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Environment

“The devil makes the saucepans, but not the lids”

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The impact of Al Gore's film, interest in the Stern report, the echo of the reports from the IPCC (Intergovernmental Panel on Climate Change) and the growing success of the demonstrations organised by the Climate Action Campaign illustrate the increasingly lively public concern on the question of climate change. Much too inactive on this terrain, the left should get involved in the international movement emerging around the idea that rescuing the climate - in a spirit of social justice - takes precedence over profit and necessitates a significant redistribution of wealth. Such a movement is indispensable. Involving the workers' movement is one of the strategic objectives to which the left should pay particular attention.

[<https://internationalviewpoint.org/IMG/jpg/climbush1.jpg>]

The quantity of carbon emitted annually by the world economy represents around double that which the ecosystems (oceans, soils, vegetation) are capable of absorbing. The natural cycle tends towards saturation. Accumulating in the atmosphere, the surplus provokes an intensification of the natural greenhouse effect, and thus a warming of the surface of the planet. The phenomenon began with the Industrial Revolution and the rise of capitalism. Its two main causes are the combustion of fossil fuels (coal, oil, natural gas) and changes in land use (clearances, ploughing and so on). The first of these causes has become the most important with the explosion of the car population in the 1950s. More than 75% of the historic responsibility for climate change lies with the developed countries but emissions from the developing countries are rapidly increasing (above all those of the bigger countries like India, China, Brazil) (fig. 1). According to the specialists, we should aim at maintaining the increase in average temperature of the surface of the globe below 2°C in relation to the pre-industrial period, [1] failing which the consequences would become very serious for the ecosystems and for humanity (in particular the countries of the South and the poor in general, according to the IPCC [2]).

To measure the full extent of the challenge, we should be aware that currently the limitation of the rise in temperature to 2°C can no longer be ensured by the action of the developed countries alone: in the hypothetical case where these latter could immediately bring down all their emissions to zero, and where the developing countries took no measures, the rise in temperature could nonetheless tend to 4°C to 5°C in a century, or a thermal range as significant as that which separates our epoch from the last glaciation. In a gigantic reversal of capitalist “progress”, the human race risks entering into a situation that it has never known and whose consequences would be to say the least formidable.

Physical constraints and social laws

The warnings issued for more than 20 years have not been heard, it is too late today to avoid climate change: it is underway and will make its effects felt for several centuries. The question posed is: how to limit the damage? The response is framed by unavoidable physical constraints. According to climate models, the atmospheric concentration in greenhouse gases corresponding to a maximum rise of 2°C would be from 450 to 550 “parts per million by volume of CO₂ equivalent”. [3] The high part of this range corresponds to approximately double the concentration before 1780.

The current concentration, all gases together, already places us in the dangerous zone 465 ppmvCO₂eq (of which 370 ppmv of CO₂ alone). Its increase seems increasingly rapid. [4] To restabilise the temperature of the globe implies stabilising as quickly as possible the atmospheric concentrations of the gases concerned. Indeed, given the

lifetime of these latter and the thermic inertia of the oceans, [5] notably, it would not suffice to stabilise the emissions: these latter should be reduced in a very drastic and very rapid fashion.

[https://internationalviewpoint.org/IMG/jpg/Dan2_copy.jpg]

Fig. 1. Historic responsibility of groups of countries in climate change. Changes in volumes of carbon emitted from 1870 to 2000, by region of the world. . The current volume of emissions is near to 8 gigatonnes of carbon per year (28.8 Gt of CO₂). Source: Oakridge National Laboratory.

The figures below illustrate this link between temporal timescales, temperature, concentration and emissions for a stabilisation at 550 ppmv of CO₂ alone (fig. 2). Because of the precautionary principle, and considering all the greenhouse gases, the objective of a stabilisation at 450 ppmvCO₂eq should be adopted, to take account of the unknowns of the climate system. According to the Stern report, [6] this objective requires that emissions (42 gigatonnes/year currently) reach a peak in 10 years then fall by at least 5% per year, giving by 2050 a 75% of reduction in relation to 1990, on the world scale. A stabilisation at 550 ppmv (the high part of the range) implies a peak in 20 years, then a decrease of 1 to 3% per year (but, in this scenario, there is more than 50% risk of crossing the threshold of a 2°C warming). In all the cases, over the next century, annual global emissions should be brought to 5GtCO₂eq, indeed less, that is to say divided by around eight.

[https://internationalviewpoint.org/IMG/jpg/Dan1_copy.jpg]

Fig. 2. Source: GIEC.

