

Scientific Grounds In Deulofeu's Work.

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Foreword

When you tell somebody that you are a follower of Alexander Deulofeu's work, very probably they will think that you have lost your mind. In this article I want to explain why I think that I have not yet gone nuts.

I started reading Deulofeu's works in 1975, and from the very first I felt hooked. In those years this author was still alive, and now and again there was some piece of news or some article in the papers concerning his work. It was apparent that his work had little success, the media's response was very limited, and there was none at all from his peers. I found it strange that nobody in the scholarly world found any serious interest in his theories. Of course, at the time I was a young man who in some respects still had to learn what the real world was like. In the course of time I started learning how things worked and accepted that his work would finally sink into oblivion.

I felt frustrated because I saw that the intellectual and academic world had done no critical study of his work. In my opinion, Deulofeu's work has always been based on real scientific principles, but these have never been taken into account. It is true that in the seventies of the past century historical materialism, as a prevailing intellectual doctrine, showed assumptions which were difficult to fit into those contained in Deulofeu's work, nor could the state and geopolitical assumptions fit into his theories. As a consequence of all the above, he faced a total and absolute isolation.

I have never thought that the mathematics of history was a perfect theory. As all human works, it surely must have errors and features which should be checked or updated, but the indifference dealt out to it has caused that no attempt has even been made. I feel sure that there are many people in a position to make contributions to his work if they only were willing to take his assumptions into consideration.

I don't think that to disown the academic world and to start lamenting would be a good strategy to help bring Deulofeu's work into the place it deserves. I prefer to try and understand the reasons why this rejection happened, and after that to see what can be done to try and modify the situation. Since I am sure that his assumptions are good, as I shall try and demonstrate farther on, I would like in the first place to analyse what I consider to be the main reason why he was ignored.

It is a philosophical prejudice

Man is the lord of his destiny. We cannot accept that any outer cause may decide our existence. This is so both through religion-based thoughts and

through rationalistic thoughts. Some promise a better life in the other world, and others promise a better life here and now, and for these ones it will be man's actions which will allow to reach it. Therefore it cannot be imagined that man's history may repeat itself or evolve in a cyclical manner. *Man is the lord of his destiny.*

But it is not only the idea that history may repeat itself cyclically which is rejected in official history, any attempt to show a regular pattern in macrohistory is rejected almost unanimously. Bertalanffy, in his book *General System Theory*, asks the following questions: *are there any laws for history? Is a theoretical history possible?* His answer is that, if this is possible, it must be following a research of systems based on the study of human groups, societies, cultures, civilizations, or whatever it is decided that must be studied. According to Bertalanffy, science makes laws based on the fact that natural events can be repeated and are periodic. On the contrary, for historians history cannot be repeated. This has only happened once, and it is reduced to describing events which took place in a more or less remote past. We could then add the following question: *does man's history fall outside of natural events?*

According to Bertalanffy, the idea that history is ruled by free will in a philosophical sense is not supported by facts.

It is worth making a halt and to outline this scientist's thought, as he was one of the supporters of the general theory of systems. His testimonial shows us strongly how in other scientific fields there may be found persons who are more open to Deulofeu's propositions. The following paragraphs are an abstract of Bertalanffy's ideas on the matter we are considering, where it can be seen that both scholars agree considerably.

At a given time physics appeared to become the only reality accepted by science, and the result of this was reductionism. All of the sciences had to be based on the laws of physics, but the very evolution of physics made this postulate difficult to apply. In spite of the difficulties, the other sciences increasingly introduced the basic scientific principles and new fields were created. Classical science dealt mainly with problems with two or a few variables, and the new sciences, mostly biology and social sciences, faced multivariable problems which demanded new conceptual instruments. Since there were no suitable conceptual instruments useful to explain and foretell, and expansion of science was needed to handle those features which were avoided by physics. These new theoretical constructions are interdisciplinary and suitable for different fields. All this demonstrated that similarities could be found among models, principles and laws, which are present in different fields. In this way Bertalanffy justifies the introduction of the general theory of systems in order to face these demands. (Bertalanffy, 1969)

