

EXPLOSION OF NEEDS, QUALITY OF LIFE, AND THE ECOLOGY PROBLEM

Friedrich Rapp, University of Dortmund

The aim of my paper is to point out the inherent features of modern technology. In doing this I shall not primarily dwell on normative, moral issues, however important they are. The questions I raise pertain to the nature of man and to the structure of society, i.e., to the realm of the real world. My claim is that (a) it is only by turning to the interrelated general mechanisms, as considered here, that the dynamics of modern technology can be appropriately understood, and that (b) it is only on the basis of such an understanding that we can hope to fetter the Unbound Prometheus of modern technology. The first step for coping with the actual problems is to bring to mind the underlying aggregative mechanisms. Perhaps the analogy of medicine can be helpful here. In order to arrive at a promising therapy, one needs a reliable diagnosis and possibly a correct etiology, i.e., an assignment of causes. Only when this is achieved can one hope to improve the given state of affairs.

1. From the very beginning we must face the gap between conceptual understanding and the very nature of things, between theory and practice, between the way we conceive of the world and the way of the world itself. Since we are fallible and finite human beings we do not possess an *intellectus infinitus*. This is to say that we will never arrive at an exhaustive, all-comprising understanding of any feature of the world—or of the dynamics of technology for that matter. The only way open is to put forward heuristic models, to apply the analytical method and to confront the results with reality. This is to say that we cannot avoid focusing on specific aspects, perspectives, conceptual schemes, heuristic models, and systems of categories. It goes without saying that the approach followed here does not in principle make an exception to this general feature of scientific investigation.

2. Helpful as it is, pushing the analytical procedure to the utmost may not in any case be effective. Surely, when it comes to the details, one has to rely on a specified understanding of the elements that make up the system in question. But when turning to overall, aggregative phenomena, like modern technology, a too-

narrow look is counterproductive. Once again an analogy to medicine may be appropriate. In order to reasonably understand the functioning of a specific organ of the body one must consider the task it fulfills within the larger system. Something similar seems to obtain with modern technology. After all, technology is not an isolated phenomenon. The broader context for the dynamics of modern technology is the historical process of the modern world. Characteristic features of this process are the secularized world-view, the rational as well as the empirical approach of the age of reason, the notion of the independence and of the virtual omnipotence of the individual, and on the collective level the notion of democracy and of self-determination. It is only by considering this broader context that one can hope to arrive at an appropriate understanding of the dynamics of modern technology. Yet the approach suggested here will in its details not escape the stigma of being partial, since the broadening of the context can be achieved by means of different conceptual schemes.

3. In addition to broadening the context I shall try to consider the deep structure of the dynamics of modern technology. Roughly speaking one can distinguish between an approach which turns, as it were, to the surface of the phenomena, i.e., to the immediately observable data. This approach, which can be valuable, is characteristic of the various scientific disciplines—studies that occupy themselves with the examination of history and of society. Sociology, economics, political science, historical writing, they all address processes and states of affairs in terms of empirical evidence. With philosophy things are somewhat different. Philosophical investigation aims at a deeper understanding—and yet it is important not to lose contact with palpable reality. This is the famous abyss of philosophy, which—to use another metaphor—constitutes the divide between rationalists and empiricists. Clearly one has to pay a price for the supposed deeper understanding. This price consists in turning to abstract notions and even to some sort of speculative reasoning. Concerning technology, speculative interpretations are given among others by Martin Heidegger (will to power), by Friedrich Dessauer (continuation of the creation), by Arnold Gehlen (compensation of biological deficiencies) and Karl Marx (interaction between the economic basis and the political superstructure). Thus the two elements for putting technology in a more embracing perspective are, firstly, to consider the whole process of modernization, and secondly, to turn to a more fundamental understanding in terms of the inherent, deeper forces underlying the observable phenomena.

4. As a well known expression has it, technology is the art of guiding the forces of nature according to human purposes. In fact, all the various tools, systems, and processes brought about do serve this end. But, then, what are the human purposes in question? The answer is: release from hard work, luxury, wealth. Roughly speaking, then, these aims can be classified as serving the pursuit of happiness. Here two questions arise. First, are the aims really achieved? Second, assuming that they are, why does the ecology problem arise?

5. Taken in a historical perspective, technological progress achieved a lot. This becomes clearly evident if we compare the material conditions of the average person living in the industrialized nations or the average life-span with the situation that obtained two hundred years ago. As a matter of fact, two hundred years ago nobody would have dreamt of the capacities yielded by modern technology which we today take for granted. But people want ever more. The striking feature is the explosion of needs. Once the desire is stirred and fulfillment is seen as at hand, the level of aspiration is ever increasing. This is not astonishing, since needs and desires pertain to the realm of the mind, to fantasy, to wishful, utopian thinking. In contrast to this the concrete technological means are part of the realm of the physical world, and hence they are subject to the laws of nature and limited by the ever scarcer resources at our disposal in the given moment.

6. Concerning the ecology problem a variable that can by no means be neglected is the number of individuals living in the world. If the detrimental effect per capita is constant, the sum total of the noxious influences on the environment is proportional to the number of individuals involved. As is well known, here a feedback between technology and the population explosion obtains. It is due to the very progress of medical technology taken in a broad sense, that the population explosion became possible. Thus we can state that two basic factors involved are the (mental) explosion of needs and the (factual) population explosion.