The most significant greenhouse gas is carbon dioxide (CO₂). As this gas is an inevitable product of any combustion, the reduction of its emissions is not as easy as that of an atmospheric pollutant like sulphur, which can be eliminated from smoke. [7] Is it possible, then, to respect such draconian physical constraints without throwing humanity several centuries backwards? To avoid panic reactions, ostrich reflexes, or other forms of irrational behaviour (that reactionary forces could take advantage of), it is extremely important to hammer home the fact that the response, on the technical-scientific level, is: yes! Yes, the struggle against energy waste, increased energy efficiency, the replacement of fossil sources by renewable sources, as well as the protection of soils and forests allow the challenge to be met (read “*Myths and technological realities, social challenges*”).

Given the importance of the process of combustion, the energy question is at the centre of the debate. Indeed, the flows of solar energy which reach the surface of the Earth, and which will do so for at least 5 billion years, are equal to 7,000 to 8,000 times world energy consumption. A thousandth of this flow can be converted into usable energy with the aid of current technologies. This technical potential will increase with scientific progress (if it is given the resources). That does not mean that there are no problems, that it is “enough” to replace fossil fuels by renewable sources. In the short term, the transition involves numerous difficulties. In the longer term, as solar flows constitute a source of scattered energy, its use requires a high degree of decentralisation, thus of social participation and collective responsibility.

Changes should notably take place in the individualist lifestyles of the wealthier fractions of society, in particular in the developed countries, which make a great use of ecologically unsustainable technologies which cannot be generalised to humanity as a whole. But these changes are not fatally synonyms of “regression”. If the climate to be saved in social justice, this can involve a better quality of life for the immense majority of the population, even in the “rich countries”.

The painful character of climate change stems from the fact that solutions are being implemented much too meagrely. Why? Because they reduce the profitability of capital, imply the suppression of profitable activities, challenge economic rents and the situations of power linked to energy centralisation, necessitate planning and public initiative, imply a relocation of activity, overturning the infernal overproduction/overconsumption spiral of some/under-consumption of others... and so on. These reasons are economic, and thus social. They do not flow from unavoidable natural laws but from social laws, that humanity can change.

The specialised literature characterises climate change as a phenomenon of “*anthropic*” origin. This expression is in fact erroneous. Warming is not the poisoned fruit of “human activity” in general, or of “technology” in general, but of capitalist activity and of capitalist technology (that the bureaucratic regimes of the former Soviet bloc essentially only mimicked). It is the product of a system which “*increasingly resembles its concept*”, according to Michel Husson’s fine expression. [8]

The philosopher Hans Jonas, in his famous “*Responsibility principle*” was one of the first to grasp the major importance of climatic limits to the development of human societies. Written in 1979, his warning on this precise point went too much unheard, although his theses in general had a great influence. [9] But Jonas’s ideology led him to stand the problem on its head. Instead of seeing the rise of the greenhouse effect as a consequence of the frenzy of capitalist growth, he attempted a supreme and unanswerable scientific argument against the “Marxist utopia”. The “*Responsibility principle*” charges “utopia” with wishing to completely suppress the fetters on “technology” whereas this would be intrinsically destructive of the environment. [10]

Contrary to this thesis, Marxist analysis views climate change as the result of a mode of production which is unsustainable because its goal is purely quantitative: the accumulation of value. Marx notes it from the first pages of *Capital*: these are the characteristics of value as the specific historic form of wealth which raises the illusion that a movement of unlimited material accumulation would be possible. Consequently, in this generalised mode of production of commodities, “*production for production’s sake*” inevitably leads to “*consumption for consumption’s sake*”. [11]

The energy bulimia is one specific manifestation of this dynamic, and the technologies that it implements, contrary to what Hans Jonas and many others have said, are not neutral: they are made to measure to satisfy the thirst of surplus-value. Recourse to fossil fuels and nuclear energy is completely exemplary in this respect. This recourse is not the result of some technological automatism but of a choice in favour of energy sources which can be appropriated, because they generate economic rent, that is superprofits.

If the photovoltaic effect (the generation of electric current in certain semi-conductor materials when light is run through them) discovered by Edmond Becquerel in 1839 has never been the subject of a will for systematic development, it is notably because solar energy is not appropriable as easily as reserves of hard coal or oilfields. Today, after two and a half centuries of capitalism based on fossil fuels, the use of these latter has proved to be fundamentally antagonistic to the rational regulation of the exchanges of materials between humanity and nature (which Marx described as the “*the only possible freedom*”).

Through climate change, nature itself seems to wish to make us understand that the imperious necessity of this rational regulation has become a major reason to abolish this mode of production. Let us stipulate that relative diminutions of intensity in energy and in carbon of the economy (that is to say the quantities of energy and carbon necessary to produce a unit of GDP), observed for two centuries, change nothing in this necessity: they have been more than made up for by the absolute enlargement of production. Indeed, the underlying law here is well known: to compensate for the tendential fall in the rate of profit, capitalism must conquer constantly new regions, create new needs, new markets.