In the historical field, the main problem found by Bertalanffy is whether models and laws may be acceptable in history. As far as he is concerned, the answer is yes, even if the majority says no. The construction of conceptual models must be the basis for any historical interpretation, as differentiated from simple chronicle. These models must be evaluated from a practical point of view, according to their explanatory and foretelling values, and without considering in advance whether this would be desirable or even its moral consequences. (Bertalanffy, 1969)

Bertalanffy goes on and submits an odd fact. On the one hand there is little opposition against the so-called *synchronistic* laws of sociology, or the diachronic laws, regular developments in time, which nobody objects (evolution of the Indo-European languages). Neither are discussed the life cycles in Greek art, Renaissance culture, or German music. But, when this model is applied to civilization as a whole, criticism becomes murderous. And in the end there is the question why social sciences models, often so little realistic, become a matter of academic discussion, while the models of history run into such a great resistance. (Bertalanffy, 1969)

We will finish this part on Bertalanffy's thought quoting his words:

historical constructs and especially theories of historical cycles appear to touch a raw nerve, and so opposition is much more than usual criticism of a scientific theory... This emotional involvement is connected with the question of "Historical Inevitability" and a supposed degradation of human "freedom". (Bertalanffy, 1969, p. 113)

All attempts to create great systems like Hegel's, Marx's, Spengler's, Toynbee's, are models of the historical process. If we omit isolated cases, historians have shown little interest in creating models to explain historical evolution. As far as sociology is concerned, social scientists actually create models which represent society, but they are almost always static models and limited to the moment in which the study is carried out. Sociologists explain the structure of present day society, historians describe the facts which have taken us to the present time, but nobody studies the social change as a result of the evolution of a model. Only historical sociology has made the attempt. In this field we may point out the work of Charles Tilly and of Norbert Elias. Both of them have created social patterns whose basis is the description of the process of change. In both cases the social agents take part in processes they do not control, where they take decisions to maintain their most immediate interests.

The theories on social development have always shown a resoluteness. Evolution takes place by stages that societies overcome one by one until

they reach a final stage which will conclude the evolution. The idea of progress has always stood at the back of all these theories. In the last decades this viewpoint has been fiercely criticised by many authors, and nowadays only a few still sustain it. Simultaneously, something similar has happened to the Eurocentric outlook on historical development.

We should now explain what we mean when we talk about repetitions or cycles. In social sciences too often the same words are used to mean different ideas, and this implies misunderstandings and that discussions become blocked in fruitless polemics. Therefore, the first question which should be asked is: *what is meant by repetition of history or by cyclic evolution?* Other questions should also be answered: *is man's freedom to take decisions consistent with cyclic evolution?*

Two of the most important sociologists of the twentieth century, Norbert Elias and Charles Tilly, who cultivated historical sociology, agree on a striking idea. National States have not been created starting from a pre-established plan, they are the result and consequence of multiple decisions taken by the social agents who only looked to fulfil their own interest. Here we have the area where individual freedom finds its expression: the present day. We may foresee, anticipate and make plans, but this is not in contradiction with the fact that in practice most people take their decisions keeping in mind the immediate outcome of their actions. Only idealists can do it the other way round.

Communication between sociology and history has always been difficult. Sociologists have used history in order to validate their theories, and historians have taken advantage of ideas from the social sciences to explain social changes. But the two disciplines have blamed each other constantly and there is no consensus to move forward together.

Reasons why A. Deulofeu should be taken into account .

Deulofeu set his study of history within the theoretical framework of history itself. But as a social science, history has not a firm theoretical framework, mainly because it has never shown a great interest in having one. It has mainly research tools and techniques, but not conceptual models widely accepted and approved. In the field of historical sociology we can find the models and ideas which allow to debate on subjects as the ones set forth by Deulofeu, even if there are no unanimous standards and the debates have been extreme.

