

Cultural Resources for Coping with Technological Progress¹

1 Values or cultures

One of the most important factors affecting the future of mankind is the progress at technology. In my paper I shall ask how far human values are endangered by technological development and, conversely, how far certain restrictions placed on technology by these human values can be justified. It seems to me, however, that to specify such values and to legitimise certain restrictions on technological progress would be a very abstract undertaking. We philosophers are often satisfied if we can present conclusive arguments in our papers and books. Technological development, by contrast, is a very concrete and powerful movement which impinges on and changes the living conditions of human beings throughout the world. I should like to call this process the *globalisation of technical civilisation*². It serves little purpose to agree in an abstract and universalistic way on certain values which might possibly be endangered by this process. In my view we ought rather to ask about the resources which are available in the various regional cultures of humanity to enable those regions to come to terms with technological development. I am not, therefore, asking about human values in general, but about values which are realised in cultural praxis, that is, in modes of living, in customary behaviour, in institutions and, more generally, in forms of communal life. I am not asking in general terms about the cultural resources for assimilating the effects of technology. Instead, I shall argue from the background of European or even more specifically German history and

¹ An extended German version of this text has been published in: Elisabeth List, Erwin Fiala (eds.), Grundlagen der Kulturwissenschaften. Interdisziplinäre Kulturstudien. Tübingen and Basel 2004

² Wolf Schäfer in his article on *Gobal Civilization and Local Cultures. A Crude Look at the Whole*, in : Intern. Sociology Sept. 2003, Vol. 16 (3), 301-319 has – following Max Weber and Robert Merton – legitimized the differentiation between *civilization* and *culture*. I agree with him that this is crucial in analyzing what the globalization of technology means for local cultures.

experience. And I am quite aware that the situation looks different looking from the perspective of a different cultural history.

In what follows I shall be concerned with defining more precisely the traditional resources which have been involved in the critical debate with technology in Europe. This will lead on to the critical thesis that we are now in a situation in which these resources themselves are being consumed by the development of technology.

Before embarking on the general section of my argument, I should like to give a brief illustration of what I have just said by an example which I have investigated in some depth myself. My purpose here is both to make clear the difference between human values and cultural praxis, and also to begin to clarify my thesis concerning the technological exhaustion of cultural resources.

My example is the process of human birth.³ In the 1970s there was in Europe and North America a very powerful tendency towards what was called “programmed birth”. That is, the birth of a human being was carried out according to scientifically calculated data and under technically optimised conditions. This means that as a rule births were induced by medication, and were monitored technically and guided pharmacologically while in progress. Birth under narcosis, that is, without the consciousness and collaboration of the woman giving birth, became the rule, and birth by caesarean section became, at the least, very frequent. Now, one might say in abstract terms, of course, that the birth of a human being is a *natural* process, and indeed, in touching on the theme of “nature” one is invoking one of the most important cultural resources by which the European opposition to the development of technical civilisation has been nourished. But in the context of birth in the 1970s “nature” had already been reduced to a pale, abstract value. Nature was already largely exhausted as a cultural resource in this area. By this I mean that although it was possible to argue against programmed birth on the grounds that birth *in itself* is a natural process, it could also be said that, in a

³ G. Böhme, ‘Wie natürlich ist die natürliche Geburt?’ in G. Böhme, *Natürlich Natur. Über Natur im Zeitalter ihrer technischen Reproduzierbarkeit*, 3rd edn, Frankfurt/Main 1997.

situation in which 95 per cent of births already took place in clinics, nature as a cultural resource, that is, as a living praxis, no longer had any reality. Birth in the clinic amounted to a process carried out under laboratory conditions and according to the norms of doctors and midwives as scientific and technical personnel. Resistance to programmed birth would therefore have remained on the level of ideology had not nature as a cultural resource been revitalised by suggestions made by a medical practitioner, Grantly Dick-Read. The method of *natural birth* as proposed by Dick-Read involves training in a praxis which deliberately gives scope to nature. Apart from instruction, it involves certain gymnastic and breathing exercises and the learning of an attitude by which the mother allows herself to go with nature, to go with what is happening of its own accord.

Dr Dick-Read's method achieved considerable success; that is, it gave rise to a widespread movement among women, introducing not just a marginal practice, like the re-introduction of home births, for example, but one which influenced the mainstream, birth in the clinic. In clinics, too, programmed birth is no longer an ideal.