This frenzy of growth, if allowed, will burn the last barrel of oil, the last tonne of coal. To count on the eventual “depletion” of these resources so that environmental damage ceases would be an error: if obliged to abandon fossil fuels, [12] the capitalist dynamic of accumulation would transform entire regions into ecological deserts by the plantation of enormous monocultures producing biofuel, or would erect nuclear power stations everywhere it could. The ITER [13] project constitutes the last avatar of madness, well described by Jean-Paul DELEAGE et al., [14] of a system fundamentally incompatible with the rhythms of functioning of the biosphere.

Three interlinked difficulties

In spite of its logic of accumulation, can capitalism respect in time the physical constraints conditioning a stabilisation of the climate to a point which allows human and ecological catastrophe to be avoided? Given the level already reached by greenhouse gases and the inertia of the climatic system, that seems unhappily highly improbable, indeed ruled out. Catastrophe, in reality, is already on the march and can be seen through a series of events whose interconnected nature is obvious (read “*a major political and social stake*”). Faced with the apparent acceleration of warming, the question today is rather whether the system is capable of limiting the damage and stabilising the situation, and under what social conditions. To give a concrete response to that, we need to take the measure of three interlinked difficulties: the breadth of the changes to be realised within a very short timescale, the rigidity of the energy system, as well as the competition expressed in the relations between states (in particular North-South relations).

First difficulty: the combination between very strong imperatives and very short timescales. The breadth of the changes to be carried out in barely a few decades is dizzying: it amounts to “decarbonising” the economy almost completely. That involves moving away from fossil fuels in general as sources of energy, but also oil in particular as raw material of the petrochemical industry (see box: “decarbonisation and energy decrement”). Renewable sources can fill the gap, but not under any conditions whatever. Not in the framework of a pursuit of energy bulimia in the area of transport, or of a plethoric production of plastics, for example.

In any case, given their higher cost and that of fossil fuels, and given the briefness of the timescales, the passage to renewables should absolutely go hand in hand with a significant fall in the primary demand of the developed countries (of the order of 50%, indeed more in the more energy-consuming countries). Thus with a war on waste and a raising of energy efficiency. Indeed, a war on waste and raising of efficiency concerns not only installations, individual equipment and the behaviour of individuals, but also and above all the global energy system, which determines the whole. From a rational viewpoint, entire sectors of the economy would be purely and simply suppressed because they are useless, indeed damaging (production of weapons, advertising and so on), whereas others would be rationalised to suppress the duplication of competition. That, capitalism cannot even envisage, inasmuch as this would be contrary to its logic... But it will not escape the fact that considerable changes will be necessary in areas as diverse as land development, transport, agriculture, housing, leisure, tourism and so on. Indeed, to realise them in the time period needed would necessitate a strong centralisation and democratic elaboration of a well thought through plan. All these elements are hardly compatible with neoliberal management of a febrile mode of production, having competition as its motor and the political exclusion of the masses as its corollary.

Second difficulty: the capitalist energy system is characterised by a great rigidity and a strong centralisation. These do not flow only from the lifetime of investments (30-40 years for an electric power station) but also and above all from the fact that powerful lobbies are attached to the goose that lays the golden eggs... and permanently create new needs which “justify” the fact that the goose is put in battery to lay more. The annual turnover for the sale of refined products in the oil industry is estimated at 2,000 billion euros per year at the world level, including all products together, total costs, from prospecting to refining via extraction, represent barely 500 billion. The difference between the two (1,500 billion euros per year!) constitutes the mass of profits, and above all superprofits in the form of economic rent [15] accumulated thanks to the private appropriation of the resource.

To this colossal power should be added that of the sectors linked to oil. Cars, chemicals, petrochemicals, aeronautics, naval construction and so on. : all these branches rely on a continued expansion of the world market, and thus of material consumption and exchanges. In such a configuration, although it is rapid, the development of investment in wind and sun technologies (where situations of rent do not seem envisageable) can only delay bringing a solution. Largely controlled by big groups like Shell, BP, and so on, the renewables sector currently serves mainly to supply a complement to fossil fuels, instead of replacing them. With that of the individual car, the explosion of air transport and the consumption habits which flow from it illustrate wonderfully the manner in which this logic of the

sorcerer's apprentice is legitimised through the needs that it creates and leads us still more quickly into the wall, while obscuring our vision of reality.

Third difficulty: competition as it expresses itself in relations between states. CO2 produced at any point of the globe contributes to planetary reheating. Given this global character of the menace, the riposte should be thought through, planned and articulated at the world level, privileging collaboration in the interests of all, in a long term perspective. This work should aim centrally at bringing a united response to the key question: how to share resources to combine the drastic and rapid reduction of emissions at the world level with the right to development of the countries of the South, where the vast majority of the human race lives? Indeed, in spite of the efforts deployed by numerous scientists, domination and competition systematically prevail over collaboration, and the scooping up of resources (including by means of war) over the sharing of the latter.