In order to develop their application on the historic processes, Deulofeu created his own formulae, which allowed him to write the script of what he called the social cycle. When we read his work today we should place it in the field of historical sociology. This subject, excluding some noteworthy

exception, was developed after Deulofeu's works, and therefore there was no possibility of a dialogue, which would have been very productive.

It must neither be thought that the authors who developed historical sociology would give in without discussion to the demonstrations of Deulofeu's theory. Quite certainly they would not agree with the postulate of *cyclic evolution*, but it is quite possible that they would be ready to take up a debate on historical processes. As a matter of fact, historical sociology integrates time as an essential element to understand social processes. It could be considered a more abstract way for explaining history. The main agents are no longer individuals as such, but higher categories such as class, peoples, economy, nations, etc. These categories are the object of debate in their definition and in the importance they may have as explanatory factors.

Among historians we have Fernand Braudel, who is one of the few who have set forth this matter the right way, asking himself if the world of man is controlled exclusively by chance. His answer is: uncertainty in individual history, and consistency and simplicity in collective history. We point out here the similarity with physics.

Braudel makes a separation of two horizontal layers of history, a matter-of-fact one of the events, and under the surface a thicker one of deep history. Each one has its time. Braudel considers several historical times. History of civilizations has a slow time. Deulofeu's theory should be located in this layer which evolves slowly. According to Braudel, important events are not those which make more noise, but those which carry the most consequences in number and importance. Within each period the historian's task consists of emphasizing the facts that have opened the door to great changes. When Deulofeu expounds social evolution, he explains each time which are the causes which carry the seed of change and which will produce social change.

Braudel considers himself as one of the less belligerents with Toynbee's and Spengler's work. He says he renounces the cyclic propositions but does not completely reject them. His renunciation is based on the assumption that, should the cycle start again, mankind would go back to its old level of material development. This reaches out to an important assumption: the acceptance that to-day's civilizations are repeating the cycles of past civilizations, necessarily implies admitting that neither economy nor demography have much to do with the civilizations' processes. (Braudel, 2002)

This is a very important consideration, since one of the first objections made to the cyclic theories is that they cannot integrate or cannot explain material progress. This is certainly so, but I'll try to explain that all the

same it is not a limitation for cyclic theories, if we clearly define these cycles and the field they are connected to.

Before carrying on this reasoning, I would like to point out that for Braudel the study of civilizations (in plural), implies the implicit renunciation to a higher civilization defined as an ideal. It implies considering all human experiences with the same interest, whether they be European or from other continents. If besides we separate the idea of material progress from the history of the civilizations' cycles, we would also be fighting against the idea of the existence of a superior civilization associated to economic progress.

The thesis I am suggesting is that cyclic history of civilizations is based on the evolution of the degree of complexity that societies can reach in the course of time. It is a history of their complexity. Technique and economy are the dress they wear. The role of demography is surely more connected to social evolution, because if we associate history to the complexity of societies, it appears that demography must have an important role. The increase of social complexity must be related to demography.

We go back to the discussion concerning material progress and the objection to cyclic theories, which cannot explain it. My opinion is that cyclic models must not try to explain material progress. This is something else. It is clear that progress and human knowledge, even if they face ups and downs, have been on the increase since the beginning of historical times. This progress has gone beyond civilizations. The network of knowledge is a global network, which has been spun since the beginning of history. It has grown in intensity and extension, and in the latest periods it has accelerated itself in a noteworthy way, but it exists since a very long time with different rhythms. Which should then be the aims of a cyclic theory of history? On the one hand, to study the evolution of the power networks, to see how the different social agents evolve with respect to the power they have attained. This includes basically social classes and cities. On the other hand, they should study the cultural evolution of the peoples and see which is the relationship to the political evolution.

Historians usually focus their efforts to research the facts which took place and the first interpretation of these facts. I use here the word interpretation to fill in the spaces that the first available evidences have not been able to supply. In this sense they carry out a task similar to that of the brain, when it fills in the information missing in a drawing or a sentence, where some characters are missing, notwithstanding which the brain is able to build up the meaning. When the description of facts is full enough, we can go to a more abstract interpretation level. At this point we can start determining the relationships between cause and effect and identifying the most important

historic subjects. Usually historians come this far, they are not used to climb further steps in the abstraction ladder.