Interesting and encouraging as this case is, I do not wish to analyse it further here, but to enquire more generally into the cultural resources which have provided the basis for the debate over technology in Europe up to now.

2 Observations on the critical debate over technical development in Europe

In his book *The Philosophical Discourse of Modernity*⁴, Jürgen Habermas has shown that the project of the modern age in Europe does not present a picture of the straightforward achievement of intentions. It is a much more varied picture, in which certain basic ideas of the Enlightenment achieve changeable success against constant opposition from waves of counter-Enlightenment and

⁴ Translated by Frederick Lawrence, Cambridge 1987. German edition: *Der philosophische Diskurs der Moderne*, Frankfurt/Main 1985.

Romanticism. Although this book points in the direction in which I wish to proceed, it offers nothing further in terms of specific contents, since it moves primarily on the level of the superstructure, that is, the level of discourse, and does not take account of matters such as the development of technology or cultural praxis. To that extent Habermas can count on a reconciliation of modernity with itself. But what were the cultural forces with which the project of modernity had to contend, insofar as it was a project of the technological mastery of nature - of external nature and also of the nature which we ourselves are? I believe that we can identify four major cultural resources which have fed the critical side of the debate over technological development: nature, creation, subjectivity and history. These are headings which, as soon as they are stated, may refer to nothing more than values. This makes it all the more important to investigate how far they have been, or still are, an integral part of cultural practices.

Let us begin with the theme of nature. This concept has been one of the most important characteristics of European culture as a whole. Since Greek Sophism nature has represented one side of a dichotomy, or a pair of opposites, by which practically all the moments of the European culture and world-view have been structured. For example: nature versus law; nature versus technology; nature versus mind; nature versus civilisation. These pairs of opposites have the peculiarity that they place the human being and human forms of existence at the centre, but at the same time tear them apart. For nature is that which exists of itself, while its antithesis is that which has been created by human beings. The human being is itself the criterion by which the opposites are split apart, since it is always to be found on both sides. What is decisive for the project of modernity, however, is that it places itself unambiguously on one side, positing the mastery of nature as the true goal of humanity's development. The project of freedom is understood as emancipation from dependence on nature. It is no wonder that whenever this project has taken concrete form, that is, when it was to be realised through technical development, it has aroused opposition. The counter-movements are found in practically all areas of culture, in pedagogy, in agriculture, in medicine and even in art. If Enlightenment philosophy advocated the disciplining and

control of inner nature as an educational ideal, that is, mastery of the body and the suppression of bodily impulses, this gave rise to a counter-movement seeking to give scope to the spontaneous development of the child, and aiming to promote the expression of human sensuality through what was called the education of nature. Through its “discovery of childhood”⁵ as an autonomous, self-contained phase of human development which is not merely a precursor to adulthood, this kind of pedagogy did also influence the educational mainstream. The pedagogical systems of Montessori and Waldorf and the school of Summerhill should be mentioned here as separate movements.

In the field of agriculture the technological appropriation of nature has been carried forward primarily through the industrialisation of agriculture, by its mechanisation and “chemicising”. From the first this process has met with opposition from the rural economy, and in Germany has prevented the complete industrialisation of agriculture up to now. Nevertheless, the methods of industrial agriculture, mechanisation and the widespread use of chemicals, have also penetrated rural farming operations. However, in our century “organic” or biological-dynamic forms of farming have been developed, and have become firmly established both legally and economically through the introduction of special brands, quality criteria and marketing systems.

In the field of medicine, the opposition to modern technical-pharmacological medicine has led to the development of natural healing methods, homeopathy, anthroposophical medicine and similar “alternative” healing procedures. What is important here is that these tendencies do not consist merely of counter-concepts and alternative theories, but are establishing an alternative praxis and specific healing professions. For example, a special case in Germany which should be mentioned here is the profession of the *Heilpraktiker*, or non-medical practitioner, which has become a social institution through the recognition of a specific training course and a diploma, but especially through recognition by the insurance system.

⁵ Philippe Ariès, *Die Entdeckung der Kindheit*, München 1978.

