conception is useful in establishing the necessary parameters. But the real issue is the social system itself. Also, we are faced with the problem of countering a fetishised concept of growth by simply turning it upside down, which produces real difficulties in building a popular conception. Some ecological systems theorists like Howard Odum have tried to get around this by addressing the question of a “prosperous way down.” I think the only real answer, however, is to make ecosocialism rather than degrowth the principal focus.

The key problem is that we live in an “accumulative society,” as the French Marxist Henri Lefebvre called it. What we

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need is not so much a degrowth perspective as a deaccumulation perspective. Capitalism is dangerous to the environment not simply because it grows, but because of the way it grows (accumulation at all costs), which maximises the dangers to the environment and to the world population. This issue is highlighted in my article (included in *The Ecological Rift*) called “The Absolute General Law of Environmental Degradation under

Capitalism.”

Nevertheless, the notion of degrowth does punch a hole in the capitalist growth ideology, which is essential. Exponential growth, and above all, capitalist accumulation, now actually destroys more than it creates in real-world terms, destroying the planet as a home for humanity. Moreover, in recent years, degrowth theorists have played the leading role in developing low-energy strategies for dealing with climate change. Thus, Hickel’s work (along with that of Andreas Malm and others) is referred to in the leaked Part 3 of the IPCC’s Sixth Assessment as pointing to the possibility for low-energy strategies, seen as the main hope now of staying below a 1.5°C increase in global average temperature, and as providing arguments with respect to the unsustainability of capitalism.

(3) I do not think it makes much sense to speak of “the rights of nature,” if only because nature is likely to lose out in any such perspective, as does humanity today. Political rights (the main way in which we refer to rights in capitalist society)

are associated with being part of a political order, based on the notion of some kind of elemental social contract (a notion first introduced in antiquity by Epicurus), or from being part of a consciously created constitutional order. In the

*If we are talking about justice, as Epicurus argued, and Marx concurred, the basic concept of justice is reciprocity... As Marx said, we relate to nature not only through production but through our concepts of beauty. And, of course, we have to have some protective sense of “animal rights,” to prevent their abuse in a capitalist commodity society... As Epicurus argued (and Marx reiterated), we have to live in a way that the world—that is, nature—is “our friend.”*

capitalist mode of production, right, in this sense, is essentially reduced to property right based on the concept of the commodity, which forms the basis of the entire legal system. There is also an ethical notion of natural right that is conceived in various ways and is separate from politically derived rights. This notion is even more confused because it is removed from the notion of a social contract. Here, if we are talking about justice, as Epicurus argued, and Marx concurred, the basic concept of justice is reciprocity, plus the

recognition that our notion of justice must change along with changes in our relationships and our needs. Here we can talk about the need, in a relation of reciprocity, to sustain and reproduce the earth, and how this need evolves with history. We have to recognise our sensuous and aesthetic connection to nature, the fact that human beings themselves are a part of nature, which we relate to in a sensuous, material way, something that Marx insisted on again and again. Aldo Leopold, from a different perspective, but one that challenged the commodification of nature, stressed the need to extend our sense of community to nature. We should have a sense of the intrinsic value of nature, as of life itself, and an aesthetic relation to nature, derived from this larger sense of community with the earth.

As Marx said, we relate to nature not only through production but through our concepts of beauty. And, of course, we have to have some protective sense of “animal rights,” to prevent their abuse in a capitalist commodity society. Aside from human slavery, nothing is worse than reducing nonhuman animals to mere machines without souls, as René Descartes did. In fact, Marx directly criticised Descartes’s mechanical philosophy for demoting nonhuman animals from assistants to human beings, as in medieval times, to the mere mechanical objects of bourgeois society. As Epicurus argued (and Marx reiterated), we have to live in a way that the world—that is, nature—is “our friend.” Trying to address all of this in terms of a bourgeois concept of rights confuses matters, as the real issue is the extent and nature of our community with the earth, with nonhuman animals, and with each other.

