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Technology, Science and Anarchism

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It has always been a great temptation to give an intensive definition of man. Our ancestors were so bemused by their own philosophical capabilities, and by the, to them, evident lack of these in the rest of the fauna that they characterised themselves as *homo sapiens*. You and I have inherited that noble appellation without any effort on our part. Of late we have had other attempts at definition, *homo ludens* by Huizinga, “man the time-builder” by Korzybski. The former emphasised the importance of non-purposeful activity, play, in the development of those activities we consider more worthy and important; the latter characterised man by his ability to symbolise experience and thereby transmit it to other members of the species far distant in time and space. Korzybski’s definition is, by the way, extensive, as given in his *Manhood of Humanity*.

I too have a chip on my shoulder, and as one of the mad ogres of modern times, a technologist, a blind self-abasing servant of the machine, I reject intensive definitions and choose to present my own extensive one of man, an outgrowth of that of Korzybski, and I choose the label *homo aedificans*, ‘man

the builder', to hang onto my definition. Intensive definitions should be left to metaphysics, so it is up to me to make it credible that my definition is extensive. The instructions for verification of the definition are as follows:

“Observe the surface of this planet for at least one revolution round its primary in sufficient detail to resolve features one hundred millionth of its circumference in extent. You will observe several lifeforms that produce artefacts from the material in their environment. Further observation will show that in the case of all but one of these lifeforms a given lifeform produces but one type of artefact and that only within a sharply limited ecological framework. However, the residual lifeform will be observed to produce a multiplicity of artefacts and may be seen to produce the same artefact out of varying environmental material by appropriate intermediary processes. If you were to extend the period of your observations to a hundred revolutions round the primary you would observe that no change has occurred in the range of artefacts produced by the lifeforms except again in the case of the one lifeform previously noted. Some artefacts previously produced by this lifeform will no longer be produced, some will be made out of entirely different environmental material, and a large number of artefacts not previously produced will now be noted. If you were to improve the resolution of detail of your observations by a linear factor of one hundred you will observe a class of artefact that may be deduced to be symbolisations, abstractions, of other artefacts, of events, or of actions of the lifeform. The lifeform you have particularised by your observations is called man.”

This definition of man says nothing of heart or soul, of art or intellect. It is ignoble, you may say. Perhaps. But it is verifiable, it is devoid of private assumptions and comprises only directives for the performance of actions that will lead to the recognition of the species under discussion. It identifies man as the sole maker of gadgets and widgets on this planet, that is, by his technologies.

A few years ago such a definition might even have been challenged as totally inadequate by archaeologists and hominid palaeontologists who had developed an evolutionary sequence largely derived from the cranial capacity of the pre-sapiens remains found. Recent years have seen the excavation of many more archaeological sites in many more parts of the planet and it has become clear cranial capacity is a secondary development. The record now shows that tool-using and tool-making goes much further back in our ancestry than had previously been supposed and, what is more important, that each stage of cranial development is preceded by a change in the skeleton structure of the limbs giving greater manipulative skill, and the archaeological record confirms that our ancestors immediately used the new skill to make more refined tools, before their cranial capacity had increased. The gadget is the father of wisdom.

A persistent thread in anarchist and libertarian writing, as elsewhere is the denigration of modern technology and the expression of a thirst for the simple life, the natural life. It is presupposed that if man can slough off his concern for things he will behave more nobly towards his fellow men. The proponents of this sort of argument point to 'the simple happiness' of various primitive societies. There are several answers to this view. Firstly, the range of expectations is much narrower in such societies and therefore so are the expressions of discontent. Secondly, it is no great achievement for a society the majority of whose members are malarial or ridden by deficiency diseases to be placid, and content with the simple fact of being alive. If you expect your children to die in the first year of life

and if you have no great life expectancy then there is little inducement to be ambitious or to carve out an empire. Thirdly, the technological accomplishments of some of these societies put our own engineers to shame. Within the strict limitations of their arctic environment the Eskimo have exploited its resources and invented gadgets that have no equal. They have no word for "war" because they are too busy making and using gadgets to keep alive.