The attitude of the main imperialist protagonists (USA, European Union, Japan) in the climatic negotiations is clearly determined by the interests of their business and the geo-strategic objectives of the different bourgeoisies on the world market, in particular on the energy market. The same is true for Russia, for each member state of the European Union taken separately, and for the big developing countries (not to mention the oil monarchies!). The interminable difficulties, the slowness and setbacks of the climate negotiations are thus the expression of the contradiction, insoluble under capitalism, between the increasingly globalised character of the economy and the maintenance of rival nation states (or combinations of states) entirely devoted to the defence of the interests of their bourgeoisie, and of which some dominate others. This imbroglio, in which the fate of the victims of climate change does not matter, could have irreversible consequences. For example if the conflict of interests between the imperialist powers and the dominant classes of the big developing countries provoked a prolonged stalemate in negotiations on the sequel to Kyoto. Or if the future US administration, against all expectations, prolonged the Bush line for several more years...

From Kyoto to Nairobi and beyond: the capitalist response

From all this, it should not be deduced that the capitalist Moloch will remain with arms folded faced with a phenomenon which, if it primarily affects the exploited, also presents the threat of a massive devalorisation of capital and rising instability. But its struggle, against climate change, for fourteen years, [\[16\]](#) is carried out according to the rhythms dictated by capital - too slowly - and according to neoliberal modalities - which increase social inequalities, North-South tensions, as well as the appropriation and the pillage of natural resources. Slowness and perverse effects: despite some positive traits, Kyoto incarnates these two characteristics (see attached article on the sequel to Kyoto). Indeed, not only is the objective of 5.2% reduction of emissions of the developed countries very minimal, and not to be realised until 2012, but moreover the “flexible mechanisms” included in the protocol have negative social and environmental consequences (see “(The new green clothes of colonial domination”). The negotiations on the post 2012 period do not seem to change anything. If soon the White House is emptied of George W. Bush, the EU and USA will probably reach a compromise. This corresponds to the increasingly pressing demands of numerous multinationals who, convinced of the ineluctability of measures, desire a united and stable regulatory framework at the world level as quickly as possible. But this rapprochement of climatic enemy brothers could well accentuate the neoliberal character of the Protocol, to reduce its relative regulatory force (quotas, dates, sanctions in case of non-respect) and to put other positive aspects under pressure.

This tendency is clearly apparent in the intense diplomatic activity of Tony Blair and his designated successor, Gordon Brown. At the G8 summit which he chaired, the denizen of 10, Downing Street revealed his ambition : to make Great Britain the pivot of a new climatic agreement that would strengthen the position of his country as candidate to the leadership of the enlarged European Union. [\[17\]](#)

Published on October 31, 2006, just before the UN climate conference in Nairobi (Kenya), the Stern report on the economics of climate change can be seen in this framework. [18] The originality of this report resides in that, for the first time, a team of economists commissioned by a government is taking the warnings of the scientific community seriously and attempting to provide a global response. Sir Nicholas Stern has indisputably the merit of having projected the climate change to the front pages of the media with a shock figure: if nothing is done, the impact of the reheating could be as severe as that of the two world wars and the Great Depression, and represent a fall of up to 20% in GNP. “Better to act immediately and all together, this would be less expensive, and this would offer openings to companies”: such is the logic of his report. But, under cover of an ambitious long-term strategy, Stern tends to erode the positive aspects of Kyoto to the profit of a policy which is 100% neoliberal (see the article on sequel to Kyoto). Paradoxically, whereas he defines climate change as “*the greatest and widest market failure ever seen until now*”, the solutions that he puts forward can be summed up in a hackneyed formula: more market, more growth, more nuclear energy, more liberalisation of trade, less social protection and democracy... in short: more of this policy which destroys the environment and for which the countries of the South, the poor and the workers pay the costs...

The North/South question is decisive, as we have seen. In freeing itself from the constricting schedule of Kyoto, the Stern report emerges from the trench warfare between big developing countries and imperialist metropolises, where the first say to the second: “You are responsible, you act” and the second retort: “You will emit soon more greenhouse gases than us, act also”. But the relationship for forces for the dominated countries is not obviously better outside of the trenches than within... At least for the next decades, the plan proposed by the former chief economist of the World Bank involves the essential part of the effort of reduction, imposed through a world price for carbon, being realised in the South thanks to investment from the North, generators of emission rights for the North. [19] Thus, whereas it was until now “complementary” to the so-called “domestic” measures, the “flexibility” envisaged by Kyoto would become total. Indeed, starting from the moment where it can be totally delocalised, the reduction of emissions, for the enterprises of the North, would no longer obviously represent a cost, but a gigantic export market for equipment and services. [20]

