About the Transition to an Eco-Compatible Society: the Example of Urban Spread

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1 ABSTRACT

The transition to an eco-compatible society will depend on the conclusions of many "logical duels", to use the words of the French sociologist Tarde. Therefore, to make prospective is uneasy: the logical duels of the day after tomorrow will depend on the conclusions of the logical duels of tomorrow, which are unknown. However, in this framework one can state what this transition will not be: (1) BAU (Business As Usual) is impossible (2) to take into account the stake of the metabolism of cities, only, is not enough (3) an Ecological Cultural Revolution is improbable. It seems that two logical duels matter very much: demography (the answer to the question: "how many do we want to be?") and quality of life (the answer to the question: "do we want, or not, quality of life?"). Therefore one can build two scenarios, ecological emergency (in case of high population growth) and quality of life. Concerning several stakes (energy, water, agriculture …) the choices which are made in each scenario are different. In each scenario there is struggle against urban spread but for different reasons: in the scenario "ecological emergency" countryside is a reservoir of indispensable resources, in the scenario "quality of life" countryside is a place to preserve (use for leisure, quality of landscapes …).

Keywords: social change, environment, urban spread, philosophy, transition

2 INTRODUCTION: WHAT THEORY ON SOCIAL CHANGE?

For the second time, the modern society is struck by a shock, a crisis. There is the same kind of gap between the time of the American sociologist Cooley and that of the Spanish philosopher Ortega i Gasset, than between the appearance of the consumers society and the time of IPCC (Intergovernmental Panel on Climate Change). Cooley enthusiastically announced the "enlargement of the Ego" thanks to information technologies (around 1900). Thirty years later, Ortega i Gasset speaks of the Mass Man, a metaphor describing the all powerful Opinion in a homogeneous society (Ortega i Gasset, 2010). The Mass Man is hedonistic, without historical consciousness[1] and follows demagogues (who promise power in a direct democracy to him). The meaning of society has been restored in 1945, when the consumers' society appears: if the individual remains hedonistic, he admits that there are conditions of progress (democracy, economic competition, science and technology…). Then there is a shock again: the indispensable production destroys the Planet. Again the meaning of society disappears. The Opinion has to be aware of the conditions of Progress: this time, eco-compatibility is concerned. One can quote the German philosopher Gunther Anders: "our goal is no more to change the world, but it is to preserve it". Anxiety has triggered the appearance of an "ecological existentialism": when the rural exodus was ending (in the developed countries) the ruined peasant leaving the countryside to the city, to become a Mass Man, there is a flow in the opposite direction, that of neo-rurals. There are two kinds: (1) some are tenacious entrepreneurs who remain farmers, often choosing bio farming (2) "existentialists" spending several years in the countryside before returning to the city. Their behavior is explained by the rejection of urban life (waste, stress…).[2]

How can we theorize social change, or "shocks", or "crises"?

In this paper one has recourse to the theory of the French sociologist Tarde, on "logical duels". The society is like a brain (Tarde, 1999). As the individual, it has to select ideas (beliefs) desires and even sentiments, otherwise it would be the chaos. A logical duel occurs. After some time it ends, a syllogism (or a conclusion) being chosen or refused. A syllogism is made up or (1) a major, a statement about general phenomenon or goal (2) a minor, a statement about a specific phenomenon or means (3) a conclusion, which is true if the major and minor are true.

The elites in the cities fix the majors (the goals of society) and the populace in the countryside approves the minors (they accept that if they cooperate, it is a good opportunity allowing to achieve the goals described in

[1] He overlooks the cultural, social and political conditions which are necessary to the development of science and technology.

[2] There is even an "ecological despair". The great French mathematician Grothendiek ruined his academic career because of his radical speeches on capitalism destroying Nature.

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the majors). In other words, the elites in the cities are influent and the populace in the countryside is obedient. Even, it could be domination of cities on countryside. In general, the populace in the countryside accepts to consider the goals of society as theirs (even if they are chosen by the elites in the cities) and countryside imitates cities. A rural revolution was expected by some (Virgil, Rousseau, and Tolstoy) but never occurred.

But now the cities are no more followed by countryside, they annex and destroy it.

One can present scenarios concerning the transition to an eco-compatible society, using the notions of majors and minors:

	Scenario: the majors do not change	Scenario: the majors are replaced	Scenario: trade-off, some majors change, other remain
Majors (goals)	Economic growth BAU (Business As Usual) Consumption Indifference to environment	Ecological Revolution Degrowth Radicalism	Quality of life Sector changes because of the impact of Opinion
Minors (means)	Technology for growth Examples: fossil energy, towers, planes …	Distrust of technology	Selection of technologies taking into account their consequences (environment, quality of life)

Table 1: three scenarios on the transition to an eco-compatible society

To choose a scenario is uneasy, and one finds the reason in the Tarde's ideas: the logical duels of the day after tomorrow depend on the conclusions of the logical duels of tomorrow, which are unknown. In other terms, the conclusions of the current logical duels become the majors of the future logical duels.