In conjunction with the arguments about the simplicity of life is that about the natural life. Usually this is assumed to be pastoral, horticultural or agricultural. I fail to see what is so natural about any of these. They are as artificial as the construction of nuclear reactors. The only natural habits for man would be to wander unclothed and without constructed shelter, without fire, gathering herbs and fruits to eat raw and catching small animals with his bare hands to gnaw raw, and most certainly without any language to use to communicate with his fellows. All else are constructs of a social technology of very great complexity. No natural lifer would admit conditions as primitive as these I have just described as his ideal. But none can adduce reasons why his utopia should be permitted to indulge in the degree of artificiality he feels to be desirable whilst forbidding other artificialities.

I must, of course, put up my own version of what is 'natural' for man. It is to manipulate his environment to facilitate, directly or indirectly, the survival of himself and his species, the survival value of his actions depending on his current apprehension of reality. A corollary of this view is that stasis is inconceivable for humanity. And a survey of human history will quickly confirm that change is not something facing us now, from which we can retreat into some golden era of the past, but that it is a part of all we know of ourselves, a normal condition of the race, and that it has always been with us.

The agrarian utopia can only succeed in an environment so devoid of natural resources that innovation and invention are

prehesion of the universe we inhabit. You may seek to change us, but to reach us you will have to undergo the discipline of language, perhaps the complex of our artefacts, and the search to convey your meaning to us will lead you first to examine our meaning and to be tainted by it.

common ownership of land you cannot be permitted to wander at will on an airfield, if necessary you must be shot dead before you can endanger an airliner landing with a hundred passengers aboard.

The usual anarchist reply to the above problem is that it would not, of course, exist in a free society where all men would behave reasonably. But reason and goodwill are not enough. Knowledge and understanding must be there also, and if people are free to learn to ignore simple facts of their daily life then you must guard against the blunders occasioned by their ignorance.

Of course we can go back to the argument about the abolition of technology. By all means yearn for your little womb of pristine safety and simplicity. Do not expect the rest of us to follow you there, or to honour you for fleeing thither. And if we find that we could put your corner of paradise to more congenial use we shall probably wrest it from you without pity or remorse. Violence is the last resort of the incompetent, and oft we are incompetent. But the fact that we are incompetent does now make us scurry off to a dark corner to brood in fear, we shall try to develop competence, it will cost blood, toil tears and sweat, both ours and yours. We know a little of whence we come, we know almost nothing of where we are going, but we shall go on, impelled by the monkey instinct, by the hands of the artificer, by the thoughts of the scientist, by the dreams of those who sought the summits of mountains and the deeps of the sea, the poles of the planet and the reaches of space. Because we are human.

We build and we also destroy. Often we destroy through ignorance. Our technology is yet poorly used, we damage ourselves with it. It has always been thus, the Roman farmers impoverished the soil of Italy with their sheep two thousand years ago, we must always be aware that every act may be a mistake. But the symbols of our common humanity are our artefacts, the tools by which we enrich and enlarge our experience and com-

impossible, where the struggle to survive by present means is so intense as to preclude the spare time and energy requisite to the devising of other means. Under more favourable circumstances the utopia of this type is self-destroying if stocked with healthy human stock, it will invent and innovate its way from subsistence to technological exuberance. Invention and innovation will not be confined to the arts or philosophy or the love of one's fellow man, there is no evidence that these can be independent of material activity, and indeed there is overwhelming evidence that the humanitarian must be preceded by the technician, to prepare an environment in which the race can afford the graces of life.

