IS PROGRESS POSSIBLE?

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The Observer, July–August 1958

www.lewisiana.nl/isprogresspossible.pdf [*]

July 13

Man in Society

by C. P. Snow

The publication of Darwin's "Origin of Species" one hundred years ago went a long way to explain the physical evolution of man through vast ages of geological time. Subsequent discoveries have all tended to confirm Darwin's main ideas. We do not know, however, to what extent man can still be said to be "progressing" socially and morally, or even whether this concept has an exact meaning. "The Observer" has invited five well-known writers and scientists to give their views on Man's Progress to-day.

The first article is by Sir Charles Snow, the distinguished novelist, who himself had a scientific training. He was formerly Fellow of Christ's College, Cambridge.

Auschwitz and Hiroshima. We have seen all that; in some of it we have acquiesced or helped. No wonder we are morally guilty. Men like ourselves have done such things – and at the same time men like ourselves, sometimes the same men who have taken a hand in the horrors, have been showing more concern for the unlucky round them than has ever been shown by a large society in human history. That is the moral paradox in which we have to live.

It is wrong to try to domesticate the horrors. The mass slaughter of the concentration camps was both the most awful and the most degrading set of actions that men have done so far. This set of actions was ordered and controlled by abnormally wicked men, if you like, but down the line the orders were carried out by thousands of people like the rest of us, civil servants, soldiers, engineers, all brought up in an advanced Western and Christian society. While it was people not like the rest of us but a great deal better, people who for imagination and morality, not to speak of intellect, stand among the finest of our race, people like Einstein, Niels Bohr and Franck, who got caught up in the tangle of events which led to Hiroshima and Nagasaki. The dropping of those bombs was of a lesser order of wickedness from what was done at Auschwitz. But Western Man ought not to forget that he did it; Eastern man certainly won't.

[*] Transcribed by Henk van Wingerden and Arend Smilde; posted on December 26, 2023. This edition is best suited to printing on A5 format.

A much Kinder Society

At the same time we ought not to forget what there is to our credit. Some kinds of optimism about man's nature are dangerous – but so are some kinds of pessimism. Think of the care the Swedes and the Danes are taking of their old and poor, or of prisoners, or of social misfits. Nothing like that has been done at any period or in any place until our lifetime. We can congratulate ourselves in this country, too. The Scandinavians have not made anything like a perfect society. In some ways we have not got as near to it as they have. But they and we have made a better shot at it than anyone before us.

This country is a much fairer and a much kinder society than the one I was born into in 1905. It may seem sentimental to have consciences troubled about capital punishment, about removing one life when Western man has recently eliminated twenty million: yet it is a sign of moral sensitivity. So is the attempt, however grudging, to treat women as though they were equal human beings. So is the feeling behind the Wolfenden Report. So is the conviction – so urgent in the United States – that children have a special right to happiness.

Some of these feelings may lead to practical follies (I believe that the American one is making a mess of their education), but that is not the point. They are signs of the development of something very rare in the world up to now, which one might call moral kindness. I have no doubt that in Scandinavia, this country, some, though not all, of the United States, and perhaps three or four other countries in the West, the amount of fairness, tolerance and effective kindness within the society would seem astonishing to any nineteenth-century man.

The Treachery of Our Day

It would also seem astonishing to any nineteenth-century man how much we know. There is probably no one now alive as clever as Clerk Maxwell or Gauss; but thousands of people know more than Clerk Maxwell or Gauss, and understand more of those parts of the world that they spent their lives trying to understand. Put those two down, or of even greater men, such as Newton and Archimedes, in front of what is now understood – and they would think it wonderful. So it is, and we can take pride and joy in it. It will go on: the search to understand is one of the most human things about us. Compared with our ancestors, there are some trivial physical differences. We are a good deal taller and heavier, we live much longer. But above all, we know more.