One can give an example: demography. In the scenario "The majors do not change" high population growth is chosen, the syllogism accepted by Opinion being:

Major: more power for our country is desirable

Minor: a large population allows more power for a country

Conclusion: a larger population in our country is desirable.

In the scenario "trade-off" the syllogism is different:

Major: more quality of life is desirable

Minor: urban congestion and urban spread are detrimental to quality of life.

Conclusion: one has to thwart urban congestion and urban spread.

Then this conclusion becomes a major in a new logical duel:

Major: one has to thwart urban congestion and urban spread.

Minor: high population growth triggers urban congestion and urban spread

Conclusion: population growth is not desirable.

However, even if the choice is uneasy, it seems that the good scenario is "trade-off". Perhaps it is easier to state what the good scenario is not. One argues that the good scenario cannot be: (1) BAU (Business As Usual) (2) mastering the metabolism of cities, as a unique stake (3) an Ecological Cultural Revolution.

Now one can give the plan of this paper.

- First, one gives examples of current logical duels
- One argues that BAU (Business As Usual) is impossible
- Also, to take into account the metabolism of cities, only, is not enough
- An Ecological Cultural Revolution seems improbable.

- One concludes presenting two scenarios concerning urban spread, one in the hypothesis "Ecological emergency" (high population growth) and the other in the hypothesis "Quality of life" (demography is mastered).

3 SOME EXAMPLES OF CURRENT LOGICAL DUELS

Current logical duels are numerous. Some examples are useful to show how the society selects "possibles" and rejects other. When a logical duel ends, a decision is taken. The Opinion accepts it. A choice is made, imitation having its role.

One can quote these examples:

Alcohol. The proponents of free consumption of alcohol have won.

Tobacco. The opponents of tobacco have won.

Drugs. The logical duel lasts. No decision is taken. However, recently the proponents of free consumption of cannabis have scored points.

Cars. Currently the proponents of attrition of cars are winning in many large cities.

Public transport. The same remark holds. Public transport substitutes to cars in many large cities.

Energy. The logical duel lasts. In Europe choices which are opposite have been made. Germany refuses nuclear power and France develops it. In the long term, renewable energy should win, when it will be cheap, given its advantages (no emission of carbon).

Global warming. Probably the proponents of the precautionary principle will win. The topic is dealt with in the following chapter.

The car is an interesting example because there have been four successive logical duels concerning it: (1) Around 1900, the car prevails (2) Around the middle of the 20 th century, when consumers' society appears, it is the triumph of the car in the large cities and outside (highways) (3) Then attrition of the car is decided (at least in the European large cities) (4) Today the car has to change to be accepted. Some want to substitute public transport to the car in the large cities. The car should be electrical (to not pollute the atmosphere) and shared. Thanks to shared cars and public transport, space could be spared in the large cities (to struggle against urban spread). For instance, the large car parks near the supermarkets could be cancelled (more, as it is tarmac, it triggers a risk of flood when it rains). This example shows how the conclusions of logical duels accumulate (the duels 1 and 2) or substitute one another (the duels 3 and 4).

The logical duel concerning urban spread has started. This is a sign showing it: In France, recently, a project of airport in the Western part of the country has been given up. It should have destroyed a rural zone with farmland and wet zones. Ecological militants opposed the project.

4 WHY BAU (BUSINESS AS USUAL) IS IMPOSSIBLE

The Tarde's social and individual logics are not the classical logics. He uses a "degree of belief", anticipating on what is called today fuzzy logics. If the major is true with a degree of belief x, and the minor with y, the conclusion is true with the degree of belief which is the lower. For instance, the degree of belief of the major "global warming has anthropic causes" is 95%, that of the minor "some model of eco-compatible society is efficient to struggle against global warming" is 80 % and the degree of belief of the conclusion "we have to choose this model of eco-compatible society" is 80 %.

In the same way, the models in climatology and meteorology are not accurate and certain (Taleb, 2013). They should be accepted with a degree of belief. But it is enough to alert. Also, many models converge. Therefore the precautionary principle should be chosen (Taleb, 2013). The global warming because of anthropic causes seems to be confirmed. It would be too risky to neglect the stake. Therefore BAU (Business As Usual) is impossible. There are two goals: (1) thanks to scientific work, to increase the degree of belief of the hypothesis of global warming (2) to invent a model of eco-compatible society able to thwart global warming, the degree of belief being as high as possible.