A market governed by unequal exchange, in which the developing countries would be strongly “encouraged” to commit themselves either by a tax on carbon, or by quotas, and which would increase the imperialist domination of their economies. Certain decisions taken at the recent UN Climate Conference (Nairobi, November 2006) gain from being analysed in the light of this analysis. At Nairobi, the developed countries accepted the idea of a reduction “*much higher than 50%*” of their emissions between now and 2050, but stipulating that they would not get there “*all alone*”. These little words are an obvious allusion to an extension of the “Clean Development Mechanism” (CDM, one of the flexible arrangements of Kyoto). [21] On the other hand, it has been decided that the adaptation funds would be provided by a tax on investments in the framework of the CDM (read article on sequel to Kyoto). In short: the financing of the projects of protection will not be a function of the needs of the most exposed populations, but a function of the successes of the multinationals in the conquest of the big market in “low carbon” technologies.

Can a policy of the kind proposed by Stern save the climate? It would first be necessary to adopt an objective of reduction of emissions compatible with the physical constraints. It is not the case in the report presented to the British government and it is increasingly doubtful that such an objective will be adopted in time. It would also be necessary that a strong world “governance” is capable of imposing a world price for carbon determined by the evaluation of the damage from long term warming, and not by the short-term law of the market. This is not obvious either...Whatever the precise contours of the post-Kyoto, it is then probable that neoliberal climate policy, from here to 20-30 years time, will end in defeat. What could happen then? The response smacks of political fiction.

Faced with timescales which have become terribly pressing, it is not ruled out, for example, that the dominant powers change course suddenly and use their state apparatuses to mobilise and centralise all resources, indeed impose rationing, as in a period of war. The comparison is not fortuitous: this turning point could effectively accompany imperialist military adventures, indeed inter-imperialist confrontations, or other types of murderous conflict. But this is speculative: if wars for energy resources are already part of reality, nothing indicates any abandonment of

neoliberalism for a more state-centred policy. In any case, such a mobilisation would obviously not have the goal of saving the climate for all, but saving it to the extent of the possible in protecting the social privileges of the exploiters. That would lead to inestimable human suffering, an increase in exploitation, an aggravation of the pillage of the dominated countries and a challenge to democratic rights.

Global rationality vs. rationality of capital

In the absence of a credible alternative to neoliberal policies, urgency pushes certain milieus and personalities to elaborate proposals to accelerate the defence of the climate in equity, but without breaking with market mechanisms when these latter seem to rest on an undoubted consensus. Whatever their desire to be realistic, these proposals postulate the realisation of a series of conditions which, when one looks at them, seem highly utopian. In the eyes of the system, they have the fault of resting on the force of conviction of an overall rationality. Indeed, capital, as “many capitals” in competition with each other, is characterised by the contradiction between its innumerable partial rationalities and its growing irrationality as a system. Global rationality can only convince it temporarily and in the very last extremity, when its survival is threatened (but at that moment, in general, it is already too late for the survival of numerous members of the less favoured classes and layers).

This quid pro quo between global reason and the reason of capital characterises notably the mechanism suggested to bring to an end the proposal known as “Contraction and Convergence” (C&C). Formulated by the Indian ecologist Anil Agarwal, [22] taken up by the Global Commons Institute of Aubrey Meyer [23] and popularised by eminent scientists like Sir John Houghton [24] or Jean-Pascal van Ypersele, [25] this proposal has the merit of settling the dilemma of the developing countries to the advantage of the latter. Let’s take up the terms of the problem: if growth based on fossil fuels is pursued, even admitting that the combined character of development would mean they would not follow exactly the road followed by the imperialist countries since 1780, these countries will accentuate the climate change of which their peoples will be (are already!) the main victims. The poor are right to not wish to remain poor in order to save the climate which has been wrecked by the rich, C&C advocates a radical reduction of global emissions (“contraction”) combined with an equalisation of emissions per inhabitant (“convergence”) and a catching up of the development of the North by the South thanks to clean technologies (fig. 3). We subscribe to this egalitarian perspective, but how could it be put into practice?

[https://internationalviewpoint.org/IMG/jpg/Dan3_copy.jpg]

Fig. 3. . Source : Global Commons Institute and J. Houghton.

By way of a response, it is suggested that exchangeable emission rights are distributed to the developing countries inasmuch as they are below their quota per inhabitant. The countries of the North who do not reduce their emissions enough should buy these rights. The corresponding income would allow the countries of the South to procure the technologies necessary to a development without carbon. This scenario raises many practical questions. To whom would the rights be distributed? Who would guarantee that their liquidation would effectively benefit the peoples (and not pay the servicing of the debt, or to fatten the “local elites”)? These are significant questions. But the mechanism also has a fundamental weak point.