All this it would be reasonable to call progress, so long as we don't expect of progress more than it can give. In each of our individual lives there is, of course, something beyond human help. Each of us has to live part of his life alone: and he has to die alone. That part of our experience is right outside of time and history, and progress has no meaning there. In this sense, the individual condition is tragic. But that is no excuse for not doing our best with the social condition.

To think otherwise, to take refuge in facile despair, has been the characteristic intellectual treachery of our day. It is shoddy. We have to face the individual condition: for good and evil, for pettiness and the occasional dash of grandeur, we have to know what men are capable of: and the we can't contract out. For we are part, not only of our privileged North European-

British-American *enclave* of progress, but of another progress which is altering the whole world.

I mean something brutally simple. Most people in Asia still haven't enough to eat: but they have a bit more than before. Most people in Asia are still dying before their time (on the average Indians live less than half as long as Englishmen): but they are living longer than before. Is *that* progress? This is not a subject to be superior or refined or ingenious about, and the answer is: *of course it is.*

It is because Western man has grown too far away from that elemental progress that we can't get on terms with most of the human race. Through luck we got in first with the scientific-industrial revolution; as a result, our lives became, on the average, healthier, longer, more comfortable to an extent that had never been imagined; it doesn't become us to tell our Chinese and Indian friends that that kind of progress is not worth having.

We know what it is like to live among the shops, the cars, the radios, of Leicester and Orebro, and Des Moines. We know what it is like to ask the point of it all, and to feel the Swedish sadness or the American disappointment or the English Welfare State discontent. But the Chinese and Indians would like the chance of being well-fed enough to ask what is the point of it all. They are in search of what Leicester, Orebro and Des Moines take for granted, food, extra years of life, modest comforts. When they have got these things, they are wiling to put up with a dash of the Swedish sadness or American disappointment. And their determination to get these things is likely in the next thirty years to prove the strongest social force on earth.

Will they get them? Will the social condition everywhere reach within foreseeable time something like the standard of the privileged Western enclave? There is no technical reason why not. If it does, the level of moral kindness will go up in parallel. These ought to be realistic hopes. There seems only one fatality that might destroy them. That is, it goes without saying, an H-bomb war. That is the only method of committing the final disloyalty to the species, of stopping the hope of progress dead.

If the H-bombs Went Off

No one can pretend that it is not possible. For myself, I think that it won't happen – even though we have seen how good and conscientious men have become responsible for horrors, even though two atomic bombs have been dropped already, and by Western man. But I still think, partly as a guess, partly as a calculation, that we shall escape the H-bomb war – just as I think we shall escape the longer-term danger of Malthusian over-population.

It may easily be that I am letting hope run away with me about the H-bomb war. Some of the wisest disagree with me. Let us imagine that they are tight and that the H-bombs go off. Is that going to be the end? I find it difficult to believe. In this country a lot of us would be dead, our children with us. A lot of Americans and Russians would also be killed outright. No one knows how many would die afterwards through effects of radiation. But I don't believe that men have at present the resources to destroy the race.

If that is so, and if after an H-bomb war a viable fraction of the world population were left untouched (my own guess is that it would be a very large fraction, at least two-thirds and probably much bigger), then we should all be amazed how soon hope of progress took possession again. The human species is biologically a very tough one, and tough in a sense no animal species can be, through its intelligence, its organization of knowledge, the capacity of its members not to be totally bound within the rapacious self. After the most hideous H-bomb war, the inhabitants of Africa and India and South America would have the strength of those qualities to build on. The material and scientific gap, left through the devastation of the West and Russia, would be filled up at a speed not flattering to Western or Russian self-esteem. What would the moral scar be?

I think we can already answer that question, for we too have, as I said at the beginning, witnessed horrors and assisted at them. Most of us don't live constantly in the presence of Hiroshima and Auschwitz: the memory doesn't prevent us getting morally concerned about the fate of one murderer or cross because a lonely and impoverished old man doesn't have enough calls from the District Visitor.