And if man succeeds in creating an environment in which he can exist without inventive effort then he will be dead. When curiosity and questing cease the end has come. Why should this curiosity be exercised upon the material world and not upon the finer delights of metaphysics, charity and love? Because we live in this material world it is our world, it is the raw material out of which we can fashion our lives of our own choosing, if we have the will and the comprehension to do so. Remember the men who are regarded as the two greatest artists ever, da Vinci and Michelangelo. First and foremost they were manipulators of materials, technicians, engineers. First they had to invent the paints and other materials of their art, to devise the engineering rules for their sculpture and architecture. They commanded the material world, and comprehended it as best as they were able. Their art was based on the foremost advances of the technology of their day. Today the castrate artist hides his incomprehension of the world he inhabits behind flabby talk of art and is impotent in the face of reality, the human race has outgrown him, he is retarded in his development. In a frenzy of imagined superiority he had abdicated his right to fashion the materials of our daily lives, and then has the childish petulance to blame others for his own futility.

The relevance of this view of the world to the anarchist discussion is at least threefold. In the first place, it is a view held, usually inarticulately and even unconsciously, by very many people in positions of effective control in our culture. The task of the anarchist propagandist does not begin with attempts to persuade these people of the validity of the anarchist standpoint. The difficulty is far more fundamental, it is incumbent upon the anarchist to discover the common basis of discourse from which he can address the technologist. To the anarchist it may be a self-evident truth that 'man if born free, and everywhere he is in chains'. It is not. It is a metaphysical, not practical, statement. It requires the exhibition of examples of the states of freedom and bondage.

Man is born free. But unless he is subjected to the most rigorous social discipline in his youth not even an anarchist is likely to claim him as a comrade. For infant man must learn a language, and learn it correctly. By correctly I mean that he must learn to frame his own communication in such a way that he conveys whatever he wants to convey to others, and at the same time learns to pay attention to the communications of others so as to apprehend their meaning. By the time he has achieved fluency of expression a man's 'natural freedom' has been severely circumscribed by society. It is a very simple practical affair. If you wish to be a member of society you must obey the rules, if you ignore the rules you remain outside society for you are bereft of the means of communication. You can babble as much as you like about freedom, but your babbling will be couched in terms that obey the strict social rules if you wish your effusions to have any effect.

So, maybe, man is born free. But unless he loses his freedom he ceases to be a man. It is even doubtful that abstract thought is possible for us without the use of linguistic symbolism. The hermit is indebted to generations of social effort for the language in which he postulates his withdrawal. Without the cultural apparatus that your ancestors and your fellows have pro-

vided by laborious toil you, individual man, are less than nothing. You have not even the instincts that enable most animals to live, you depend for your survival upon the accumulated effort of the race.

Comrades, you see your problem!

The second problem for the anarchist in an expanding society is that of education. In an earlier issue of this journal it was asserted that anarchist education must not compel the child to learn subjects that it does not spontaneously wish to follow. I hope that the writers were not prepared to make a few points of safety in a technical environment an elective subject. For instance, do not touch live electric mains. Now if these points are neglected we have, of course, solved the problem of overpopulation brilliantly. If we do make personal and public safety compulsory, but make the background subjects elective we have made witchcraft the basis of our society. For without thorough comprehension of the 'laws of nature', of science, such safety precautions are just witchcraft, or the edicts of a vengeful god. You will not get a free and open society if the basis of the elemental rules of survival is not understood by those upon whom they are enjoined. Further, unless a citizen is somehow made aware of the existence of fields of human knowledge and experience and ignorance then he has no chance to be interested in them. You cannot look for an answer before you know that there is a question. A fully elective education would be a disaster for the child.

The third problem is that of authority. This is allied to the previous one. In a technical society decisions must be made and directives must be issued if the society is to exist at all. For instance, if automobiles are desired then a rule of the road must be established *and rigorously enforced*. We cannot choose to drive on the left or right at will whatever our political or philosophic persuasion the brute facts of mobile tons of machinery impose their own discipline. I said that directives must be issued. They must also be enforced. Whatever your views on the