In his presentation of the C&C scenario, the climatologist Jean-Pascal van Ypersele, whose commitment to a solidarity-based rescue of the climate is indisputable (see interview), writes this : *“If the initial sharing of the rights was based on equity, permits could constitute, in certain conditions, a formidable vector of aid to developing countries. And on condition that the total quantity of permits is determined by a concern to protect the climate for the centuries to come, such a system would allow the carrying out of the necessary reductions in emissions at least cost”*. [26] The problem resides obviously in the little word “if” and in the expression “on condition that”.

Capitalism built itself historically by appropriating natural resources. To distribute freely equal rights to dispose of

resources is completely opposed to its nature (that is why, in practice, the distribution of emission rights is neither equitable nor ethical, as shown by the experience of the European Exchange System of rights - see article on sequel to Kyoto). In itself, it is obviously not a reason to cast aside the demand (on the contrary). But the question to pose is: who would impose respect of the prior conditions in the area of equity and quantity of permits? The political representatives of the big developing countries? Would they worry about ethics and the climate more than the imperialist masters? Supposing that they had the will to impose such a solution, it would be necessary that they rest on a very broad popular mobilisation.

Is it realistic to think that the poor masses of the South would mobilise on a demand as ethereal as the distribution of exchangeable rights to emit carbon dioxide in the atmosphere? If they adopted it, in any case, that would be in the framework of overall demands which would be much more simple and direct: abolition of the debt, agrarian reform, nationalisation of energy resources (as in Venezuela and in Bolivia), community rights over water and other resources, and so on. Indeed, most of these demands break with the market... in the framework of which C&C, out of realism, wishes to remain. We are back at our point of departure.

What this discussion reveals is that the objective and subjective difficulties in the rescue of the climate are indissolubly linked : we cannot resolve one without resolving the other. To save the climate in social justice, with a world population of 6 billion human beings, implies bringing the average emissions down to around 0.4-0.5 tonnes of carbon per person and per year. An American or an Australian emit nearly six tonnes, a Belgian or a Dane three tonnes, a Mexican one tonne, a Chinese a little less, and an Indian... 0.4 tonnes (Fig. 4). The only “durable” logic worthy of the name consists in making the demi-tonne of carbon per person and per year the quota of annual emission to be reached in each country at a certain date. A rational world strategy must then have four combined aspects: 1° to reduce radically the primary demand for fossil energy sources of the developed countries (divide it by four, six or eight - according to the country); 2° replace systematically fossil sources by renewable sources, beginning with these countries; 3° constitute a world fund for adaptation financed uniquely according to the needs of the most threatened countries (see “A major social and political challenge”); 4° transfer massively clean technologies towards the countries of the South, so that their development does not bring about a new destabilisation of the climate. If we want these four aspects to have the necessary breadth, be realised in the time limits necessary and be applied in social justice and equality, then the solution cannot simply flow from market mechanisms like the distribution of exchangeable rights, or the progressive and spontaneous lowering of the cost of renewables in a context of competition. [27]

[<https://internationalviewpoint.org/IMG/jpg/figure4.jpg>]

Fig. 4. Emissions of CO₂ due to the combustion of fossil fuels (in tonnes of carbon) by person and by country (the other greenhouse gases are not taken into account) and level of stabilisation for a population of six billion human beings (0.5 tonnes of carbon/person and per year). Source : A. Berger, 2005.

It is necessary that the four aspects above are missions of public service, confided to public enterprises, realised independently of cost. According to specifications drawn up on the basis of real needs, and considering natural resources as the collective property of humanity. A radical redistribution of wealth (abolition of the debt of the countries of the South, an exceptional tax on wealth on a world scale, a tax bite on the profits of the oil companies, suppression of arms expenditure) and a radical deepening of democratic rights are then indispensable. Global rationality needs an anti-capitalist perspective.

For a world movement to rescue the climate

It will be objected that this perspective is not realistic either in the current conjuncture. That's right : the development of an anti-capitalist strategy for the climate is handicapped by the historic crisis of legitimacy of the socialist project. Whereas they appear indispensable to avoid climatic catastrophes, proposals like planning for the satisfaction of

needs, public industrial initiative and the nationalisation of the energy sector (or any other form of adoption of public status to be elaborated at an international scale) are discredited. These responses are largely amalgamated with the waste of the ineffective command economy, wasteful, productivist and ultra-centralised, [28] as well as the material privileges of the bureaucracy and the monopoly of the latter over political decisions. Revolutionary Marxists can certainly explain that this amalgam is abusive but their explanations will be convincing only when they show their rupture with productivism, by raising the flag of an “ecosocialism” where resources - notably energy resources - are self-managed by a supple linking of local communities, coupled with “planning at the local, national, regional, and world level”. [29] However, even under this flag, it is obvious that these explanations can win support from a limited number of people only.