Scarcely Begun to live

It would be just the same if the Northern hemisphere became more or less destroyed. Men elsewhere would not live under that shadow, they would be busy with their own societies. If those societies were less fair and morally sensitive than ours is now, they would soon catch up. Within a bizarrely short interval, after hundreds of millions of people had been incinerated by H-bombs, men in countries unaffected would be passionately debating capital punishment. It sounds mad: but it is the kind of madness which makes human beings as tough as they are, and as capable of behaving better than they have so far behaved.

So there remains a sort of difficult hope. So long as men continue to be men, individual man will perceive the same darkness about his solitary condition as any of us does now. But he will also feel occasional intimations that his own life is not the only one. In the midst of his egotisms, pettinesses, power-seekings, and perhaps the horrors these may cause, he will intermittently stretch a little beyond himself. That little, added to the intelligence and growing knowledge of the species, will be enough to make his societies more decent, to use the social forces for what, in the long sight of history, are good ends.

None of it will be easy. As individuals, each of us is almost untouched by this progress. It is no comfort to remember how short human history is. As individuals, that seems just an irony. But as a race, we have scarcely begun to live.

July 20

Willing Slaves of the Welfare State

by C. S. Lewis

From the French Revolution to the outbreak of the First World War in 1914, it was generally assumed that progress in human affairs was not only possible but inevitable. Since then two terrible wars and the discovery of the hydrogen bomb have made men question this confident assumption. Is man progressing today? Is progress even possible?

"The Observer" has invited five well-known writers to give their answers to these questions. In this, the second article of the series, C. S. Lewis, Professor of Mediaeval and Renaissance English at Cambridge, author of "The Screwtape Letters" and many other books, replies to C. P. Snow's opening article, published last Sunday.

Progress means movement in a desired direction, and we do not all desire the same things for our species. In "Possible Worlds" Professor Haldane pictured a future in which Man, foreseeing that Earth would soon be uninhabitable, adapted himself for migration to Venus by drastically modifying his physiology and abandoning justice, pity and happiness. The desire here is for mere survival. Now I care far more how humanity lives than how long. Progress, for me, means increasing goodness and happiness of individual lives. For the species, as for each man, mere longevity seems to me a contemptible ideal.

I therefore go even further than C. P. Snow in removing the H-bomb from the centre of the picture. Like him, I am not certain whether if it killed one-third of us (the one-third I belong to), this would be a bad thing for the remainder; like him, I don't think it will kill us all. But suppose it did? As a Christian I take it for granted that human history will some day end; and I am offering Omniscience no advice as to the best date for that consummation. I am more concerned by what the Bomb is doing already.

The H-Bomb a Red Herring

One meets young people who make the threat of it a reason for poisoning every pleasure and evading every duty in the present. Didn't they know that, Bomb or no Bomb, all men die (many in horrible ways)? There's no good moping and sulking about it.

Having removed what I think a red herring, I return to the real question. Are people becoming, or likely to become, better or happier? Obviously this allows only the most conjectural answer. Most individual experience (and there is no other kind) never gets into the news, let alone the history books; one has an imperfect grasp even of one's own. We are reduced to generalities. Even among these it is hard to strike a balance. Sir Charles enumerates many real ameliorations. Against these we must set Hiroshima, Black and Tans, Gestapo, Ogpu, brain-washing, the Russian slave camps. Perhaps we grow kinder to children; but then we grow less kind to the old. Any G.P. will tell you that even prosperous people refuse to look

after their parents. “Can’t they be got into some sort of Home?” says Goneril (In Shakespeare’s King Lear).

More useful, I think, than an attempt at balancing, is the reminder that most of these phenomena, good and bad, are made possible by two things. These two will probably determine most of what happens to us for some time.

