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THE WASTE SOCIETY: SOME ELEMENTS FOR A SOCIAL THEORY OF WASTE IN MODERN SOCIETIES

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A basic characterization of industrialized and economically developed societies is the production and consumption of goods: the so-called “mass consumption” society. However, it is a demonstrable fact that, in terms of production, these societies produce more wastes than goods (99% of the original materials used in the production of, or contained within, the goods made in the US become waste within six weeks of sale (Hawken, 1994), plus energy, water and air waste, plus the waste resulting from mining and transporting those materials). Besides this massive waste production, it is also demonstrable that the danger of many of these wastes, from the radioactive ones to those derived from the chemical industries, is increasing.

Another important characterization of these societies is that regarding the social symbolic meaning that mass consumption infers. Economic development in these societies is very much attached to increasing consumption. So thus, goods “replacement” is the most prestigious social value, and the “speed” of such a replacement becomes one of the main identifications of the social status of each particular individual-consumer. Thus waste (in quantity and quality) is produced as something “necessary” for the proper functioning of the new and voracious economic system, to the point of waste being considered as one of the economic development indicators, and, enlarging the argument, of social well-being.

But this symbolic role can also embrace other central aspects of societies. This is the case for cultural identity, which is a necessary element for social integration in all societies, including modern societies. Furthermore, it is precisely in these societies where a major need for reinforcing each particular identity happens, due to, among other reasons, the increasing internationalization of the economy, politics and other social factors. In this process, the environment, nature, and specifically the waste discourse might be playing an important role in the social construction process of particular cultural identities.

The symbolic realm has an important sociological tradition, although literature

dealing with the symbolic role of the environment, and waste in particular, as one of the main environmental problems in modern societies, is scarce.

So thus, the aim of this work is to point out some elements to analyze the social conceptualization of waste in economically developed societies, on the hypothesis that these societies can be characterized as waste societies, and the challenge of building non-waste societies.

Waste social recognition

Waste is, before any other thing, a social reality, different according to societies and epochs, and represents a cultural and social value for the individuals in these and former societies.

For centuries, rural societies basically produced easily assimilable and decomposable food, and durable goods based on natural raw materials (wood, leather, cotton, etc.) or little transformed (iron, ceramic, plaster, etc.). For these processes those societies used little energy. Wastes generated in that way were scarce and easily recyclable: food leftover for livestock feeding, agricultural leavings, or animal excrement to fertilize lands, etc. The concept of waste did not make any sense for those societies. They were scarce resource and maximum use societies. The base for non-waste production was mainly scarceness of products and goods consumption. Furthermore, another important feature is that waste, when it is produced, is deposited on site, and immediately reused.

Traditional urban societies produced a great amount of waste difficult to recycle, not for its composition -- not very different from those proceeding from rural areas -- as for its quantity. In Imperial Rome, for instance, waste is documented as a serious problem.

During industrial development, the natural imbalance of human beings as producers and consumers and not recyclers or decomposers reaches its maximum in our current societies. These societies are net waste producers and unable to recycle and to give them back to its medium without damaging it. Raw materials are considered as non-finite, which causes the total amount of waste to be more than products manufactured and the increasing rhythm of the first is faster than the second ones.

Wastes generated are composed of raw materials in different transformation grades, which have been transported from more and more remote places, extracted from more and

more difficult places in the case of minerals, and obtained in conditions more and more antinatural. These processes imply an increasing economic and energy cost and an increasing loss of soil productivity.

As these wastes are not given back to their original place nor recovered for ulterior use, and are generated in more quantities, an economic model of limited duration has been established, associated to the more or less next resource deployment, no matter whether they are mineral, energy or productive ones.

Given the increasing waste generation, more and more abundant in quantity and in danger for its composition, it is practically impossible to collect and treat them to diminish their danger, to recycle or deposit them risklessly.

The physicochemical composition of waste generated is increasingly alien to the material existing in nature, and adding to its danger, which is known sometimes but unknown to many others, it is its non-biodegradability and future unknown behavior (for instance synergism). We do not even know the lasting effect of its danger, which may be longer than our own civilization as it is the case for some radioactive wastes.