Fraudulent market solutions on the one hand, discredited anti-capitalist solutions on the other... What is the way out? Social mobilisation. Instead of privileging lobbying (as do so many environmental associations trapped in the apparatus of governance), this means building a relationship of forces. Instead of wasting efforts attempting to convince employers and governments, it means putting our energies into a work of rank and file consciousness raising. Instead of vainly seeking the chimerical recipe of salvaging the climate by exchanges of rights and other complicated market mechanisms it means propagating the simple idea that the climate should be saved in justice and equality, independently of cost, by taking the money from where it is. Instead of bringing everything down to sole individual responsibility, it means creating in action the social emancipator link which alone can generate a new individual and collective responsibility of humanity in its metabolism with nature.

As major global challenge (similar to the threat of destruction by nuclear war), the question of the climate can bring millions of people onto the streets. As we can see in these pages, the list of social problematics raised is long: access to resources, rights to employment, women's rights, rejection of racism, the fight against deregulation of public services, defence of refugees, support to peasant agriculture, promotion of public transport, the rights of indigenous communities, urban development, rejection of GMOs, the struggle against flexibility and *just in time*, defence of biodiversity, maintenance of social security, without forgetting war against war and the abolition of the third world debt... This diversity is a strength. The path to follow involves federating all these movements of *résistance* in an overall action, concretised by world days of action and demonstration. The specific mobilisation of youth so that this planet is habitable and beautiful for all can catalyse a world articulation of social movements. The initiatives of the *Climate Action Network* can be a point of departure. The demonstration organised in London on November 4, at the initiative of the *Campaign against Climate Change*, is an example to follow for all the left.

This strategy has its demands. In a system based on the individual struggle of all against all, the legitimate will of the exploited to improve their immediate conditions of existence and their children will be more important than the dangers which threaten tomorrow or the day after tomorrow - including if the ineluctability of these dangers is scientifically demonstrated. That is why the mobilisation for the climate should be linked to the satisfaction of the immediate needs of the social majority: employment, land, housing, a decent income, heating, potable water, employment status, working conditions, security of existence... The very breadth of the climate threat creates multiple possibilities for establishing this link in an organic manner, starting from the struggles on the ground. On one condition : it is necessary to cease to place action in a strategy of accompaniment of capitalist growth, as do the traditional political and trade union leaderships of the workers' movement. We should on the contrary open our eyes to the fact that this growth - which no longer creates jobs and engenders exclusion - takes us straight towards ecological catastrophes of which the workers and the poor will be the main victims. It is starting from this note that the left in general, and revolutionary Marxists in particular, should try to commit the workers' movement in convergence for the climate. It is not easy but it is possible, as shown notably by the campaign of Quebecois trades unionists for the nationalisation of wind energy (see box). Other paths can be evoked: workers' control as means of contesting capitalist underhand dealing, on the one hand, and the demand that public enterprises create jobs in the area of energy efficiency and the implementation of renewables, on the other. [30] Faced with the gigantic coalition of interests that lead humanity to catastrophe and corrupt some layers of the population in the illusory delights of a phoney petit-bourgeois happiness, mobilisation for the climate can contribute to reconstructing a bridge towards anti-capitalism. It means reanimating the desire for a concrete utopia in showing how a collective well-being can

appear very rapidly once one accepts the idea of emerging from capitalist cul-de-sac on energy.

Climate or development ? Climate or well-being? It is not the first time that capitalism has confronted humanity with a choice between plague and cholera. But the frenzy of accumulation carries the infernal dilemma to a global level, without precedent. This situation threatens barbaric solutions of a terrible breadth, affecting tens of millions, indeed hundreds of millions of people. “*Il diavolo fa le pentole ma no i coperchi*” (“The devil makes the saucepans, but not the lids”), says an Italian proverb. It is time to extinguish the diabolical fire of accumulation : the capitalist has no lid, and humanity risks being burnt.

I thank Marijke Colle, Jane Kelly, Manolo Gari, Michel Husson and Michaël Löwy who have commented on an initial version of this text. The final version is my responsibility alone.

[1] Several recent studies state that the maximum increase should even be lower than 2°C. James Hansen, chief climatologist for NASA, believes the temperature cannot rise by more than 1°C in relation to today, which represents a rise of 1.6°C in relation to 1780.

[2] The IPCC will bring out its fourth evaluation report in early 2007. Its documents are available online at the following address : <http://www.ipcc.ch/>

[3] In addition to steam, whose quantities in the atmosphere are little influenced by human activity, the main greenhouse effect gases are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O) and the three fluorine furnace gases. Parts per million, in volume (ppmv), are a measure of concentration: 450 ppmv of CO₂ means that, out of a million atmospheric molecules, 450 will be molecules of CO₂. For reasons of convenience, greenhouse gas emissions are expressed in CO₂ equivalent (ppmvCO₂eq), which means that the quantity of each gas is converted into the quantity of CO₂ which would have the same effect of trapping infrared rays (“ radiation power”).