The first is the advance, and increasing application, of science. As a means to the ends I care for, this is neutral. We shall grow able to cure, and to produce, more diseases – bacterial war, not bombs, might ring down the curtain – to alleviate, and to inflict, more pains, to husband, or to waste, the resources of the planet more extensively. We can become either more beneficent or more mischievous. My guess is we shall do both; mending one thing and marring another, removing old miseries and producing new ones, safeguarding ourselves here and endangering ourselves there.

Rulers Become Owners

The second is the changed relation between Government and subjects. Sir Charles mentions our new attitude to crime. I will mention the trainloads of Jews delivered at the German gas-chambers. It seems shocking to suggest a common element, but I think one exists. On the humanitarian view all crime is pathological; it demands not retributive punishment but cure. This separates the criminal’s treatment from the concepts of justice and desert; a “just cure” is meaningless.

On the old view public opinion might protest against a punishment (it protested against our old penal code) as excessive, more than the man “deserved”; an ethical question on which anyone might have an opinion. But a remedial treatment can be judged only by the probability of its success; a technical question on which only experts can speak. Thus the criminal ceases to be a person, a subject of rights and duties, and becomes merely an object on which society can work. And this is, in principle, how Hitler treated the Jews. They were objects; killed not for ill desert but because, on his theories, they were a disease in society. If society can mend, remake, and unmake men at its pleasure, its pleasure may, of course, be humane or homicidal. The difference is important. But, either way, rulers have become owners.

Observe how the “humane” attitude to crime could operate. If crimes are diseases, why should diseases be treated differently from crimes? And who but the experts can define disease? One school of psychology regards my religion as a neurosis. If this neurosis ever becomes inconvenient to Government, what is to prevent my being subjected to a compulsory “cure”? It may be painful; treatments sometimes are. But it will be no use asking, “What have I done to deserve this?” The Straightener will reply: “But, my dear fellow, no one’s blaming you. We no longer believe in retributive justice. We’re healing you.”

Our Whole Lives Their Business

This would be no more than an extreme application of the political philosophy implicit in most modern communities. It has stolen on us unawares. Two wars necessitated vast curtailments of liberty, and we have grown, though grumblingly, accustomed to our chains. The

increasing complexity and precariousness of our economic life have forced Government to take over many spheres of activity once left to choice or chance. Our intellectuals have surrendered first to the slave-philosophy of Hegel, then to Marx, finally to the linguistic analysts.

As a result, classical political theory, with its Stoical, Christian, and juristic key-conceptions (natural law, the value of the individual, the rights of man), has died. The modern State exists not to protect our rights but to do us good or make us good – anyway, to do something to us or to make us something. Hence the new name "leaders" for those who were once "rulers". We are less their subjects than their wards, pupils, or domestic animals. There is nothing left of which we can say to them, "Mind your own business." Our whole lives are their business.

I write "they" because it seems childish not to recognize that actual government is and always must be oligarchical. Our effective masters must be more than one and fewer than all. But the oligarchs begin to regard us in a new way.

The Horns of Our Dilemma

Here, I think, lies our real dilemma. Probably we cannot, certainly we shall not, retrace our steps. We are tamed animals (some with kind, some with cruel, masters) and should probably starve if we got out of our cage. That is one horn of the dilemma. But in an increasingly planned society, how much of what I value can survive? That is the other horn.

I believe a man is happier, and happy in a richer way, if he has "the freeborn mind". But I doubt whether he can have this without economic independence, which the new society is abolishing. For economic independence allows an education not controlled by Government; and in adult life it is the man who needs, and asks, nothing of Government who can criticise its acts and snap his fingers at its ideology. Read Montaigne; that's the voice of a man with his legs under his own table, eating the mutton and turnips raised on his own land. Who will talk like that when the State is everyone's schoolmaster and employer? Admittedly, when man was untamed, such liberty belonged only to the few. I know. Hence the horrible suspicion that our only choice is between societies with few freemen and societies with none.