7. A further general factor that fosters dynamic growth of technology is the inherent accumulation structure. The selection process in the modern natural sciences as well as in modern technology acts in terms of a further growth of scientific knowledge and of technological capacity. In contrast to other historical phenomena, modern science and technology are not following the pattern of rise

and decline. When new, competing scientific approaches and technological solutions are put forward, the selection is always made in terms of the more precise, the more embracing and the easier to handle scientific theories; and in the field of technology the more efficient solution, which—other things being equal—has the better yield, is chosen. If one furthermore takes into account that at a given moment in science as well as in technology one starts from the results that have been piled up in the past in the form of theoretical knowledge, know-how and concrete, physical technological systems, it is evident that there is an in-built tendency for future growth. Every novelty is being selected in terms of higher efficiency and performance and is then in its turn integrated into the existing stock, thus raising it to a higher level. (When turning to the theses of T. S. Kuhn, these general statements may be modified with respect to their conceptualization, but not with the respect to the matters of fact to which they are referring; nor are they in principle superseded by the approaches of alternative or soft technology.)

8. When it comes to the processes really obtaining, economic mechanisms cannot be neglected. After all, economic activity consists, generally speaking, in the optimal allocation of resources. And it is in this context that the technological knowledge and know-how at hand in a given moment is being put to use. Economy is the filter by means of which a concrete, specific choice is made from the broad realm of technological possibilities, to the end that certain technological systems and processes are brought about, where others which are in principle also feasible are not realized. Since the Industrial Revolution the growth of science and technology on the one hand and economic growth on the other are siblings. It is in a permanent process of mutual push and pull that they foster and enhance each other.

9. Finally, the modern style of democratic mass society is relevant here. The members of the political class want to be elected. In order to be re-elected, they must please the people. In order to please the people they give presents in the form of an increase of wealth. At least they try to do so, making technology and economics an instrument for attaining the favor of their voters.

10. It is easy to see that all of the factors mentioned (explosion of needs, population explosion, accumulation structure of science and technology, economy, the democratic system) act to stabilize and even to enhance the existing negative

effects on the ecological environment. This being the case, a reconsideration of the quality of life attained by modern technology is to the point. Here one must ask the basic question: Is modern technology really put to use so as to serve human purposes? In a trivial sense it is serving these purposes—since, after all, it is brought about and put to use by human beings who have certain aims in mind. To this one may object that there are different groups or classes within a given society, so that a political critique is appropriate and even necessary. Yet, taken in a broader sense, all human beings are in the same boat. Nobody can escape smog or radioactive radiation in a given area. This is to say that the question of the quality of life must be reconsidered. To put it bluntly, here two counteracting, even contradicting tendencies can be observed. On the one hand there is the use of technology with a view to a short-term horizon in space and time and of a regionalized ethics. This type of understanding and behavior serves a short-term fulfillment of human desires, and hence it corresponds to a short-term quality of life. On the other hand there is the broader, more far-reaching perspective that includes distant areas, the globe as a whole, as well as generations to come, i.e., global ethics.

11. In the philosophical tradition man is regarded as the rational animal. Why then do people not behave in a rational way with respect to the ecology problem? The answer is that we are not equipped to deal with the problems that we, by ourselves, have brought about by means of the all too efficient modern technology. By their very nature human beings are apt to manage appropriately only short-range problems. Our capacity to actually perceive physical phenomena as well as our capacity to deal with ethical problems is bound within a rather limited sphere. Neither our cognitive nor our moral capacities are sufficiently developed for dealing with the problems mankind as a whole has brought about by means of modern technology. However minor individual contributions, say to smog, may be, due to the great number they in sum total add up to a highly noxious amount. The analogue holds good with respect to our moral concern. We may not be conscious of the negative effects we are imposing on the generations to come, simply because we do not actually witness the effects; but still they will actually obtain in the future.

12. So we can state that, unfortunately, features of the human mind (explosion of needs, regionalized ethics) added to structural features (patterns of growth and of democratic policy) bring about the ecology problem. This type of

analysis is less radical than the fundamental understanding mentioned in 3, above. Yet, in one way or another, the explanation put forward here must be compatible with the basic approaches of 3. After all, the two types of explanation refer to the same phenomena, so they can not be completely divergent or even contradictory. If one takes the two types of approaches seriously, the more concrete, detailed factors dealt with in 4-9. must be considered as an outcome or a manifestation of the basic features named in 3. One may indeed consider the various elements identified here as specific manifestations of the will for power, of the continuation of creation, of the dialectics between economic basis and political superstructure, etc. The other way round this is to say that these speculative explanations consist of a fundamental aggregation of the more concrete mental and structural phenomena.

13. The notion of the quality of life, taken in a rather radical sense, may be helpful here. The state of affairs we are actually witnessing can be seen as resulting from a short-term, regionalized understanding. When taking into account a broader, global understanding, one arrives at a more fundamental conception of the quality of life. Thus two different normative versions of what a good life is are struggling with each other. Modern technology is put to use in terms of the short-term version. In this process the innermost nature of man is neglected, and perhaps even reduced to a lower level. Yet, along with the Faustian, Promethean tradition there is also the tradition of Francis of Assisi, Pascal, Kirkegaard, and Dostoyevsky. When taking the notion of the quality of life in terms of the global approach, not extraverted activity, but rather a moderate, caring attitude comes to the fore. This is not to say that I favor mysticism and irrationalism. The message is rather that a global approach coincides with a fundamental and really humane notion of the quality of life.

14. Since modern technology is an inherent element of the modern world, the problems we are faced with can only be solved by facing this world of ours. The characteristic feature of modern societies is that they are innovative, technology being a central element of this innovative process. Thus, modern science, technology, and economy have brought about an increase in wealth; politics has achieved the rights of the individual as well as democratic structures, and cultural innovation has led to the attitude of tolerance and to pluralism. This active drive of modern times is open to different aims. It is an impulse that can be guided and perhaps even channelled in different directions. Thus there is in

principle the chance to guide the dynamics of modern technology in such a way that it may lead to an improvement of the quality of life, taken in the substantial, philosophical sense of the term.