As a consequence, the dumping into the environment of enormous amounts of waste produces irreparable damage to ecosystems at a great scale: land, water and air pollution, animals and vegetable poisoning, etc., all this affects human health.

In short, waste becomes present in modern societies according to their standard of living. There is a positive correlation between economic level of development and waste quantity. The higher the economic level, the more wastes are generated. This is not the sole inciding factor but it is the most significant one. It is important to highlight that, differently from the traditional agrarian societies, the dominant social perception of waste in modern societies is of something to be refused. Waste has a negative connotation, a meaning of something unclean. This is why the main effort is posed on hiding waste, on depositing it wherever it can not be seen.

Landfill is the answer to this preoccupation. Social opposition to landfills, for reasons such as pollution and location difficulties, places the waste issue on a relevant social one. The mainstream approach is based on economic and environmental waste management. Big corporations and sophisticated technology, together with a tax system, represent the waste management framework. Waste management becomes a profitable business. Recycling

garbage to put materials again into the productive cycle is the current dominant model regarding waste.

Waste minimization, either by not producing it or by reusing it (which is different from recycling), has not gotten much social attention. Reuse policies, either as raw materials or as a second hand final product, are at the lowest level of social recognition.

Resource productivity is the last of the “new” paradigms. It tries to resolve the contradiction between the social interest to increase wealth and the problem of both resource limits and harm to the environment produced by economic development. This is the central approach of the new report to the Club of Rome ‘Factor Four’. Its basic idea is that it is possible to resolve such a contradiction through redirecting technological progress, in the sense of leading technology efficiency toward great resource productivity. The report summarizes it this way: “If resources productivity was increased by a factor of four, the world could enjoy twice the wealth that is currently available, whilst simultaneously halving the stress placed on our natural environment” (p.xv).

It is not our intention to get into a detailed discussion of this proposal such as it is presented in the report, but to comment regarding the central hypothesis of this paper, that the economically developed societies should basically be conceptualized as waste societies.

Social conceptualization of wastes

It has been pointed out above that the wealth value of the most economically developed societies expressed more in the good replacement speed (in other words, in waste, as that obsolete good is immediately transformed into waste) than in goods and expenses (about 93% of the materials that are bought and “consumed” in the US never end up as salable products at all. Moreover, 80% of products are discarded after a single use)ⁱ.

Waste management policies, by avoiding this important social aspect, can not resolve in depth the waste problem. This speed in goods replacement is central to the current economic system, or in other words to the productive system and economic development, and besides, it is central to these societies consumption culture.

Beside that central socioeconomic role, in the conceptualization and valuation of waste, political values are intermixed, but also religious, moral, and medical ones. This is why, for instance, a simple oil price raise can give exchange value to plastics waste that

hours before did not have it, or a new regulation to guarantee package recovery is going to affect waste valuation, or a new production process can transform a waste into a resource as it was the case for PVC. But in conceptualizing the issue, other traditional values are also intervening such as religious (the good / the bad; punishment / penitence: the policy “polluter-pays-principle”, so if you pay you are allowed to pollute, can be also analyzed in these terms), moral (the clean / the unclean); aesthetic (good smells / bad smells; the beautiful / the ugly); hygienic ones (the healthy / the unhealthy: the new soaps offering not just cleaning but killing germs forget that many of these germs are basically protecting our body). As it is evident, all these conceptualizations are basically social constructions having little to do with its real risk or use value as something not necessarily the same than its exchange value. Basically what it is being talked about is social order, what constitutes good or bad behavior.