The Scientists' Puppets

Again, the new oligarchy must more and more base its claim to plan us on its claim to knowledge. If we are to be mothered, mother must know best. This means they must increasingly rely on the advice of scientists, till in the end the politicians proper become merely the scientists' puppets.

Technocracy is the form to which a planned society must tend. Now I dread specialists in power because they are specialists speaking outside their special subjects. Let scientists tell us about sciences. But government involves questions about the good for man, and justice, and what things are worth having at what price; and on these a scientific training gives a man's opinion no added value. Let the doctor tell me I shall die unless I do so-and-so; but whether life is worth having on those terms is no more a question for him than for any other man.

Thirdly, I do not like the pretensions of Government – the grounds on which it demands my obedience – to be pitched too high. I don't like the medicine-man's magical pretensions nor the Bourbon's Divine Right. This is not solely because I disbelieve in magic and in Bossuet's *Politique.* I believe in God, but I detest theocracy. For every Government consists of mere men and is, strictly viewed, a makeshift; if it adds to its commands "Thus saith the Lord", it lies, and lies dangerously.

How Tyrannies Come In

On just the same ground I dread government in the name of science. That is how tyrannies come in. In every age the men who want us under their thumb, if they have any sense, will put forward the particular pretension which the hopes and fears of that age render most potent. They "cash in". It has been magic, it has been Christianity. Now it will certainly be science. Perhaps the real scientists may not think much of the tyrants' "science" – they didn't think much of Hitler's racial theories or Stalin's biology. But they can be muzzled. We must give full weight to Sir Charles's reminder that millions in the East are still half starved. To these my fears would seem very unimportant. A hungry man thinks about food, not freedom. We must give full weight to the claim that nothing but science, and science globally applied, and therefore unprecedented Government controls, can produce full bellies and medical care for the whole human race: nothing, in short, but a world Welfare State. It is a full admission of these truths which impresses upon me the extreme peril of humanity at present.

The Terrible Bargain

We have on the one hand a desperate need; hunger, sickness, and the dread of war. We have, on the other, the conception of something that might meet it: omnicompetent global technocracy. Are not these the ideal opportunity for enslavement? This is how it has emerged before; a desperate need (real or apparent) in the one party, a power (real or apparent) to relieve it, in the other. In the ancient world individuals have sold themselves as slaves, in order to eat. So in society. Here is a witch-doctor who can save us from the sorcerers – a war-lord who can save us from the barbarians – a Church that can save us from Hell. Give them what they ask, give ourselves to them bound and blindfold, if only they will! Perhaps the terrible bargain will be made again. We cannot blame men for making it. We can hardly wish them not to. Yet we can hardly bear that they should.

The question about progress has become the question whether we can discover any way of submitting to the worldwide paternalism of a technocracy without losing all personal privacy and independence. Is there any possibility of getting the super Welfare State's honey and avoiding the sting?

Swedish Sadness a Foretaste

Let us make no mistake about the sting. The Swedish sadness is only a foretaste. To live his life in his own way, to call his house his castle, to enjoy the fruits of his own labour, to educate his children as his conscience directs, to save for their prosperity after his death – these are

wishes deeply ingrained in white and civilised man. Their realization is almost as necessary to our virtues as to our happiness. From their total frustration disastrous results both moral and psychological might follow.

All this threatens us even if the form of society which our needs point to should prove an unparalleled success. But is that certain? What assurance have we that our masters will or can keep the promise which induced us to sell ourselves? Let us not be deceived by phrases about "Man taking charge of his own destiny". All that can really happen is that some men will take charge of the destiny of the others. They will be simply men; none perfect; some greedy, cruel and dishonest. The more completely we are planned the more powerful they will be. Have we discovered some new reason why, this time, power should not corrupt as it has done before?

July 27

PROGRESS AND THE BOMB

Letters to the Editor

From Earl Russell, O.M., F.R.S.