Finally, art should be mentioned as the last specific area of cultural praxis in which nature has been cultivated in opposition to the mainstream of the Enlightenment project. Here, the classic example is the antithesis between the French and the English landscape gardens. While the French park expresses the human will to subordinate nature by exact, geometrical planning, the objective of the English landscape garden is to make visible the autonomous activity of nature, and to create, by means of conscious arrangement, natural scenes of the kind which might have been produced by nature itself. By contrast, the mainstream of European art, like the project of modernity as a whole, is dominated by the emancipation from nature, and especially by a rejection of the classical maxim that art should be an imitation of nature (mimesis). In the art of 20th century, however, we find tendencies in which artists work within and with nature. I'm thinking of a genre such as land art, which articulates and makes visible nature as such, and of artists who deliberately allow nature to collaborate in their works, exposing them to weathering, for example, and integrating an element of decay and evanescence into the artistic process. There are also artists who see it as their task to enable people to rediscover their own natural, bodily level of existence, and to develop their sensuality, through the experience of art.

I have now said enough about nature for the present, especially as it repeatedly overlaps with the other three themes I wish to discuss. One might think, for example, of the widespread development of the nature-protection movement since the late 19th century. Through the activities of associations, this has become a reality to the point where it has affected legislation.

I shall now turn to the theme of creation. This is related to the theme of nature, but is distinguished from it by an entirely different form of cultural integration: creation is a fundamental conception of Christian-Judaic religion. The whole cosmos, and especially nature, is regarded as a divine product. In the beginning God arranged the world in a certain way, and at the end of the process of creation He Himself observed that this arrangement was good. This means, however, that by virtue of the idea of creation the state of the world is God-given, and is to be regarded as a divinely sanctioned order. Now, there is

no doubt that the position of man within creation is highly ambivalent. On one hand, he is himself a creature among creatures, and is obliged to respect the divine order of creation. On the other, he is elevated above the mass of creatures in that he is held to be made “in the image of God”, and has been entrusted with the task of “having dominion over the earth”.⁶ This task arising from creation was certainly used at the beginning of modernity’s project to legitimise the radical domination over and technical appropriation of nature. Yet, on the other hand, a different attitude developed out of the respect for nature, and gave rise in Europe to very significant cultural praxis and to opposition to the unfettered technicising of nature - of both external and human nature - an opposition which was supported by the churches. Implicit in the idea of man’s creaturely nature is an acknowledgement of animals as fellow-creatures, and this idea has been adopted as a principle of animal protection legislation in Germany.⁷ According to this law, animals must be respected as fellow-creatures. Furthermore, there is significant resistance from the Catholic Church to the manipulation by medical technology of the entire reproductive sector, that is, the process extending from conception to the birth of human beings.

I shall now turn to the third of the themes I mentioned, *subjectivity*. Unlike *nature* and *creation*, subjectivity is a value which does not go back to antiquity, but is itself a product of modern thought and modern modes of living. It is true, there is a background to subjectivity within Christian-Judaic religion: it stems from God’s concern for the individual human being, in that God both addresses the individual person and calls that person to account: “I have called thee by thy name.”⁸ However, subjectivity in the sense of a view of the world focused on the individual human subject and governed by the notion of the non-fungible responsibility of the individual person, is a product of the late 18th and early 19th centuries, that is, of the French Revolution on one hand and Romanticism on the other. Here, too, it must be said that subjectivity is not merely an idea,

⁶ Bible, *Genesis* 1,28

⁷ For detailed analysis see my book *Ethics in Context. The Art of Dealing with Serious Questions*. Cambridge/Engl. 2001.

but is integrated into forms of living and is secured by social institutions. Thus, since the French Revolution there have been individual human rights, and since Romanticism the custom of the individual choice of the marriage partner.

Subjectivity as a way of life and as a social institution is at present developing into an important resource for resistance to the unrestricted manipulation of human beings. Subjectivity is one of the most important moments in the concept of human dignity. The inviolability of personal dignity requires that people's subjectivity be respected in one's dealings with them. This self-perception by human beings, or this interpretation of human dignity, underpins, for example, the ban on cloning in Europe today. To clone a human being would be to endanger him in his uniqueness and non-fungibility, and, I would like to add, in his entitlement to regard himself as a new, original subjective entity. On a world-wide scale, that is, at the level of UNESCO, the understanding of human beings as subjectivities is underpinned by the ban on reducing them to their genetic equipment. The UNESCO declaration on gene technology contains a passage according to which a person's identity cannot be equated with his or her genetic code.