But on the reverse, environmental problems in general and waste in particular, in certain societies and in certain historical moments, can serve as a support to other socio-political and cultural constructions, able to play a major social role. In all these societies we can find ideas about pollution that are utilized as a social control means or as a means to deviate attention from other political and social issues. It is also possible to relate waste to cultural identity processes. All societies need to have social identity in times of social redefinition as a current of economic and culture internationalization, the social construction of cultural identity requires as many elements as are relevant for that task, and waste and recycling as a myth can play a role in that process. This is the case in Spanish reality, as it is likely the case in other societies with both serious cultural identity problems and some relevant environmental issues. The coincidence of a strong necessity of social identity, in a framework of building nationalist independence projects, produces the position of being the “pioneer city” (Pamplona) on waste recycling in Spain leads to a complete consensus throughout the social spectrum including the environmental movement, which does not correspond to recycling efficiency (12%), but instead can be explained mainly by its collective role in cultural identityⁱⁱ. The myth of a pioneer city, of second order following Barthes, once it has been established, acquires its own life and plays a social role of prime order.

A second aspect of the conceptualization is that regarding waste risk. Although

establishing a risk ranking is controversial, it can go from the toxic and hazardous ones, including radioactive and chemicals, mainly those from the industries, and the urban or similar ones, mainly coming from domestic use.

Despite that, people relate waste pollution to sewage and urban garbage. People use old concepts to approach new problems (the same applies also to many policy makers and so-called experts), so thus, they do not easily perceive the most dangerous contamination nor its consequences for human health and the environment.

So, urban waste management has gotten a major social protagonism, mainly through recycling programs. Here the waste is needed to be present. Now, waste is not something unclean, refuseable, but something valuable. Active participation of responsible and aware citizens is needed now to separate garbage in the home, and by that, waste is made present again.

There is no doubt there is a theoretical vacuum on the waste issue, on its central role in modern societies, and on its conceptualization. Although the waste problem is presented as a technical one, it has not been possible even in this sense to reach a consensus over its definition (as an example, the CE Directive on packaging contains 16 definitions but does not make clear what waste packaging is). All the pointed aspects are relevant to a social theorization of waste and open an important field of analysis to sociological approach.

The waste “democratization”: Social responsibility and Social legitimization

A major characteristic of democratic societies is precisely the importance that social legitimization acquires in social processes, in other words, the importance of its social recognition and acceptance as something fair and good for the society as a whole. Citizen sovereignty, even when it is delegated to the State, is supposed to be the only holder of such a social legitimization. Definition and acceptance of social responsibility are central to legitimization process. The construction of a social consensus around the waste issue is thus a relevant matter.

Therefore, the mainstream discourse and the waste public policies have been built mainly over citizen's responsibility in generating wastes (the taxpayer-pays-principle). Here again there is a connection with the religious idea, very efficient, of blaming (waste generators) and offering a penitence (recycling, “green” consumption) to obtain citizen

collaboration (free by the way).

However, in the strictest sense, citizens are not finally responsible for waste generation. The phenomenon is more structural, and it has primarily to do with mineral resources extraction, energy consumption, and the development of inorganic chemical products, and with contamination as a result of all that. This pollution is produced in quantity and quality as an unavoidable consequence of the modern industrial and agrarian activity. In fact, domestic wastes are just a small part of the total produced wastes.

However, the State, regarding waste, bases the interest intermediation structure on two concepts: coresponsibility and colegitimation. The State needs industries to manage a problem that is technically and financially beyond its hands. But industries refuse its only responsibility, though now they are more aware of the economic dimension of the problem that can affect them. As a result, strong pressure on putting responsibility and legitimization on citizen happens. Responsibility has been put on households, mainly in two ways: home separation of waste, and high garbage tax. Legitimization has been put on citizens as well: if recycling does not go as well as it should, it is because of citizen's behavior (did not separate enough or properly). But in fact, citizens have no participation at all in the production and management of wastes that are in the hands of producers (manufactures, distributors, and transports) and experts.

As a result, the State, through its inhibition on acting actively on environmental matters, concedes to the industrial sector the license to pollute (polluter-pays-policy -- the European environmental policy premise; so, if you can afford for it, you can contaminate) at the same time that it strengthens the discipline and cleaning discourse for citizens (taxpayer-pays-principle), but without giving them the possibility of democratic accountability of the waste process.