To climb a further step means asking the question: *does history make sense?* To make sense as a direction, not as a philosophical question. Few historians have attempted it. The fact is to find out which process we are in. Spengler and Toynbee are the most outstanding examples. Their works, even if they were highly acknowledged in their time, are now on a sidetrack. No present day historian considers it worthwhile to follow this path.

Others, who were not actually historians, such as Marx or Rostow, did find a sense in history. In the last centuries, the idea of progress in society has been present within the western world. This idea has been already criticised in the last decades and I am not going to dwell on this matter, I just want to point out that the aims of the authors to be found in this second group went far beyond a strict scientific interest and had well-defined political and ideological purposes.

It is then clear that in this frame of reference Deulofeu's work could not find a setting willing to understand his message and to judge positively his contribution. But some decades after his death science has evolved and new fields of learning have gained importance in the scientific discourse. In my opinion, the interdisciplinary approach and the growing importance given to the study of complexity, open new doors to place Deulofeu's work in a more favourable framework for it to be understood.

But perhaps it will not be historians who will do justice to Deulofeu's work in the first place. It may be that in other disciplines allies will be easier to find, who will understand his intuitions. Free from the historians' prejudices, he was able to see the routine patterns in the historical processes, just by looking beyond the actual facts, and created a theory apart from the ideas of the social sciences orthodoxy.

My suggestion is to show that nowadays we could surely be able to reach conclusions very similar to Deulofeu's, taking advantage of the contributions made from the theory of systems, the analysis of complexity, historical sociology, the theory of chaos, the emerging systems and, more recently, memetics. From different viewpoints, all of them introduce analyses which show that man cannot control the social systems he belong to. He can have an influence, but he cannot foresee the result of our individual actions.

To give an example of all the above, I think that a reference to Ricard Solé's recent book, *Redes Complejas* (Complex Networks), may be interesting. Ricard Solé is a Catalan scientist who studies the complex systems and has worked in the United States. He has a wide bibliography

in important international magazines. To say it in a non-academic way, he is not an enlightened person. In his book he asks the question: *what does the destiny of history depend from?* His suggestion is that perhaps the answer should be found in the analysis of the social complexity architecture.

Even if most of the historical accounts we find in books refer to some fundamental characters as finally responsible for the transformation of society in their times, many have challenged this point of view. The key questions emerge from a dichotomy between a history which depends on decisions taken by a few individuals and one in which the key events would be unavoidable. Which is the right one? The answer to this question could lie in the analysis of the social complexity architecture. (Solé, 2009, p. 29)

Further on in the same book he says:

What these mathematicians discovered in 1959, and which has averred itself as an enormously important feature within the study of complexity, is that there is a critical number of connections below which the system is broken up into small subgraphs, while, beyond the threshold these subsystems show a tendency to be connected among them and to make up a great network... When the number of links in a network is large enough (...) we experience a transition between an isolated world made up of small communities, and a connected world, which makes up a great society with its elements all linked among them. (Solé, 2009, p. 37)

Michael Mann's ponderous work on the social origins of power, in some way also points at a similar direction when it considers that society is made up of a number of related networks, each one of which patterns some of the powers. The four basic powers, according to Mann, are economics, politics, ideology and the military. (Mann, 1986)

I cannot here display many quotes from the books of the authors I have mentioned, but I would like to add one more from a book that, when I read it, confirmed my opinion that Deulofeu was not misguided. It is from the book by Steven Johnson, *Emergence*, where he talks about the research of the ants societies carried out by Deborah Gordon, where he reaches the following conclusion:

The colonies cycled through a clearly defined infancy, adolescence, and mature phase over t their fifteen-year existence (Johnson, 2003, p.80). The colony grows more stable and less impetuous as it develops, and yet the population of the colony starts over from scratch each year. How does the whole develop a life cycle when the parts are so short-lived? (Johnson, 2001, p. 81)

