Conference proceedings

Sociology and de-growth: visions of social change, entropy and evolution in a way-down era

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Abstract

In the last few years, different sources point to a same message: industrial civilization has entered an overshoot mode, the natural limits to growth have been already surpassed. This frontier does not wait for us in the future; it already belongs to our past. If population and the economy are truly beyond the limits, then current visions and theories of social change would be deeply perturbed. If the development era is approaching its end, then many sociological theories on current societies will share the same destiny, sustainable development doctrines between them. It is worth to examine theories that explicitly look at the social world this way or that –at least- are not incompatible with it. Four different approaches are discussed in this context: governance of complexity, post-development and alternative local development, utopian sceneries of a prosperous way-down, visions of collapse and the die-off. As a conclusion, the paper accepts that an evolutionary perspective supports that there are some potentials for conscious social change, but it does not justify the belief in a particular only line of history. This conclusion does not satisfy the desire of knowing the future; nevertheless it may be the only one possible. The future is not written. Neither in history nor in evolution; not even in the mixture of history and evolution that conforms us as inhabitants of the Earth.

1   Beyond the limits

More than three decades ago, the first report to the Club of Rome on limits to growth predicted that, if current trends of population and capital growth, resource use, pollution, and ecosystems' degradation continued unchanged, the outcome would be a situation of overshoot in the second decade of the XXI century and, eventually, a collapse of the industrial society. Its 30-year update (Meadows et al. 2004) has stressed that humanity is already in overshoot. And, therefore, that the collapse is now more difficult to avoid. And its effects are more difficult to resist, because a new balance would now demand a prolonged phase of decreasing, of "undevelopment".

The Millennium Ecosystem Assessment (Reid et al. 2005) has concluded that 2/3 of the services of world ecosystems are now deteriorating. The report focuses on four main conclusions. (A) In the second half of the XX century, human beings have transformed the ecosystems more quickly than in any other previous period of history; as a result, damages to biological diversity have been considerable and to a great extent irreversible. (B) These changes are connected to remarkable increases of material well-being and economic development; but costs related to the degradation of many services of the ecosystems, to a greater risk of nonlinear changes, and to the intensification of poverty for a part of the humanity are severe, so that the continuity of these costs, if it is not corrected, will considerably diminish the benefits that the coming generations obtain from ecosystems. (C) The degradation of nature's services could get worse during the first half of this century, making impossible reducing poverty, as well as the improvement of health, and the access to basic services for a good part of the world population. (D) Degradation of the ecosystems could be partially reverted through significant changes in policies, institutions and practices; however, at the moment, these changes are not under way. That is to say, the report recognizes like something established that the capacity of the planet to provide services is decreasing (that limits have been surpassed); that the next decades they can make worse the situation of the environment (collapse) and that measures taken until now (the three decades of environmental policies, sustainable development and ecological modernization) are not what it is needed nor sufficient.

According to the Living Planet Report (WWF 2004), world ecological footprint is 20% higher than the sustainable level. Eco-footprint analysis indicates that humanity's load was equal to about fifty percent of the biosphere regenerative capacity in 1961, that it has surpassed that capacity since the 1980s, and that it has now reached more than 120 percent of capacity.

The end of cheap oil is on view. Oil is now being consumed four times faster than it is being discovered, the gap between growing consumption and shrinking discovery continues to widen, and the situation is becoming critical. It is now clear that the rate at which world oil producers can extract oil has reached, or is extremely close to reaching, the maximum level possible. This is what is meant by 'oil peak'. With great effort and expenditure, the current level of oil production can possibly be maintained for a few more years, but beyond that oil production must begin an irrevocable decline. This decline is a certainty, guaranteed by the natural laws that govern our physical world, and nothing in science, technology, or engineering can prevent it. Even without scarcity, to avert the worse effects of climate change requires a drastic cut in fossil fuels consumption.

In the first years of XXI century, the signals that limits to growth have already been surpassed are abundant and they are each time more consistent. If this is the case, if population and the economy are truly beyond the limits, then current visions and theories of social change are going to be deeply perturbed. Old questions will reappear and new questions are going to arise: What if limits to growth come back into their former condition of unavoidable sociological issue? Are sustainable development and environmental modernization suitable conceptual guides for a post-development era?

The idea of sustainable development supposes that population, use of resources and pollution have entered a transition that will lead them to become stabilized below the Earth's carrying capacity. It also supposes that economic growth goes ahead on a way of dematerialization, thanks to the relative decrease of its material requirements, to the delinking between wealth and environmental impact. It finally supposes that environmental policies, implemented by public and private organizations, can avoid the overshoot. However, if the overshoot has already happened, the description of the present situation must be very different. Under this premise, population and the use of resources are already over the planet's carrying capacity, the expected dematerialization is still pending and, finally, the balance between society and nature will only be able to recover on a sensibly lower scale to the present one, lower scale of

population, the economy and the use of resources.