The Recycling Paradigm

The base for recycling development is supposedly the fact of attributing use value to a waste. This has been the way in traditional societies. Animal excrement was used for soil fertilization in agriculture. In some places, this activity has been made not only on an individual scale, but on commercial ones. In the Spanish Mediterranean area, for instance,

with important agriculture activity, domestic garbage was collected by individuals daily (What a luxury!), and then composted for agriculture. This activity was run by family businesses, which were economic and environmentally efficient, with a very simple technology, and did not imply any tax.

Most current recycling plants imply millions of dollar, sophisticated technology (even though the basic operations continue being very simple ones: magnetic capture of metals, sieves, manual separation by operators, etc.), garbage market monopoly, high cost for public finances and for citizen, resulting all in all in a low recovery rateⁱⁱⁱ. In short, these plants are capital intensive, environmentally inefficient, and socially regressive (tax system). In fact, a decreasing in number of recycling plants in Europe has happened due to a wrong global approach to the matter^{iv}, although due also to the difficult market situation for recovered products.

The question is then why recycling is presented as the new paradigm to solve the waste problem?. A first explanation comes from the increasing environmental awareness demanding solutions to the waste problem, which contrasts with the lack of alternatives that the State offers. Given the impossibility of approaching the problem in depth, what would imply a substantial change of the production and consumption system, recycling offers the possibility of a social consensus. However, as the global recycling inefficiency (although in any case it is more efficient than other systems such as landfill or incineration), as a concept and as an activity, the explanation of that social consensus should be looked for primarily in the symbolic realm.

Recycling is a symbol that can satisfy many parts. It does not question the production and consumption systems, it affects in one or another way the whole spectrum of social agents, and, therefore, it provides the opportunity for social valuation to societies realizing it.

The New Paradigm of Increasing Resource Productivity through Technology Efficiency

Technological progress has made possible prospection, mining, processing and shipping of material resources to be more efficient and, for that matter, cheaper. This process, together with the increasing consumption need of the economic system, has meant

that the increase in material use in our civilization has been, and continues being, exponential. An example of that is the use of metals, which has gone from about 1 t/year in mid XVIII century to more of 10.000 t/year (Ayres, 1996, p.7).

We can affirm then, at this point of economic development in some countries and world population increase, human activity moves more soil than volcanoes and climate together (Shmidt-Bleck, 1994, p.37). The avalanche of matter that human activity moves and transforms from one place to another place (in terms of quantity and of the speed of that movement) can be the main threat to the environment. The main consequence of such a process in industrialized countries is waste.

Nowadays waste management has become a good business. Nevertheless, from the ecological perspective, the result of this management is questionable as it is exclusively an end-of-life cycle solution and does not affect the material stream.

It is then when the increase in material efficiency new paradigm is put forward. This is the last proposal of the Club of Rome (von Weizsacker, E.; Lovins, A.B.; Hunter Lovins, L., 1997). The main idea is that industrial technological revolution has been focused mainly on increasing labor productivity, even if that required more generous use of natural resources. But now, it is time to focus on resources productivity instead, which can be increased by four times through technological efficiency, through a new technological direction. By producing with less we can live twice as well, yet use half as much.

This proposal is truly attractive and, in part, plausible, even might requires years to implement (for instance, 50 years for the agriculture revolution called the perennial polyculture). Regarding waste, even though the report considers diminishing it, the central problem of its non production, or getting it totally into the natural cycle, is not resolved by that approach. Neither the hazardous and radioactive waste problem is resolved, as much of it will still be produced and remain active. The approach of this proposal is basically that of ecological modernization, based on high technology in some cases, and in a new direction of technology and new inventions in others. Many of those proposals will probably become reality in a medium span of time. However, this approach lacks considering these phenomena in a holistic way. They are lineal proposals ignoring other environmental and social consequences of technology and the possible synergism. A central doubt is if, even in the case that such a new direction in technology is feasible, the social, economic,

political, and institutional constraints remain the most difficult to address in that new direction. Besides that, what is important is that such a new direction be addressed toward sustainability not only of the ecological system, but the social one as well.