Reading these lines confirmed my opinion but they did not surprise me. From a humanistic point of view, used to think that man is the lord of his destiny, it may be more difficult to understand, but if we consider that the important thing is more the subjects' behaviour than the motives or reasons that have made them take the decision, it will be easier to understand that the ants societies, the same as the human ones, may go through different stages. The important thing are the relationships which are created among the members of the societies, which determine their behaviour and which make the number of individuals which act one way or the other to change in time. It could be said that it is a statistical question. We cannot foresee a given individual's behaviour but we can foresee which is the prevailing behaviour at any given moment. Quantum physics gives similar explanations. We cannot foresee the behaviour of people nor the movement of a particle, but we can make estimates on matter as a whole.

Deulofeu saw quite clearly social evolution, but in my opinion he did not give a fully satisfactory answer concerning its causes. At the end of his theory's abstract which appeared in 1967, under the title *La matemàtica de la història* (The mathematics of history), he writes:

What causes the peoples' vitality to shift? Pasteur, in a letter addressed to one of his students, says that he is convinced that biological processes are controlled by astral influences. We think exactly the same. In the same way that we know that the cyclic process of plants depends on the sun's influence, and we know that the moon has an evident influence on the development of vegetation, so we believe in a cosmic influence on men, periodically variable in 1700 years cycles. We might even admit the existence of a star or a constellation especially powerful to occupy the same position every seventeen centuries. (Deulofeu, 1967, p. 218)

Of course we cannot deny the dependence of plants' life on the sun and the moon, nor the dependence of human society on ecological conditionings, but this cannot explain the whole social process. At present, after the evolution sustained by the sciences in the last decades, we can hazard to say that the ultimate causes of Deulofeu's theory may be found in the very organization of matter. Human societies are no more than a further step in the degree of complexity attained by matter in the universe. The laws which determine them spring up from the very complexity attained by matter. Social laws emerge in a higher abstraction degree from the particular lives. They are emergent laws rising from social systems.

History agents, men, continually make decisions. These decisions, *freely* made, are conditioned by environment, circumstances, and the education received. Everybody's nature lends a special feature to each person. Luck,

considered as outer factors not controlled by individuals, plays an important role in the results obtained by each individual.

Societies have working rules, some of them are written and some are not. But neither of them are applied always. Some agents are powerful enough to cause some rules, not favourable to their interests, not to be applied. One of the tasks of established power is to watch over the execution of written rules. However, these evolve in time and are not always executed. The powerful are not only those who can change the rules of the game, they are above all those who can ignore them. He who can cheat without being caught.

Most of the decisions we take are routine and have no meaningful implication in historical evolution. When there are critical situations, such as an economic, political, social crisis, etc., then decisions must be taken which will bear upon the future of society. The way in which a situation is solved may bear upon the way in which society was organized up to that moment. The decisions taken by people under the circumstances may produce changes. And here is when the classic confusion takes place, when we think that man's freedom is what determines the course of history. The fact is not whether we accept this sentence, which contains in itself a high degree of ambiguity and which may be understood in different ways, but to think that the action of a few men may determine historical evolution. On the other hand, it does not look reasonable either to think the opposite and say that, since the laws of history are written, whatever we do does not matter, because in any case in the end what had to happen will happen.

Each person will suggest different solutions to problems, but only those solutions giving the answers most suitable at any given time will be chosen. This does not mean that they will be the best from an ideal point of view, it only means that they suit better each given circumstance.

The historical process sets out challenges to societies which they must overcome. To do so, society must choose the most useful ones among those submitted by individuals. But it must be clear that this process is implicit and is not guided by any authority. Surely, those having the political and economic power most of the time are not aware of this process. The feudal lord who is in competence with other feudal lords to increase his possessions and his military power, is not aware of the consequences of this process for all of society.

