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CAN LEWIS MUMFORD'S MODERN MEGAMACHINE EXIST AT ALL?

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Abstract

Mumford's Megamachine theory may be much more current today than ever. In his wiev the technics originally were life-focused, but sometimes began to make use of it for its own ends, and technics became a power- and labour-focused one. This change brought about the archetype of the Megamachine in the ancient epoch.

Mumford suggests that in the 20th century an entirely new Megamachine was brought about as a result of the combination of state power, modern science and technology. This Megamachine proved to be operational in both the dictatorial and democratic systems.

Keywords: megamachine, power, life-focused and labour-focused technics, technological and scientific elite, computerization.

Introduction

In this short study I shall confine myself to discussing only one of Mumford's ideas: his MEGAMACHINE theory in the belief that what he said about it some 20 or 25 years ago is much more current today than ever before. The first of the two volumes of his major work entitled The Myth of the Machine was published in 1967, with the second following in 1970. Bearing the title Technics and Human Development, the first volume contains the 'discovery' of the Megamachine and the description of its archetype, while the second presents the concept of the new Megamachine of today a la Mumford under the title The Pentagon of Power.

What is meant by the notion Megamachine in Mumford's interpretation? Let me summarize the essence of it. In his view modern man tends to overestimate the technics of tools. It is attributable to the fact that the development of machines and tools has undoubtedly been the most spectacular technical phenomenon over the past two centuries or so. According to Mumford's concept, however, tool-technics is invariably a part of technics as a whole because, he argues, technics is a characteristic feature of man's activity throughout his life. Accordingly, technics was life-focused

in the prehistoric age. It could be only one component of the complexity of man's activity because this ancient complexity prevented each of the component parts from gaining the upper hand and dominating the others. At a later stage, however, some five thousand years ago, the then despotic state of ancient Egypt, the Divine Kingdom began to make use of it for its own ends. As a consequence what used to be life-focused became power- and labour-focused technics and was developed accordingly.

The Ancient and the Modern Type of the 'Megamachine'

Technics which had become power- and labour-focused brought about the Megamachine in the period of ancient Egypt when the pyramids were built. It was simply a huge mechanism composed of large masses of people. The owners of despotic power organized, managed and moved tens of thousands of people with the accuracy of a machine to build up a grandiose edifice: the pyramid. Groups made up of a smaller or larger number of pyramid builders acted as the parts of the mechanism and they were held together by a cohesive force composed of accurate guidance, well-organised division of labour and accurate planning. It was as though a giant of a machine, proportionate to the huge dimensions of the pyramid, had operated there whose component parts were living beings, people built up of flesh and blood. This monumental machine is described by Mumford as the ancient Megamachine.

This classical archetype of the Megamachine, however, fell to pieces in the wake of the decline of the power of the Egyptian Divine Kingdom. But it was re-established in a less perfect variation taking the form of the bureaucratic organizations and armies of the states during successive periods. It was the armies in which the mechanical guidance and organization of the masses of people were preserved in particular. In this connection let us mention the Roman legions and the armies during the Napoleonic wars.

Lewis Mumford suggests that in the middle of the 20th century an entirely new Megamachine was brought about as a result of the combination of state power, modern science and technology. He adds that it is more perfect than any of its predecessors. This is what he dubs the 'Pentagon of Power' and says: 'Enough to point out that the original institutional components of the Pentagon of Power are still with us, operating more relentlessly if not more efficiently than ever before: the army, the bureaucracy, the engineering corps, the scientific elite... and not least, the ultimate Decision Maker, the Divine King, today called the Director, the Chief of Staff, the Party Secretary, or the President, tomorrow the Omnicomputer.' (MUMFORD, 1979).

Thus, the Megamachine was not only reorganized but it became more perfect than ever before. And although there are considerable differences between it and the archetype, their similarities are quite obvious. The secret sciences placed at the service of the armament are comparable to the secret form of knowledge which was possessed by the chief pontiffs of ancient Egyipt. And there are the secret operational plans elaborated for possible conflicts and the overwhelmingly invisible organizations such as the intelligence agencies destined to serve them closely associated with this secret knowledge. Their impact is clearly identifiable in the civilian scene. The technological and scientific elite functioning on the pinnacles of the branches of industry or the very large companies and the organizations associated with them also operate as a secret power. The storage and increasingly easier ways of treating the data recorded about people and objects are also factors paving the way for the perfect operation of the Megamachine.