[4] 2000-2001: +1,5 ppmvCO₂; 2001-2002: +2 ppmvCO₂; 2002-2003: + 2,5 ppmvCO₂; 2003-2004 : + 3 ppmvCO₂.

[5] As the warming of the mass of oceanic water is very slow, the current warming will in any case have an impact for around a millennium.

[6] Stern Review on The Economics of Climate Change.

http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm.

[7] Sulphur oxides are responsible for the acidification of rain.

[8] “Comprendre le capitalisme actuel”. Text for the “Séminaire Marx au XXIème siècle - <http://hussonet.free.fr/mhsorbon.pdf>.

[9] Hans JONAS, “Principe responsabilité”, Champs Flammarion

[10] It is not without importance to note that this approach leads to deeply reactionary conclusions: eulogies to the “*mystification of the masses*” as means of avoiding “*imposing politically*” and with “*a maximum of discipline*” the “*unpopular measures*” necessary to save the climate. And Jonas stipulates that these measures will flow from “*laws of ecology that Malthus was the first to recognise*”...

[11] MARX, “Théories sur la plus-value”, Tome I, Ed. Sociales, Paris 1974, pages 321-322.

[12] The thesis of the imminence of a peak of production before the depletion of oil and gas is defended notably by the ASPO (<http://www.peakoil.net/>). In reality, it is wrong to introduce this question into the debate on climate. Indeed: 1) the peak is an economic, not a physical concept; 2) oil which is still exploitable is amply sufficient to deregulate the climate; 3) known reserves of coal allow at least 300 years of exploitation; 4) significant oil resources exist in the oil shales, notably, whose exploitation is very ecologically damaging.

“The devil makes the saucepans, but not the lids”

[13] ITER is the acronym of the International Thermonuclear Experimental Reactor. Based in Cadarache (France) this project of common research should lead to a prototype of a controlled fusion power station “Like the sun” it was said in the media. This comparison, in reality, is inexact, solar fusion works very slowly and recycles its waste. Read in particular Sylvie Vaclair, “La naissance des éléments. Du big bang À la terre”, Odile Jacob 2006.

[14] Jean-Claude DEBEIR, Jean-Paul DELEAGE and Daniel HEMERY, “*Les servitudes de la puissance. Une histoire de l'énergie*”. Flammarion, Paris, 1986.

[15] Jean-Marie Chevalier, “Les grandes batailles de l'énergie”, Gallimard 2004.

[16] The UN framework agreement on climate change was adopted at the Earth Summit in Rio in 1992.

[17] The G8 motion “Climate Clean Energy and Sustainable Development “ can be read on line at http://www.fco.gov.uk/Files/kfile/PostG8_Gleneagles_CCChapeau.pdf.

[18] “Stern Review”, op. cit.

[19] The phasing would be determined by cost: the market will orient itself first to measures demanding the least investment, like improved energy efficiency in the developing countries, an end to deforestation, the development of biofuels, then wind and solar energy;

[20] The world eco-industry market is estimated at 550 billion euros. The experts predict its enlargement in the next five years, above all in the emergent countries, with growth rates of 5 to 8%. Source: Analysis of the EU ecoindustries, their employment and export potential. http://www.europa.eu.int/comm/environment/enveco/industry_employment/ecotec_exec_sum.pdf.

[21] The flexible mechanisms of Kyoto are described in our article “Petit pas compromis, effets pervers garantis”. This can be read online at <http://www.europe-solidaire.org/spip.php?article648>.

[22] Anil Agarwal & Sunita Nairin, “The Atmospheric Rights of All People on Earth”, www.cseindia.org.

[23] See <http://www.gci.org.uk/>.

[24] John Houghton, “Overview of the Climate Change Issue”, <http://www.jri.org.uk/resource/climatechangeoverview.htm#carbon>.

[25] Jean-Pascal van Ypersele, “L'injustice fondamentale des changements climatiques”, in Alternatives Sud, Vol 13-2006

[26] JP van Ypersele, op. cit.

[27] The Stern report squashes the idea that renewables impose themselves spontaneously when their cost is equivalent to that of oil. According to the report, at that time, the prices of oil products could fall to remain competitive. The existence of a huge economic rent, in addition to profits, effectively renders this scenario possible.

[28] A particularly striking mess in the area of climate change, to the extent that these economies had a very high intensity in energy and in carbon.

[29] Michaël Löwy, “Qu'est-ce que est l'écocapitalisme?” <http://www.iire.org/lowyeco.html>.

[30] A demand of this kind was put forward in the early 1980s by the surplus workers of the multinational Glaverbel in the region of Charleroi (Belgium). A public company for the isolation and renovation of buildings was even created but the government subsequently undermined it.