When the one having the political power does not meet the needs of the moment, he will easily be substituted by others who are in a better position to give the right answer. When a society is aggressive and the fight for power is strong, it is normal for kings or heads of state to be strong persons with great determination. When society is less aggressive, it is easier that

the heads of state reaching power be not so aggressive nor have such a great determination. Deep down, it is a statistical matter. At all times and in all societies that are people of all sorts: ambitious, conventional, aggressive, artists, cultivated, etc., but the circumstances or conditions in which they reproduce makes the ones or the others to prevail, and to have more or less opportunities within the selection algorithm acting at any given moment. This algorithm will each time put people in a place in the social ranking.

Social mobility differs greatly depending on the sort of society. In feudal times it was almost nonexistent, while under capitalism this is possible, even if in a limited way. It is a limitation in numbers. Mobility can take place from any social stratum, but there is no room for everybody in the higher strata. Being all societies organized in a pyramid form, the capacity of the higher levels depends on the slope of this structure. The upward or downward flux between strata depends then on the capacity of the different layers and on the reproductive capacity of population in each stratum. Each social stratum is related to a sustenance source, either directly, as for example farmers, shepherds or husbandmen, or indirectly through income obtained from the society's economic surplus. One of the reasons of social conflicts happens when there is a strong imbalance between the number of persons in a social stratum and their sustenance sources. The way in which these conflicts are solved are different every time, depending on the geographic environment and the society's ability to produce or to obtain new economic surpluses. When population increases, a way out may be military expansion to conquer new territories. Another way out is often emigration of some of the population.

Every period determines the way for the selection of people in every social stratum. The origin of social evolution is largely related with the way the agents are reproduced and with the structural conditions of societies. If social structures remained untouched, and the different layers of population reproduced themselves in the same proportions and without a demographic increase, probably there would be no social evolution or in any case it would be very slow. Evolution would depend only on the cultural evolution which might take place. And this would depend on the conditions in which every generation educated the next one. If the environmental conditions were stable it would be quite improbable to find mutations during the educational process. In some way or other, and more or less consciously, every generation chooses the information to be transmitted to the following one. When there are not many changes in the environment it is easier to choose, and probably the choice will also be more stable. When the environmental conditions change, whether it is technology or social structure, the information needed by individuals to survive in society

increases or is modified, and at this time some given values have to be given priority against others. Knowledge that at some given time was useful, now is not. In this way societies evolve: structures change, the proportions of social classes too and finally are modified also the values and attitudes which people incorporate, and which finally will determine their behaviour.

The trends generated every time in societies are the algorithms which determine the *rules of the game* which may be applicable at every time. These are not created voluntarily by any agent, but crop up as emerging phenomena.

From a historical point of view in societies the most important factor must be the study of processes. The way in which social structures change, not as a result of the actions of heroes, but as a result of the behavioural change in the totality of individuals. Not everybody behaves in the same way. What changes is the importance that different behaviours have at any given time.

Then the biological analogy used by Deulofeu was not a story-telling trick. Perhaps, without his fully understanding it, it was based on the same reality which determines physics, chemistry, biology and also social sciences.

It is an evident fact that civilizations disappear. Some have already raised this issue, as Jared Diamond in his book *Collapse*. But apparently the prevailing opinion is still that, in all the cases, it was avoidable accidents. Most of the times stress is laid on outer causes. No thought is given to the fact that it may be through inner causes. The view of the western world is similar to that of young people who see death as a very far away event, or who like to believe that accidental death is a fact that will never happen to oneself. It is a fact that in the last years worry for the preservation of the environment we are living in has caused an increase of the worry for the possibility of a collapse of present day civilizations. But in the main people are convinced that this will be overcome.

So, societies are complex networks which reproduce themselves. In some way they are alive, and this fact is what allows them to keep developing. At each time and place different social classes are at work to preserve their interests, to improve their condition or simply to survive. Material conditions may be very different, but what determines each one's interests is the position held in the social network one belongs to. Each society will be more or less complex depending on the number of relations and dependences which will take place among their members. What Deulofeu called demographic fragmentation refers to societies where the power centres are local or regional, and where trade has little importance and is also mainly local and regional. They are little monetized economies.