The Soviet and the American Version of the Megamachine

In Mumford's view all this developed in the period of the so-called Cold War. And to correspond to the prevailing situation two Megamachines were brought about, with each of which claiming to cover the whole world: one in the Soviet Union and the other in the United States. For the modern version of the Megamachine proved to be operational in both the dictatorial and democratic systems. Moreover, they are related and, so far as their development process is concerned, they are convergent. 'In the course of this development' Mumford writes, 'the two dominant Megamachines exchanged characteristics. The Russian machine departed from the obsolete original model by relying ever more heavily on its scientific and technological arm, while the American machine took over the most regressive features of the Czarist-Stalinist system, vastly augmenting both its military force and its agents of centralized control: the Atomic Energy Commission, the Federal Bureau of Investigation, the Central Intelligence Agency, the National Security Agency – all secret agencies whose methods and policies have never been openly discussed or effectively challenged, still less curtailed by the national legislative authority. So deeply entrenched are these agents that they are to flout and disobey the authority of both the President and the Congress.' (MUMFORD, 1970).

The organization of society acts as foundation for the existence and operation of both the ancient and modern Megamachines. Mumford emphasizes that organization is one of the principal characteristics of human society from the ancient tribal conformity of the highest political authority

of today. And the organizational forms existing ever since ancient times have been acting as the connecting links between the old and the new Megamachines. And in their focus there is the organization, with man prepared to identify with it, '...the system itself is an extension of the Organization Man – he who stands at once as the creator and the creature, the originator and the ultimate victim of the Megamachine'. (MUMFORD, 1970).

Let us now examine briefly the influence Mumford's Megamachine exerts on the man of today, on his labour and leisure. The rapid scientific and technological development of our age has led, to a certain extent, to a process of constant change in our environment. This constant change, however, takes place in the majority of cases only on the surface and the essence lying behind the phenomena is less prone to change. The organizations that proved to be successful grew ever bigger and they increasingly confirm the basic principles governing them. What is to be identified behind the surface is formulated by Mumford as follows: 'technology has produced a state of torrential dynamism, since the only forms of control effectively exercised in that of making every part undergo still more rapid change, whilst the system itself becomes more immobile and rigid' (MUMFORD, 1970).

The Computerized Culture of our Future

Technological changes invariably take place within the framework of a certain culture. While the major technological revolutions bring about changes in the very foundations of the activities of society, technological novelties contribute to the intensification of the culture that happens to be making use of them. Viewed from this aspect we can only identify two technological revolutions in the history of mankind as a result of which the activity of society in general and man in particular underwent fundamental changes. The first one dates back to some 8 or 9 thousand years ago and is described as the Neolithic revolution and the second took place 200 or 250 years ago to launch the period of mechanized large scale production.

As a result of the first revolution the primitive way of life based upon hunting and fishing for livelihood was replaced by that of land cultivation and animal husbandry. During the second revolution man began to transfer his abilities elaborated in the course of history to machine mechanism. Thus the epoch-making revolutionary change in this field occurred two or three centuries ago and not in our age. That was the period in which man embarked upon building up the mechanisms to which certain human abilities and certain labour operations could be transferred. If the overriding tendency is considered, today's magnificent automatic devices, robots, computers, etc. are merely additional but important elements making the

principal trend more and more complete. The application of cybernetics today means only the opportunity and capability of man to transfer certain mental abilities to machine mechanism. That is why it is quite evident that the computers, for instance, can vastly surpass man in terms of the speed of counting or memorizing, likewise, the machine-tools are also much faster and stronger than man's manual skills.

Communication technology based upon computers is about to spread rapidly in the societies of the industrialized countries. Although this development will undoubtedly bring about a change in man's everyday life in several aspects, in the final resort it is in fact nothing but the extension of the above mentioned tendency of mechanization. This 'post-industrial' stage of mechanization will develop fully in the culture that brought to life enormous economic, industrial and financial organizations, bureaucratic state institutions, political, scientific and armed corporations. The new information technology develops in this all-embracing establishment. And if in fact information will be the greatest value of all (as it is asserted by Professor Yoney Masuda in his study entitled: The Information Society) this value must also be appreciated within and from the viewpoint of the all-embracing establishment.

The general tendency of the new information technology is characterized by the effort to find the ways and means of quantifying different phenomena, in other words, the method by which they can be coded into information by adopting mechanical logical transformation. In this connection the question arises: what can society and the individual expect from this new development? If the majority of mankind can acquire the skills needed for the operation of information technology, society will most certainly achieve better results than those recorded today. But it may well be that too high a price will have to be paid for this economic advantage at the cost of culture. It is beyond doubt that man's everyday work can again be made in physical terms in its wake, but it may well coincide with heavier load exerted on the nervous system. And once cybernatization becomes widespread not only at the places of work but also in the homes of families it might well lead to total monotony on the one hand, and bring about the simplification or the panel-like development of thinking on the other.