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5 WHY MASTERING THE METABOLISM OF LARGE CITIES, ONLY, IS NOT ENOUGH

For the French philosopher Lupasco, there are three kinds of matters, physical matter, living matter and psychic energy. Physical matter is understood thanks to an objectifying / homogenizing logic (Lupasco, 2009). It is objective and homogeneous (law of increasing entropy). Living matter is understood thanks to a subjectifying / heterogenizing logic. The Self struggles to potentiate the obstacle to its survival. It preserves its identity, as different from the environment. The only limit is wear (ageing) but the species is more and more adapted to the environment, and different from it. In Taleb's words, the species is antifragile and an individual is fragile (Taleb, 2013). Psychic energy appears when the Self is stable, the Ego observes the world and the consciousness emerges. It is an objectifying / homogenizing process, because knowledge does not allow distinguishing the Ego from the world. But there is the role of knowledge of knowledge. The Ego interprets the data stored in this consciousness (there is an "interpretative center" in the cortex according to the biologist Penfield). Psychic energy corresponds to the "state T" in which the two logics (objectifying / homogenizing and subjectifying / heterogenizing) are actualized and potentiated both. It is a kind of equilibrium (between the two general trends).

Now if we consider the analogy between the individual Ego and the collective Ego (the City) as Tarde, one finds:

- Mastering the metabolism of the city corresponds to the subjectifying / heterogenizing logic.
- What is the role of knowledge of knowledge? It is the "goal" of the society according to Tarde (he speaks also of "maxims", "dogmas" and "laws"). One can use the word "values". For instance, it was Art in Athens, Law in Rome and the court life in France in the 17 th century ... One can also speak of social imaginary. In any case mastering the metabolism of the city only cannot be a project for the society. The psychic energy of the collective Ego is between the logic of the Self and the mere knowledge without struggle against entropy. Again, one can have recourse to the Tarde's ideas. For Tarde, the city is analogous to a brain (selecting beliefs, desires and sentiments). For Spencer, it is analogous to a living organism and its networks. Of course, if one chooses and develops this analogy (between the city and a living organism) urban metabolism appears as the main stake.

6 AN "ECOLOGICAL CULTURAL REVOLUTION" SEEMS IMPROBABLE

According to Tarde, when a civilization develops, there are three successive stages:

- The "inventions" (new models) in all fields accumulate. There are no contradictions between them. There are waves of imitation and no conflict.
- Then the "inventions" are contradicting one another and there are logical duels. The new models are incompatible. There are different ends of logical duels: (1) replacement (2) prevalence only (there remain some "relics") (3) victory with concessions (to allow those who are won saving face (4) victory with the won people choosing the party of the winning people to get advantages (5) partial victory …
- The third stage is harmony and unanimity.

The second stage is the more interesting: the society has to make choices to get out of contradictions.

Today the rival models are:

- The "industrial model" has been described by Saint Simon. A limitless increase of production is the goal.
- This model collided with the "social model", requiring Social Justice. The Socialism was proposed as a synthesis allowing the limitless increase of industry and Social Justice.
- During the 20 th century one got out of contradictions thanks to the new model of consumers' society. Progress of productivity allowed higher salaries and access to consumption for workers.
- Today the model (consumers' society) which remains based on massive production collides with the "ecological model". This model aims at preserving environment threatened by industry, agriculture and even leisure (when resorts for tourists invade the shores, the mountains and the countryside) at the time of the consumers' society. One has to invent an eco-compatible society. It depends on the conclusions of many logical duels. Probably there will be a partial victory of the "ecological model",

but a total victory seems improbable. Consumers cannot accept austerity: to consume local products only, give up trips, fashion which involves waste etc. However, concessions should be made. For instance one will be able to consume some products generating pollution but access to these goods will be reduced: they will be expensive, being taxed (thanks to bonus / malus systems like that which already concerns big cars).

The Tarde's ideas on unity and conflict when beliefs and desires are concerned can be shown in a tableau:

	Conflict	Unity
Individual logic (beliefs)	Necessity to select beliefs	Mutually reinforcing beliefs Increase of faith
Social logic (beliefs)	Logical duels	Mutually reinforcing beliefs Unity of the doctrine of the society
Individual teleology (desires)	Necessity to select desires	Mutually reinforcing desires Motivation
Social teleology	Logical duels	Mutually reinforcing desires Unity of the goals of the society

Table 2: conflict and unity concerning beliefs and desires according to Tarde.