Every social group reproduces itself and in so doing also reproduces social structures which relates it with the other classes. Each one acts according to their own interests and social reproduction takes place without great changes. However, imbalances from different causes keep piling up until at a given moment social relations are strained, which causes alterations in the number of social classes and in their relationships. The structure of social complexity keeps evolving. If we take its degree of complexity as a main guideline to establish a society's evolution, we find that possibilities are limited:

- Complexity increase;
- Complexity decrease;
- Carrying on of complexity;
- Variations of complexity.

If we combine these possibilities it appears that the variations in the complexity degree of societies should take us in quite a natural way to cyclic processes. Why then is this so difficult to accept? I think that the answer lies in what I have said above when talking about the prejudice we have against the possibility of not controlling our own fate. However, there is another question which we must consider and which is closely linked with the cyclic variations we were mentioning. How does the globalization process we are in fit with Deulofeu's theory? This is a matter we cannot tackle here, but which we must admit is one of the challenges that Deulofeu's theory will have to face. I will only make some short remarks in this respect. Even if until quite recently civilizations have coexisted with a relatively limited degree of interplay, contacts among them have always existed. What has changed is mainly the speed at which knowledge spreads. The demographic increase has caused the planet's overcrowding to intensify as much as possible the degree of interaction among the peoples. From this a question is derived. Will this fact cause the creation of a global network with its own power structures differentiated from any other imperial nucleus and therefore with its own cycle?

Up to now it has been impossible to find authors willing to face the challenge of an analysis of Deulofeu's work, and the path which lies ahead does not invite us to be optimistic. In spite of this, it is encouraging to find authors who are not far away from Deulofeu. Norbert Elias is one of them.

Elias' work

Discovering Norbert Elias' (1897-1999) work was a pleasant surprise to me. On the one hand, it has some similarities with Deulofeu's work, and on the other, it was written almost simultaneously with him. Elias' work was

luckier than Deulofeu's, as it was acknowledged at a later time, and did not take part in official orthodoxy of social sciences. Elias can be situated in the field of historical sociology. He wrote in German and his works did not start being translated until the seventies of the last century. Perhaps this fact caused his work to be known only in the last part of the the twentieth century. In a book by Santos Juliá, *Historia social/sociología histórica*, published in 1989 and reprinted now he is not mentioned, neither does he appear in the bibliography.

Even if the range of Elias' work is different from that of Deulofeu's (he only wants to explain the birth of European states), reading it one is surprised at finding the description of the same processes as Deulofeu explains. The terms used are different, but virtually they are saying the same. Elias is a sociologist who gets into history's field in order to demonstrate his theories, and in this sense he uses more academic tools, but he has not the historical standpoint in the space-time field that Deulofeu has, and in this respect his vision is more limited. Even so, what he writes fits perfectly into Deulofeu's theory and can improve it considerably.

It is a pity they did not meet because the resulting exchange of ideas could have been fruitful. Not belonging to the official academic network may offer the advantage of not being submitted to a sometimes depleting indoctrination, but it certainly has the drawback of working in isolation and to be left out of the official *distribution channels*. Perhaps this is no longer true at present, but it was so in their time.

Elias' theory explains the birth of the states as a process where a monopoly is attained of violence and of money based on a competition among the feudal lords to go and conquer territories. There is no pre-established plan for the lords to put together a state. The competition to survive within this situation is the one which determines the actions that at any time undertake the feudal lords. The king is one more among them. The lords fight among themselves, but their domains are managed like private properties. They have not an idea of state or of public good.

As the lords become stronger, through wars to submit other lords, the conditions will be established to create a more complex society. Violence will diminish, and economy will go off the barter economy. When the power is concentrated there will be a movement of socialization of the monopoly. It will be possible to substitute the head of the state without disturbing the social structure. (Elias, 1975)

I think that Elias' work rounds off very well Deulofeu's theory within the field of sociology. It contributes ideas which, from a complementary viewpoint, explain how the process of power concentration developed, and

which are the forces which participated, and how the social fabric changed while increasing its complexity.