2 Implicit approaches

Some current approaches, although do not recognize overshoot in an explicit way, are compatible with it. Governance of complexity puts the accent in the adaptation under conditions of uncertainty. Post-development and many theories on alternative local development start from social realities that have been excluded by the development process. Both approaches can be applied to growth contexts, but also to non-growth contexts.

2.1 Governance and complexity

In recent years the concept of "governance" has spread widely. That concept refers to the set of social actions -not only of the governments but also of the different institutions, organizations and social networks- that allow maintaining structural stability without changes triggering a chaotic behavior. The idea suggests the possibility of conscious control of adaptive complex systems, as human societies, i.e. systems which are characterized, among other things, by the unpredictability of its future states. In the framework of the discussion on sustainability, the question must be extended to the relationship between these systems and their natural environment (that is to say, the object of analysis is not the society, but the system formed by the society and environment, a social-ecological system (Berkes et al. 2003)). Conscious intervention, then, requires integrating objectives whose directionality can be and is often contradictory; and objectives, in addition, that are not comparable to each other in the sense that they are not susceptible of a common unit of measurement (Spangenberg 2004). That intervention (or the complex formed by many of them which is alluded by means of the mentioned fashionable neologism) demands to look for a balance between contradictory preferences. Or, more exactly, some type of meta-balance between manifold objectives and on diverse scales (local, regional, national, world-wide).

Recent theories on complexity are feeding the hope of being able to cope with this troublesome difficulty. The subject is not closed and, surely, it is worth to follow with attention its evolutions. In any case, a conceptual drive towards schemes in which the key question is not as much to maintain the system under control like maintaining its flexibility is perceivable. That is to say, the question is how to avoid excessive acceleration and interconnection in order to leave margin for successive adaptations in a process of test and error. In such circumstances, even if it stays as a reference, development is not a predetermined goal ("catching-up the advanced societies"), but a process in which the conscious action is oriented by desirable (and variables) states of society, nature, production or the institutions. And the idea of sustainability begins to refer to those criteria of adaptive flexibility, often alluded by means of ecological analogies (resilience, co-evolution) or by means of technological analogies (robustness) (Perrings 2001; Rammel et al. 2004; Anderies et al. 2004).

2.2 Alternative developments and post-development

Accessing to the process of development is occupying a competitiveness niche in global markets. Those not reaching it can maintain themselves connected to that process as objects of the "cooperation for development ", as objects of the "humanitarian aid" or plainly starving (or perhaps the three things successively, depending on how the winds of geopolitics or the big media machineries blow). As it can be supposed confronting such a panorama, the world is full of multiple experiences in which the victims of development try to escape to that destiny, affirming independently its own projects of life improvement. Many of those experiences are to some extent successful (otherwise, the dimensions of the holocaust that is associated to the exclusion would be still greater than they are). Many of these experiences are expressed in terms of social conflict and through a logic of resistance. In words of Vandana Shiva (1989:2): "'Development' could not but entail destruction for women, nature and subjugated cultures, which is why, throughout the Third World, women, peasants and tribals are struggling for liberation from 'development' just as they earlier struggled for liberation from colonialism." The exclusion appears in different societies under different scales and intensities, but it takes place everywhere.

Proposals and initiatives arising from this manifold resistance sometimes express themselves as alternatives to development and sometimes as alternative routes to development; sometimes adopt the sustainable development language whereas in other occasions they reject it. Discourses are frequently

centered upon re-localization (Mander and Goldsmith 1996), but also on post-development (Sachs and Esteva 1996; Rahnema and Bawtree 1997) and cultural diversity (Escobar 1994). The debates arisen in that context are of extreme interest, as well as the divergences that can be appraised between different interpretations (Toledo 1992; 1996; Esteva 1994; Escobar 2000; Barkin 2002). Here I want to allude to certain characteristics that -in my opinion- almost all those proposals and initiatives have in common. It is the case, first of all, of the accent put on the local-regional scale as the suitable scope for the expression of resistances to development-globalization as well as for concretion of the alternatives. It is the case, also, of the vindication of autonomy, as much in front of the market as in front of the state, and as much if that autonomy is grounded on association as on community. It is the case, finally, of the insistence on cultural diversity (producing a knowledge based on experience and "adapted to the case", rejecting any model universally applicable, and offering the source of a plurality of spaces for a multitude of experiments).