(4) Whatever one may think of his particular stance—which derives from a view that we must now be prepared to

*Sabotage will necessarily be part of an ecological revolution, and so will attacks on private property, given that the owners of the means of production are destroying the earth itself so as to expand their financial holdings.... It seems inevitable to me that as the stakes for humanity rise, more and more people will inevitably take this general stance, recognising that human survival (as well as human freedom) is at issue. How could it be otherwise, if the system refuses to respond to human needs to the point of endangering human survival?*

consider using all the means necessary to save the earth as a home for humanity—Malm has done the movement a favor in *How to Blow Up a Pipeline* (a work that is more reasonable than its provocative title suggests), by raising some of the most difficult concrete issues of tactics and militancy. Specifically, Malm asks us to consider to what extent and in what ways the climate movement will respond to the violence of ecocide/omnicide with its own tactics, including sabotage and violence against property. Nonviolent mass protest is obviously to be preferred. Still, we live in the context of a capitalist state, which defines itself in terms of a self-referential system of law, designed to

protect and legitimise the existing exploitative order and, as Max Weber stressed (only a decade and a half before the rise of the Nazi regime), confers on itself “the monopoly of the legitimate use of force.” It often responds to threats to

established authority with the use of force and violence, including—where necessary to preserve the existing property order—martial law/states of emergency and imperial war, which today has become permanent. There is a dialectic of violence in how the system operates and through which it constitutes itself.

Sabotage (which of course derives etymologically from the French sabot, wooden shoe, and from workers throwing shoes in machines) will necessarily be part of an ecological revolution, and so will attacks on private property, given that the owners of the means of production (the wealthy and corporations) are destroying the earth itself so as to expand their financial holdings. Malm quotes Nelson Mandela, in the struggle against Apartheid, in which he declared: “‘I called for non-violent protest as long as it was effective’ as ‘a tactic that should be abandoned when it no longer worked.’” It seems inevitable to me that as the stakes for humanity rise, more and more people will inevitably take this general stance, recognising that human survival (as well as human freedom) is at issue. How could it be otherwise, if the system refuses to respond to human needs to the point of endangering human survival? I think Kim Stanley Robinson was quite realistic in his recent novel *The Ministry for the Future* in making the recourse to violent resistance by some revolutionary ecological groups part of the mix and helping people develop a sympathetic understanding of why and how this could happen, while not actually advocating it.

One example of a tactic that I do support at present is that of the valve turners in North America. On October 11, 2016,

*The only real hope in the years immediately ahead, the leaked “Mitigation Report” suggests, is low-energy strategies, which can reduce energy use by 40 per cent, while at the same time improving the human condition. It is this, and not the technology, which now cannot be introduced fast enough... Basically, humanity needs a quick transition, and this can only occur by the self-mobilisation of populations and fundamental alterations in social relations... Whatever way we look at it, it means an ecological revolution, affecting social relations, on a scale beyond anything humanity has ever seen before—or we will not make it.*

five climate activists closed the valves on four of the pipelines carrying tar sands oil from Canada into the United States. A full 15 per cent of U.S. crude oil imports were closed down for nearly a day. To make sure worker safety was not violated, a call was made to each company’s emergency response around fifteen minutes before the valve turners entered the sites, giving the corporations plenty of time to shut each pipeline down. The valve turners were charged with felonies, including criminal sabotage. They are being defended by Lauren Regan, one of the foremost environmental and civil rights lawyers in the United States, as well as an MR author. Regan and her organization, the Civil Liberties Defense Council, where I am an advisory board member, has relied, with considerable success, on employing the necessity defence, not used for many years in U.S. law, arguing that the valve turners had no choice, since

their actions were not only necessary but morally and legally justified in order to avoid catastrophic harm to humanity and all life on Earth. Juries several times refused to convict the valve turners, agreeing with their necessity defence.