Again, the symbolic plays an important role in this proposal. There is no doubt that the proposal is fascinating as a whole. The myth of technology remains very active, as, definitely, it is a very attractive one; it gives us certain relief from the catastrophic proposals and, the most important over all, it lets us keep “developing” our economies; anything but facing up to the limit of economic development. The question goes further than that of the technological pessimist-optimist axiom, and it points out the need of deepening into the social conditions that might make possible such a change in the development direction in the shortest possible time.

Toward a Non-Waste Society

The central waste role in economically developed societies has been made clear, as it refers to its role in the production and consumption system and as an opportunity that waste presents to symbolize a social consensus in a time of serious environmental problems and of cultural redefinition. I have suggested that these societies should properly be called waste societies instead of mass consumption societies.

The problem which is not resolved is: 1) an industrial structure that, under the idealized cover of “advanced productive industries”, what in fact produces is waste in more quantity than goods, 2) a great deal of raw material needs (minerals, water, energy, clean air) compared to the obtained product, and less durability of the product or reduction of the time to obsolescence.

Recycling activity has not yet reached an ecological dimension, as material recovery and recycling policy implies not only separation in origin, which means strong citizen’s participation and responsibility, but a new process in manufacturing which facilitates waste diminishment and its ulterior recycling. The same applies to agriculture, where the majority of wastes have also an important component of risk and a direct impact on soil and groundwater in many cases.

The challenge is the construction of a society with no waste. It does not seem that the waste problem evolution is improving, as wastes are still strongly increasing worldwide

and even in the countries where reduction policies are being applied. These policies are not able to even counteract the increasing waste production.

It might be necessary to look at Nature and learn from her. In Nature there are no wastes, everything becomes recycled, so thus together with solar energy contribution, Nature can reproduce itself constantly. Human beings, despite their large biomass (big size and weight) act only as producers and consumers and never as material decomposers. As very wisely it is pointed out by the Spanish expert on waste, Alfonso del Val (1993, p.66), until we, the humans, are not able to do something similar to what Nature does, we should drastically to brake resources and energy consumption, to avoid totally generating hazardous wastes, and after that to reuse and recycle at its maximum.

The danger in reducing the waste and pollution matter to a technical question is mainly the risk to contribute to masking or displacing the problem, more than leading to its solution. Acting on the two levels, the political and the technical ones, require to have an effective public participation system, as a product of a high social awareness and of a knowledge of both the possibilities and the limitations of technology. The unknown is over the real possibilities that can exist into the current industrial production system to assume to a planetary scale a new relation between waste, resources, and energy, in order to get new manufacturing processes based on waste minimization and recycling resulting in real raw materials savings and that the total pollution balance be favorable. Besides that, such a framework should be possible for all countries, as, on the contrary, it would contribute to increase the current political, economic, and social tensions.

In short, there is a big theoretical vacuum on the waste issue and its place in modern societies, having posed in this work some elements to advance in its social conceptualization.

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Notes:

^{i.} Taken from vom Weizsacker, E.; Lovins, A.B.; Hunter Lovins, L., (1997, p.xx).

^{ii.} Some data on Pamplona: 195,000 inhabitants; the region has one of the highest incomes per capita; the highest youth refusal to participate in military service and the consequent legal problems; the highest incidence of environmental conflict in Spain; and there is an active political environment.

^{iii.} The 1997 State of Garbage in Canada survey indicates that recycling rates, including composting, reached 23%. A study by Franklin Associates estimated that 21% of all municipal solid waste was recycled or composted in 1992 in USA (Taken from Ackerman, F., "Trashing recycling: the new face of anti-environmentalism. Dollars & Sense n° 208, 1996: 10-)

^{iv.} Barry Commoner, in 1987, conducted a pilot project concluding that, if recycling would be properly implemented 84.4% of the residential rubbish could be collected, Center for the Biology of Natural Systems, at Queen College, City University of New York, p. 88.