Finally, I come to my last theme, that of history. To have a history, to be embedded in a history, was not discovered as a value until the period of Romanticism. Only in a period which, through social revolutions, industrialisation and technicisation, confronted human beings with an incessant annihilation of the past, and imposed on them constant partings, did connectedness to the past become an autonomous value. This, too, it must be said, was by no means an abstract value; to live historically became a way of life and gave rise to social institutions. A multitude of tradition-orientated associations came into being, devoted, for example, to cultivating traditional dialects and traditional music, to preserving regional costumes and, lastly and most important, to protecting and fostering regional values. The movement to protect regional homelands is the real source of the nature conservation

⁸ Bible, *Isaiah* 45,4

movement in Europe.⁹ The latter was never concerned with the conservation of nature as it may have been in itself, as a wilderness, but with landscape as it had been shaped by history. Historicity as a cultural resource therefore means resistance to the arbitrary remodelling of the given environment by technology. It demands that innovations should respect tradition and incorporate the new *harmoniously* in the old. This means respecting not only built monuments but also natural monuments. In Germany, both of these are anchored in different forms in the Basic Laws of the federal states. Nature conservation has been declared a state responsibility, and encompasses not only the protection of nature as such, but of nature as a human living-space.

Important social movements have drawn their strength from the resource of historicity, and are still active today in the form of associations and interest groups. Unlike my other three themes, that of historicity contains a moment which makes it especially capable of assimilating technological developments. If a mode of life is determined by historicity, that certainly does not mean that it only generates resistance to innovations. Rather, that which is to be preserved is understood as a human product - nature as a landscape cultivated by man, for example - so that the aim is not to reject any change, but to foster the preservation of continuity.

When I review these four resources for coping with technical progress, it seems doubtful to me whether they can be universalised. At any rate, I am aware that these themes are embedded in certain constellations of European cultural history. And I wonder whether functional equivalents, with similar potential for coming to terms with technology, could exist in other cultures. *Nature* was originally conceived in contradistinction to the consciousness of free self-development in the Greek *polis*. The concept enjoyed a renaissance in the period of Rousseau, when civilisation was experienced for the first time as oppressive and restrictive. The understanding of the world as a whole as the *creation* of a God is an expression of Judao-Christian religion. *Subjectivity* came into being in conjunction with the bourgeois revolutions in Europe in the

⁹ R.P. Sieferle, *Fortschrittsfeinde? Opposition gegen Technik und Industrie von der Romantik bis zur Gegenwart*, Munich 1984, esp. Ch. 13.

18th century. *Historicity* is a concept which evolved in opposition to the Industrial Revolution about 1800. These four, nature, creation, subjectivity and historicity, have formed the resistant framework within which technological development has been channelled and retarded, but also, in part, constructively shaped. This means that scientific and technical progress up to now has had to conform to legislation regarding nature conservation and animal protection, that industrial innovations have to pass official tests of their environmental and social compatibility, that progress in medical technology is bound by respect for human dignity and is governed by laws and approval procedures. All this works more or less well. The question raised by the globalisation of technical civilisation, however, concerns not only the possible universalisation of these resources for coping with technical progress, or the presence of functional equivalents in other cultures; it is also the question how far and for how long we can continue to rely on these resources.

3 The erosion of the resources for coping with technology

The sceptical thesis I would like to put forward now is that the advance of technology is itself progressively destroying the resources which have enabled it to be constructively assimilated in Europe up to now. This is bound up with reasons which oblige us to say that we now live in a **technical civilisation**. In our century technology has itself taken on the status of a civilising factor and has thus marginalised traditional cultures, even in Europe. We are no longer dealing with civilisations or cultures which only **make use of** certain technologies; rather, the technologies have themselves acquired a function which shapes human and social life. This process can best be described as a **technicising** of all spheres of life. Although this concept encompasses current developments, it is also clear that some of them extend far back and may just be the final working out of what has always been latent in modern technology. I shall apply this supposition to the four themes that I have mentioned, in order, also, to illustrate my thesis that technological development is gradually eroding the critical potential of the resources in question.