**JM/OM:** What do you think should be the immediate demands, goals, and tactics of the climate movement?

**JBf:** This is a very big question. Since we have been talking already about tactics, I will focus on demands and goals. Clearly the goal, at a minimum, has to be to stay below a 1.5°C increase in global average temperatures until 2040, which is the most optimistic scenario of the IPCC, which will then, it is hoped, allow a return to a 1.4°C increase by the end of the century or into the next century. This, as the IPCC says in its leaked Part III report, however, requires facing the fact that fundamental structural change in the present socioeconomic system is needed and that capitalism, as a system, is “unsustainable.” Here, the IPCC cites figures like Hickel and Malm. The only real hope in the years immediately



ahead, the leaked “Mitigation Report” suggests, is low-energy strategies, which can reduce energy use by 40 per cent, while at the same time improving the human condition. It is this, and not the technology, which now cannot be introduced fast enough. (Solar and wind account for only 7 per cent of total energy consumption worldwide at present; direct air capture and Bioenergy and Carbon Capture and Sequestration do not exist on an adequate scale as technologies today; nuclear with all its attendant problems cannot fill the gap, nor should it.) Negative emissions, the science tells us, are necessary on a supplemental basis, if we are to not break the climate budget, but this can be achieved by improved forestry, agricultural and soil methods, such as maintaining soil organic matter, without geoengineering. Basically, humanity needs a quick transition, and this can only occur by the self-mobilisation of populations and fundamental alterations in social relations.

Whatever way we look at it, it means an ecological revolution, affecting social relations, on a scale beyond anything humanity has ever seen before—or we will not make it. As Marx said when confronted with the severe ecological

*Part III of the leaked IPCC report explicitly supports climate strikes, a just transition, environmental justice, mass movements, protecting the vulnerable, and fundamental, “transformative change” in society.... Mitigation itself is no longer enough, because catastrophe is at our doorsteps at present, even if we still have time to avoid the point of no return if we act decisively enough and on a big enough scale.*

problems in Ireland, it is a question of “ruin or revolution.” Moreover, the burden in our time has to be put primarily on the rich countries, since they are the ones that have used up most of the global carbon budget, have higher per capita wealth, the highest per capita energy consumption, the highest carbon footprints per capita, and also monopolise much of the technology. The core capitalist system in the Global North is primarily responsible for most of the increases in carbon dioxide accumulated in the atmosphere since the Industrial Revolution. Today, the bulk of worldwide carbon dioxide

emissions are concentrated in a few hundred global corporations and military spending. All of this underscores that the rich capitalist countries at the centre of the world system owe an ecological debt to the rest of the world. They thus have the main responsibility for fixing the problem by bringing their economies more in line with the world average energy consumption. This requires going against the logic of capitalism in order to save the planet as a safe home for humanity.

Part III of the leaked IPCC report explicitly supports climate strikes, a just transition, environmental justice, mass movements, protecting the vulnerable, and fundamental, “transformative change” in society. It says no new coal-fired plants can be started up from now on and that all existing ones have to be eliminated in a decade; sports utilities have to go; we need “new cities” that are not engines of ecological destruction; public transportation has to be expanded; pipelines have to be removed; fossil fuels have to stay in the ground, made possible by low-carbon pathways. Our whole production and consumption system has to change and to do this people will have to change it, going against corporations.

However, mitigation itself is no longer enough, because catastrophe is at our doorsteps at present, even if we still have time to avoid the point of no return if we act decisively enough and on a big enough scale. Humanity needs to mitigate the problem, that is, to stop global heating and reach net-zero carbon emissions by 2050 (net-zero is significant because we no longer have the possibility of meeting the below-1.5°C or even the below-2°C targets without negative emissions). But we are also facing the reality that, even in the most optimistic scenario, climate conditions will deteriorate for most of this century. We have to act to protect what Marx called “the chain of human generations,” reconstituting society on an ecosocialist basis—not just for the future, but also now for the present. This can help the cause of ecological revolution, propelling people into action.

**JM/OM:** You often say, “it is ruin or revolution.” What do you think that revolution will look like, and how can and should we work toward revolution today?