An Ecological Revolution supposes that all the logical duels, present and future, are ended by the same kind of conclusions. Beliefs and desires should be always in accordance with the "ecological model". It is not sure. For instance, people in emerging countries want to access mass consumption.

The Ecological Revolution would be characterized by (1) unity of beliefs (doctrine concerning environment) (2) unity of desires (goals) (3) unity of sentiments. Zeal when environmental stakes are concerned should exist. "Stars" able to translate the environmental sciences for people would be admired (4) unity of interests. The convergence of interests could allow directing resources towards production of goods and means preserving the environment (renewable energies, bio farming and energy saving and not polluting transport systems …).

However a perfect unity of society is not sure. Some Revolution according to the American sociologist Sorokin would be necessary. The values of the society can change. They are individualistic, materialist and hedonistic, then become collectivist, ascetic and spiritual (Sorokin, 1925).It is not sure that one can pass from the consumers' society to a society fashioned by the Ecological Revolution.

7 CONCLUSION: TWO SCENARIOS CONCERNING URBAN SPREAD

The stake of urban spread requires a response from the society. The decisions should be taken in accordance with the conclusions of logical duels. It is the same approach than that of the sociology of the actor-network of the French sociologist Bruno Latour. An actor-network achieves existence thanks to success when it participates in controversies (Latour, 2007). Here the society is part of the actor-network, with "actants" which are fields, rivers, beaches etc. It is not that the mere point of view of experts does not matter. In some cases (but not always) they know clear responses, but what is required is a decision taken by the society itself (Latour, 2007). Therefore there are controversies involving the society itself. Take the example of the seashore. Decades ago experts have found a good solution: the resorts where the tourists are accommodated are at some distance from the beach. To access the beach one has to walk several hundreds of meters. It warrants that the landscape of the beach is preserved and remains "natural" and pretty.[3] Because there is no decision taken by the society itself, it is rarely applied.[4] On the other side it is useless when experts present themselves as knowing "unquestionable truths" (Latour, 2004). The stake is to translate the "scientific truths" when controversies occur.

Now one presents the characteristics of the two scenarios in a tableau.

[3] It is called "glove fingers".

[4] There is an example near Tavira, in Portugal. One accesses the beach by a little train. On the beach, only a few restaurants, bars or shops where beach equipment is rented.

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	Scenario "Ecological emergency"	**Scenario "Quality of life"**
Population	Dense population in the countryside is not encouraged. Countryside is a place for specialists: farmers, specialists of forestry, water, energy etc.	Population in the countryside is allowed, since it is pleasant settings, but not in excess (to preserve quality of life)
Networks and transport	The networks are adapted to a population which is not dense. Not too much tarmac (to avoid floods and allow refill of phreatic zones)	Some networks are allowed since countryside is populated. But not too many, for ecological reasons and to preserve landscapes. Use of electrical cars.
Housing	Urban spread is forbidden to save resources in the countryside	Urban spread is controlled for environmental reasons and to preserve landscapes
Water	No tarmac. Fields and forests are useful to keep water	Vegetation is useful to keep water and to have nice landscapes
Energy	Wind farms in all windy places. Solar farms in all sunny places. Shale oil and shale gas if possible	No wind farms in nice places where the landscape is preserved. No solar farms in nice places. No shale oil and shale gas
Tourism and leisure	Tourists stay in a few places where they are many (towers …) such as resorts on the seashore. It is to save space in the countryside. Trips are not encouraged.	Tourism is accepted if it is sustainable. Trips are allowed.
Biodiversity	Indifference	Biodiversity is preserved
Agriculture	Agriculture in vast areas is aimed at feeding the numerous populaces of the cities. Intensive animal breeding authorized (if it triggers no pollution)	Bio-farming. Agriculture delivers high quality products. Farmers benefitting from sufficient revenues. High enough price of land which limits urban spread. Intensive animal breeding prohibited.
Pollution	Struggle against pollution since the provision of services from countryside (food, water …) has to be sustainable	Struggle against pollution for environmental reasons and to preserve landscapes
Mid-sized cities	Not encouraged	Accepted if it does not trigger urban spread
Villages	Not encouraged	Accepted (for inhabitants of the countryside and visitors)

Table 2: characteristics of the two scenarios "Ecological emergency" and "Quality of life".

The choices in the two scenarios are either different, either the same but for different reasons. For instance struggle against pollution aims at sustainability in the scenario "Ecological emergency" and at warranting the provision of high quality products and preserving landscapes, in the scenario "Quality of life".

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