This process is seen perhaps most strikingly in the case of nature. Even today, people are still apt to invoke nature when advocating alternatives to technicised modes of life or attempting to curb technical developments. But what is nature? Has not nature been investigated and understood in an experimental, technical context since Galileo? Did not Descartes equate the knowledge of nature with its technical reproduction? Have we not long included in nature not only what is already given, but what we produce technically, for example, super-heavy elements or polymeric fibres? The more we succeed in reproducing nature technically - and this includes the areas of medical and genetic technology - the less easy it is to understand how one could draw a boundary between the natural and the artificial which would command respect. If this boundary shifts or becomes completely blurred one wonders what basis is left for resistance to the genetic manipulation of species, including man, to transplant technologies and the arbitrary modification of ecotopes. If nature is not simply that which manifests itself and is therefore given, but is that which is **producible in accordance with natural laws**, then the concept of nature loses its normative significance as a sphere which must be respected and cared for, and which sets limits to technical development.

The situation is very similar with the concept of creation. Since the trial of the physicist Galileo, the role of the churches in shaping our view of the world has been in retreat. Since the church has been obliged to leave it more and more to natural science to say what nature is, the concept of creation has been progressively devalued. It was essential to the concept of creation and to the order predicated on it that creation was completed on the *seventh day*, in accordance with the Bible. The pressure of natural science on the Christian churches has obliged them to reinterpret the concept of creation in a form compatible with the theory of evolution. This has given scope to theological ideas which were originally regarded as heretical - pantheistic ideas that God is nature, and ideas of a permanent creation. Today, such ideas have become acceptable to at least the Protestant sector of Christianity under the heading of Process Theology, which is strongly influenced by the philosopher Alfred North Whitehead. It is clear from this, however, that the concept of creation, the idea of a fixed entity which must be respected, has been abandoned: nature as

permanent creation continues to develop further, and can therefore also be developed further **by human beings**.

If the erosion of the religious resources has been primarily a result of the adaptation of theology to science, technology itself is penetrating the cultural area I referred to by the concept of subjectivity. This is happening in various ways. Psycho-pharmaceuticals are making it possible to manipulate the sphere of the emotions - precisely the sphere which is essential to subjectivity as a realm of responsibility. The identity of a human being, which was founded culturally on his or her responsibility for biographical continuity, might be reduced to a pure fact by the method of the genetic fingerprint. On the other hand, the technical production of a diversity of realities constructed of images and data opens the possibility for individuals to multiply their own identities. For many people life on the Internet is becoming a part of their real life, but in it they split themselves into a multitude of identities on which they cannot and need not confer any unity. There are cultural practices - in this case the use of psycho-pharmaceuticals for non-therapeutic purposes, the criminological technique of the genetic fingerprint and storage of such fingerprints in databases, and virtual play on the Internet - which are dissolving away the possibilities of resistance based on invoking an individual subjectivity which should be respected.

Finally, we come to the theme of history. Here, there is a famous example - admittedly, an example in a novel - of how history can be destroyed. Orwell's novel *1984* envisages a situation in which the past is re-written by manipulating existing data in order to adapt it to current policies. That is a fiction, and no doubt an exaggerated one, but it does show the possibilities open in principle to technology. On a concrete level, we have today the problem that a photograph can no longer be used as an historical document because of the possibility of technical manipulation. However, technology can make the past disappear not only in this negative way, by erasing and re-writing it, but by the precise opposite, by keeping it present without any loss. History as cultural praxis requires forgetting and remembering, it requires tradition. But electronic data carriers have the tendency to keep everything present without distinction

or loss. Whether positively or negatively, the technical possibilities in the management of data, texts and images are depriving the past of its weight, of what might be called its inertia, and thus of its potential to resist innovative developments in the present.

4 Conclusion

This brings me to my conclusion. What I wished to show you is that European culture, which can be regarded with some justice as the mother of modern technological development, once contained the resources to cope with this development. Modern technology has the potential not only to expand the modes of human existence to an unprecedented degree, but also to destroy humanity actually, or to destroy qualitatively what we have regarded up to now as human values. From the experience of European culture I have tried to show which resources have been available up to now to determine and secure the content of human values by cultural praxis. I am far from wishing to recommend these possibilities, developed within the context of European culture, to the family of humanity as a whole, especially as I am extremely sceptical, as you have seen, whether these resources will be sufficient in the long run to withstand the divergent tendencies of technological development.

Translated by Dr. Edmund Jephcott