The de-civilizing process

Before finishing this work I think it is necessary to say something on the de-civilizing process. If it is true that societies evolve by means of cyclic processes, we shall have to study all the phases of these processes. The studies on the increasing complexities have been more abundant than those addressed to the study of the decline of civilizations. Surely, the exception is the Roman empire, about which many pages have been written trying to explain its decline. In this respect I think interesting Ward-Perkins' viewpoint which has recently published a book about this matter. According to Ward-Perkins, Roman society reached a high degree of economic complexity which led to a great and varied production of consumer goods. Besides, this was a high quality production which reached not only the highest strata of society, but spread widely on a territorial level and among the social strata. In this way, simple farmers in any part of the empire could have access to it. The arrival of invaders, with more or less violence and more or less integration, was followed by a collapse of the complexity of Roman economy which affected the global level of production and, as a consequence, of demography. Society became less complex and the population standard of living collapsed.

To understand decadence we must be conscious of the negative aspect of economic sophistication. If ancient economy had been formed by simple local units, essentially autonomous, with little work specialization, with little exchange among them, some parts of this economy would have survived to the problem of the post-Roman economy. But being this ancient economy a complicated system, its very sophistication made it fragile and little able to adjust to change. To be able to have a quality production in bulk, it was necessary for many people to undertake more or less specialized tasks. It was necessary to have skilled artisans, able to make quality items in a quantity enough to guarantee the units' low cost. In the second place, it was necessary to have a sophisticated transport and trade network, to allow an effective distribution of the products in wide areas. And last, it was essential to have a large consumers' framework with money to spend and used to do so. All this complexity depended on many people who, working in the maintenance of infrastructures like currency, roads, vessels, etc., lubricated the hinges of production and trade. When specialized production failed, it was not that easy to substitute it with their own hands.

This specialization was the direct cause that the economic breaking up at the end of the empire was of such magnitude. Sophistication had been the

end of skills and of local networks which made possible a lower level economic complexity. Centuries were needed for the population of the old empire to recover the old skills and the local networks which would allow them to go back to the pre-Roman levels of sophistication. (Ward-Perkins, 2005)

I have made this abstract of Ward-Perkins' thesis because I think his viewpoint is very interesting. It mainly shows that Roman society, which had attained a high degree of complexity, was actually weak because the population was no longer autonomous. The division of labour, which helps to attain material progress, brings with it this fragility as a counterpart. Probably the time arrives when the costs of maintaining such a complex network exceed the society's ability to find the resources needed to maintain it or to face the outer aggressions.

Conclusion

In this article I have tried to demonstrate that Deulofeu's work goes beyond the outcome of a visionary who was able to see recurrences in historical events. Deulofeu situated these events within a general framework where individual actions of subjects are not determinant, but the processes in which they are immersed are. This approach clashes head on with the prejudice of the rationalist humanist viewpoint which considers that man is the master of his destiny: *man is free*. But the fact that man be free to take his own decisions does not stop them, after they have been taken, from becoming part of a relations network which escapes from man's control. Science's mechanist and reductionist viewpoint in the last decades has opened the way to a new vision where the study of the complexity and the interaction between different fields of learning has opened up the possibility to analyse reality as a number of interconnected systems which are organized on different layers, where new laws appear which cannot be inferred from known laws of past layers. The laws of chemistry cannot be inferred from those of physics, and the laws of biology cannot be inferred from those of chemistry. The laws of social sciences either cannot be derived directly from those of biology. But if we want social sciences to exist, we cannot give up the fact that they must have laws. Deulofeu's work is one of the most reliable attempts in this direction. He made a job of compiling data and organizing the pieces of the gigantic puzzle which is human history. All the sciences study how matter, in its different degrees of crowding, groups and de-groups itself, and social matter is no exception. Many studies carried out in the last decades in the field of historic sociology aim in this direction – Tilly, Elias, Mann, etc. The only thing missing is that they accept the consequences.

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