Let us first examine the danger involved in total monotony. Man tries to counter-balance monotony experienced on the job, an unpleasant factor accompanying automation after the working hours by embarking on other types of activity. However, if as a result of cybernetization cultural pursuits and the conditions at home also become more or less cybernetized, there will be few if any chances left for a computer-balancing effort to be successful. This is found to be increasingly the cause. The entertainment

electronics industry appears to be producing a multitude of digital programmable games apparently with great ingenuity. But it would be far too regrettable to be mislead by what can be experienced on the surface. Only a kind of mechanical way of thinking is needed for programmes of the above kind which, in turn, forces independent creative thinking or any sort of invention to move within very narrow limits.

At a lower stage of mechanized large scale civilization very attractive hopes were formulated about the relationship between man's working hours and his leisure. In the middle of the 19th century some philosophers had good reason to believe that working hours which were to be made shorter as a result of technological development would make it possible for man to develop his diverse abilities fully during the leisure time to be allowed for him. And if that would be the case, then in the possession of these abilities the individual would re-enter the production process as a more efficient and increased force of production. Does this opportunity prevail today when an increasing number of means to be taken advantage of at home and after the working hours contribute to the strengthening of the system of digital monotony? It is feared that Homo Informaticus who is declared to be the man of the future will be nothing but the variation of Homo Oeconomicus specialized in acquiring information.

The other problem which was referred to earlier is that the computer programmes, however complicated they are, simplify man's way of thinking because they render it only too simple. Information that can be acquired by way of computers necessitates the learning and knowledge of certain computer languages or the elaboration of new ones. The demand is common to all the economic and optimization programmes that these languages be as simple as possible so that they can be used with maximum efficiency. And the more often one uses a simplified language of this kind, the more one will become accustomed to thinking in a manner corresponding to it. This will increasingly be the case once this form and method of acquiring information will become widespread in the process of learning at school.

Obviously mechanization always results in the reduction of load. The history of the development and application of machines has relieved man of the burden of exerting physical effort on a number of occasions. In a physical sense labour has become much lighter over the past 2 or 3 centuries, a development which was made possible by the vast intellectual effort made over the last two or three hundred years by many people. We have by now reached the stage in the process of mechanization at which it becomes possible to relieve man of some of the load of making intellectual efforts. For today computers can be used not only for storing data but also to prompt a choice and facilitate decision-making. But doubts can again be raised: if the spread of cars caused man to virtually abandon motion and

taking walks, will the spread of personal computers cause him to abandon making independent and tiresome efforts taking the form of thinking?

However, the consequences of relieving man of the two types of burden are far from being identical. While growing increasingly lazy in physical terms, man can still retain his identity as Homo Sapiens. But what will become of the Homo Sapiens if, as a consequence of relieving him of the 'burden' of thinking, his mental abilities will degenerate? To make matters worse, this latter can take place at a faster pace and in a more intensive fashion than the slackening of his physical abilities, because the transfer of knowledge is not a biological reproduction process – it belongs to the sphere of cultural heritage.

In this connection the question arises: what will happen if, out of the euphoric joy generated by new technology, a generation of people will transfer a considerable part of mankind's cultural heritage accumulated thus far to the data banks of the new information technology instead of handing it down to the up- and- coming generation? It is quite clear that such a move will not turn the computer into a human being, but man may well become a being from whom all the conscious endeavours for independence will be relegated to the background. Too much information tends to render man uncertain rather than strengthen his decision-making capacity. And this uncertainty will in turn force man to leave the task of making a choice or a decision to the computer in an increasing number of cases. In this respect little if any can be expected from the computer making its conquest of the classroom. As a consequence, man will be accommodated to mechanical logical methods and programmed, unilateral communication already in his childhood. Can, under such conditions, the sensitivity to problems and the demand for formulating questions posing problems be developed in man?

With the above taken into account I believe that Mumford's anxiety calls attention to a real danger. The new information technics involve the danger of the building up of a Megamachine that can be operated more perfectly than any of its predecessors. Those positioned on the pinnacles of power will be able to keep the individuals under control by relying on computers and without exerting physical force or issuing unpopular instructions. In an effort to achieve it the possessors of power will in fact bring about the Omnicomputer, the means that emerged in Mumford's vision, and man who is too lazy to think in his own terms and make decisions independently can even come to like it in the same fashion as the hero of George Orwell's 1984 came to be fond of the Big Brother. The question arises: can Mumford's New Megamachine exist? Well, I think the development of the new information technics involves its potential existence. Not in the form of an inevitable development brought about by fate, but, in any

case, as a real danger. The forthcoming decades will supply the answer to the question whether or not we shall be able to avoid this dead-end street of computerized society.

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