Very frequently, that universe of proposals for alternatives to development is associated to the principle of sustainability. The main argument in favour of that association is worth to be considered: almost always, to be viable, these socially alternative experiences depend on the access to local natural resources and on a prudent use of these resources. Whereas "global" development uses the resources of all the planet on a large scale and causes damage everywhere and very quickly, local alternatives tend to act on a more modest scale upon the nearest natural systems and to have a concrete interest in not damaging them irremediably.

However, there are two questions for which theories of postdevelopment still have not found a consistent answer. The first one has to do with the population scale: how post-development solutions could be applied to maintain nine or ten billion of human beings? The second one has to do with the current scale of urbanization: present megalopolis are a more or less monstrous product of the development, and it is unclair how they could subsist outside it.

3   Explicit visions of decline

I will now mention some theories that explicitly affirm that industrial civilization is entering (or it is next to do it) a phase of decrease of its physical scale, demographic as well as economic. The debate about the reach and the social effects of that "way-down" is intense, often bitter and, until now, mostly underground. In that debate there are some significant dividing lines. The most important one brings face to face those who connect the descent with the continuity of welfare (advocating the idea of a "prosperous way down") and those associating it to a complete collapse of the civilization (the die-off, a fast return to the Olduvai Gorge). Recently, Odum, Diamond, Heinberg or Kunstler have expressed with force the point of view "optimistic" (I use this word even knowing that many people will find this use rather inappropriate). Hanson, Duncan or Morrison have expressed the point of view that I will call pessimistic.

Interestingly, an old quarrel of the social sciences -human exceptionalism, the specifity of culture- is in the center of the dividing line. The "optimists" see the present as a crossroad, as a bifurcation, i.e. a situation in which it is still possible to choose: the subtitle of Diamond's book about social collapses is "how societies choose to fail or survive". The pessimistic faction usually invokes physical or genetic determinism to announce the collapse as inevitable.

3.1   A soft (and maybe prosperous) way-down

The following text is characteristic of the reasoning of those who locate themselves in the first pole of the above mentioned polarity:

 "For the next half-century there will be just enough energy resources left to enable either a horrific and futile contest for the remaining spoils, or a heroic cooperative effort toward radical conservation and transition to a post-fossil-fuel energy regime.
The next century will see the end of global geopolitics, one way or another. If our descendants are fortunate, the ultimate outcome will be a world of modest, bioregionally organized communities living on received solar energy. Local rivalries will continue, as they have throughout human history, but never again will the hubris of geopolitical strategists threaten billions with extinction.
That's if all goes well and everyone acts rationally (Heinberg 2003b)."

Some of the new proposals offer an explicit answer to why the continuity of growth is becoming counterproductive. It is the case of a book by Howard and Elisabeth Odum (Odum and Odum 2001). Their argument, in synthesis, maintains that a cycle with four phases (growth, climax, descent, slow recovery of the resources previous to a new ascending phase) is common to ecosystems and civilizations. They add that the industrial society now lives his climax and that, therefore, descent is imminent and inescapable. That maintaining growth-phase policies beyond the climax, despite the fact that these policies (great scale, speed and competition) were well adapted to the ascending phase, leads to a deterioration in life conditions and, finally, replace the ordered descent by collapse. And that applying principles which are more suitable to a situation of limited resources (reduced scale, efficiency and cooperation) can do the decrease benign and compatible with the maintenance of a sufficient degree of well-being. Odum's utopia, then, is not apocalyptic at all, rather to the contrary: "Precedents from ecological systems suggest that the global society can turn down and descend prosperously, reducing assets, population, and unessential baggage while staying in balance with its environmental life-support system. By retaining the information that is most important, a leaner society can reorganize itself and continue making progress" (Odum & Odum 2001:3).

3.2   Way-down as die-off

The point of view of the extinction (die-off), that announces an inevitable and catastrophic collapse of the industrial society and discards the possibility of choosing a peaceful descent, usually depends on some kind of strong determinism, energetic or biological. The following fragment is very characteristic of this type of approaches:

"1. We are genetically driven just like any other animal. We have no mind other than the body, and we lack behavioral choice.
(…)
3. Most environmental damage is the inevitable by-product of overpopulation and is a necessary part of the plague cycle.
4. The environmental problems we now face do not have a technological solution. All human activity – "good" and "bad"- adds to our environmental debt. The more technological the attempted solution, the greater our environmental debt (…).
5. The plague cycle is a vital component of the evolutionary process and an essential evolutionary escape clause in the case of a fertile, high-impact species like Homo sapiens" (Morrison 1999:242).