**JBf:** A revolution—as the cultural theorist Jacob Burckhardt said in the nineteenth century—is an enormous “acceleration of history.” The only way to address capitalism’s disruption of the ecological cycles of the planet is such an

*The only way to address capitalism’s disruption of the ecological cycles of the planet is such an acceleration of history, one in which humanity mobilises on the largest scale possible, based on a new environmental proletariat, encompassing the full range of material needs... in 1999, I argued that the only answer was to accelerate history beyond the current mode of production through a social and ecological revolution—so as to transcend the accumulative society of capitalism and create a community with the earth. The issues remain the same, but we are much further down the garden path... nor can we afford to dwell on dystopia—when the world scientific consensus tells us that we either make fundamental, rapid, social-structural change on a global basis or industrial civilisation and the future of humanity is crushed.*

acceleration of history, one in which humanity mobilises on the largest scale possible, based on a new environmental proletariat, encompassing the full range of material needs (environmental and economic, productive and reproductive), aimed at the radical transformation of existing social relations and the creation of a socialist ecological society. Such a movement will have to take place globally and at numerous levels, with breaks within the existing order not simply at the bottom, but cracking the entire class-power edifice and its political-economic hegemony, reflecting that this is an existential crisis. It will need simultaneously to be a cultural, ecological, social, and economic revolution. In my 1994 book *The Vulnerable Planet*, I argued that the economic impact on the earth due to capitalism was accelerating to the point that the economy was now rivalling the ecological cycles of the

entire planet. In the second edition of the book, in 1999, I argued that the only answer was to accelerate history beyond the current mode of production through a social and ecological revolution—so as to transcend the accumulative society of capitalism and create a community with the earth. The issues remain the same, but we are much further down the garden path.

All of this may sound utopian, but the negative sense of utopian as an ideal dream, reflecting the original Latin meaning

*There is no option left but ecological revolution... the people will once again be compelled to take history into their own hands, in a struggle that is likely to be stormy and chaotic, but that will also demonstrate the power and endless creativity of humanity, offering the possibility of a new ecological renaissance. There is no guarantee we will succeed.... All that we know for certain, is that, with whole generations seeing their future being stripped away, and humanity’s existence imperilled, it is inevitable that hundreds of millions of people, if not reaching into the billions, will resist, leading to what will undoubtedly be the greatest series of revolts in history, taking place throughout the planet.*

of nowhere that Thomas More played on, has no real meaning in our time—nor can we afford to dwell on dystopia—when the world scientific consensus tells us that we either make fundamental, rapid, social-structural change on a global basis or industrial civilisation and the future of humanity is crushed. There is only human struggle in an increasingly harsh environment, the product of the Capitalinian Age of the Anthropocene Epoch. The planetary environment as a whole is rapidly changing around us as a result of the system that we have created and there is no standing still. None of our existing social institutions will survive existing trends, which, if we continue much longer on the present path during this century,

will almost certainly, the world scientific consensus suggests, bring down industrial civilisation itself.

Capitalism is rapidly carrying out environmental changes that have already compromised the planet as a safe space for humanity during this century. Its famous creative destruction is now undermining the earth itself. There is no option left but ecological revolution, which means simply that the people, in their endless numbers, will once again be compelled to take history into their own hands, in a struggle that is likely to be stormy and chaotic, but that will also demonstrate the power and endless creativity of humanity, offering the possibility of a new ecological renaissance. There is no guarantee, of course, that in such a struggle we will succeed. Marx once said no attempt at world-historical change is ever undertaken on the basis of infallible guarantees. All that we know for certain, is that, with whole generations seeing their future being stripped away, and humanity's existence imperilled, it is inevitable that hundreds of millions of people, if not reaching into the billions, will resist, leading to what will undoubtedly be the greatest series of revolts in history, taking place throughout the planet. We can already see this in the farmers' revolt in India, the school climate strikes in Europe, and the battle over Standing Rock in North America. This points to a new environmental proletariat, responding to the material needs that are equally economic and ecological, productive and reproductive. It is there that our hope lies: the creation of a whole new geological (and historical) age of the earth, the Communian.

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- ❖ **About Jus Semper:** The Jus Semper Global Alliance aims to contribute to achieving a sustainable ethos of social justice in the world, where all communities live in truly democratic environments that provide full enjoyment of human rights and sustainable living standards in accordance with human dignity. To accomplish this, it contributes to the liberalisation of the democratic institutions of society that have been captured by the owners of the market. With that purpose, it is devoted to research and analysis to provoke the awareness and critical thinking to generate ideas for a transformative vision to materialise the truly democratic and sustainable paradigm of People and Planet and NOT of the market.
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