Hanson (2001a; 2001b) has synthesized the basic arguments of this type of approach. Those arguments refer to a particular reading of the basic principles of thermodynamics and the theory of evolution. The inescapable entropic degradation which it is the result of all productive activity, acoording to Hanson, implies that the concept of sustainability is theoretically consistent only if it means a continuous reduction of the whole energy requirement of the human species. Maximizing durability, then, implies less population, of human bodies as well as of artifacts (or, in other words, maximum sustainability entails a population so reduced as it is possible and so technologically modest as it is possible). The recognition of this condition is blocked because, as it maintains Morrison (1999), a genetically driven predisposition to inhibit self-knowledge with respect to the social issues, and to delude ourselves with false hopes about the reach of our actions, was positively selected in early phases of the human evolution in order to favor survival (and it is now a solid pre-programme of our behaviors). Hanson adds to it that natural selection compels to violate social norms whenever it offers some adaptive advantage. As a consequence, the capitalist system -that obtains stability only through continuous expansion- is led towards a state of disorganization and chaos once the natural limits are reached. Like any other animal species, a transitory abundance takes humans to exceed the carrying capacity and, thus, to end up in anarchy and war, in an extremely painful collapse.

In my view, in its considerations on the laws of energy, Hanson takes a reading that is not the only one that makes sense. The practical recommendation that should be associated to the inescapable entropic degradation is not one of maximum diminution in population and the economy, but rather a criterion of parsimony and prudence, of avoiding extravagant consumption. The rationale for this criterion, relatively more moderate, is that maximum reduction of entropic degradation does not have to be an objective of the human action. Sustainability does not fit maximum physical scale nor minimum physical scale: a too small population with too primitive technology is also very vulnerable to environmental perturbations and, consequently, it is scarcely sustainable. Sustainability is rather associated to an intermediate scale, an

intermediate value of the main variables, so that flexibility and the capacity of adaptation are optimized. On the other hand, there are good reasons to consider the predominance of culture in social life as a true emergent phenomenon, not as a simple cover for the operation of genetically determined programs (Ehrlich 2000). Jointly, intermediate scale and predominance of culture imply some possibility of choosing, some margin to organize a controlled way-down, even being pessimistic, as I am, about the probability of this soft outcome.

The very meaning of the word 'collapse' has something to do with the fuzzyness of the above mentioned dividing line. Because, as it has been said, collapse "is not a fall to some primordial chaos, but a return to the normal human condition of lower complexity" (Tainter 1995:198).

"A complex society that has collapsed is suddenly smaller, simpler, less stratified, and less socially differentiated. Specialization decreases and there is less centralized control. The flow of information drops, people trade and interact less, and there is overall lower coordination among individuals and groups. Economic activity drops to a commensurate level… (Tainter 1995:193).

Reduction of scale, less inequality, smallness, re-localization… Under this point of view, collapse is not very different from the old environmentalist advice: scale down, slow down, democratize, decentralize (Roszak 1993:312). Maybe the question is not so much the goal as the costs of achieving it.

4   Utopian revival

The four approaches which have been summarized in the preceding sections are, to my judgment, compatible with the knowledge on the limits imposed by nature to social change in modern societies which is available today. There are many differences between them, and the attempt at explaining these differences bumps into the rank of indeterminacy that is characteristic of the evolution of many natural systems and also into the opaque uncertainty of history. Although some versions of those approaches include some kind of 'sustainable development' jargon, most of them are built upon another frame of reference. After development, sustainability is no longer the exactly appropriate question.

Many of the commented theories can be described as utopian (and only some of them as apocalyptic). Despite these differences, most of them can be related to the utopian thinking in a sense that is more technical-historical than value-laden. In the beginnings of the industrial society, the first steps of social theory were accompanied and influenced by a good number of utopian proposals. The beginnings of the third millenium are registering again a sprout of utopian views. Many of those new views discuss the descent after the development era, the coming phase of reduction or decrease of the industrial society. Empirical analyses of the current state of the relationship between population, resources, and environment, lead to the conclusion that this descent is inevitable (or, often, that it has already begun). The question, then, is how social change and social organization will be shaped in that context. As it happened with the nineteenth century utopies, many proponents of the new visions are scientists with a background quite distant from the social sciences: they are people coming from the ecology, geology, computer science, biochemistry, evolutionary genetics... Characteristically, also, their prescriptions about the social order tend to be remarkably doctrinaire and arbitrary. In spite of their flaws, it would be erroneous not paying attention to these utopian proposals: they are the best available option, because suitable sociological theories are lacking. Along the twenty-first century, it is perfectly possible that societies respond more to these pre-sociological visions than to the currently consecrated lines in social sciences.

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