SIR, – Sir Charles Snow's reply to my letter in your issue of July 20 calls for a few words of rejoinder from me. HE and I are agreed that no one knows how many people would survive a nuclear war. His guess is two-thirds of the total population of the world. I, following a great mass of expert opinion, to which Einstein was the first or one of the first to give expression, think it quite likely that no one would survive. Neither of us professes to know, but his guess is quite peculiarly optimistic. The opinions of experts differ accordingly tot their temperament, their politicks and the source of their income. I do not think a man is serving a public object by minimising the risks.

As for Sir Charles Snow's objection that my letter is "emotionally charged, I have no apology to offer. I think the prospects of the destruction caused by a nuclear war *should* cause emotion, because, unless there is emotion, nuclear war will not be prevented.

Merioneth. RUSSELL

From Professor J. Rotblat.

Sir, – Sir Charles Snow may be right in his belief that the stockpile of nuclear weapons is not sufficient to destroy the human race *at present*. The arms race, however, is still going on, and a very large scientific and technical effort is being continuously applied to increasing the destructive power of the weapons and to improving the means of their delivery. Sir Charles knows enough about these problems to be able to do a little extrapolation; this would show him that it will not take long before man does acquire the resources to destroy all life on earth.

Lord Russell and others who make the "end-of-the world prophecies" take into account this *trend* of developments, which is probably more justified than an estimate based on the situation as it is to-day.

May I add that even if, as a result of the next summit meeting or through other means, the arms race were stopped and all existing nuclear weapons can be destroyed, the situation would not be altered basically. The knowledge of the methods of production of these weapons cannot be destroyed, and in case of a future war it would take only a short time before the stockpiles were rebuilt. We must, therefore, accept that the destruction of the human race will remain a possibility for the rest of our history. In these circumstances, to dismiss the H-bomb problem – as C. S. Lewis does – as a red herring is perhaps the worst example of hiding one's head in the sand.

E.C.1. J. ROTBLAT.

Sir, – Professor C. S. Lewis's concept of "the freeborn mind" would be more convincing if it were less narrowly self-centred. "To live his life his own way, to call his house his castle, to enjoy the fruits of his labour, to educate his children as his conscience directs, to save for their prosperity after his death – these," he writes, "are wishes deeply ingrained in white and civilised man." But they are also the values of a particular privileged group at a particular historical moment, and it is difficult to see how they are relevant to those Chinese and Indians who, as Sir Charles Snow puts it, "would like the chance of being well-fed enough to ask the point of it all."

The "Swedish sadness" does, no doubt, reflect the frustration of "civilised man" deprived of the right to "live his life his own way"; but could it not also be a symptom of a sick society that is content to acquire bigger and faster cars, while more than half the world's population does not have enough to eat?

What is required is surely not more concentration on ourselves, but a turning outwards, a realisation that, in the context of Arab refugees and Indian peasants, our insular spiritual decay is as much a luxury as the latest electrical labour saving gadget. It is not the Welfare State that is corroding our society; it is the fact that, a a nation, we have moved into the privileged class, a class which, like the French *ancien régime*, has lost all contact with elemental reality.

We must somehow, by a leap of the imagination, break out of the sterility of our own social patterns, and see ourselves in relation to the whole of world society. Only then can we recover any sort of moral purpose.

Swaffham ALBERT HUNT.

July 27

The Optimism of a Biologist

by J. Z. Young

Is man still progressing? Is progress possible? What does it mean? "The Observer" invited five well-known writers and scientists to give their answers to these questions. C. P. Snow, the novelist, wrote the first article (on Sunday, July 13). Last Sunday Professor C. S. Lewis replied. To-day, J. Z. Young, Professor of Anatomy at London University, who delivered the 1950 Reith Lectures on "Doubt and Certainty in Science" enters the debate from the point of view of a biologist.

It is clear already that in this discussion the articles will tell as much about the authors as the subject. C. P. Snow feels the dark solitariness of individual life and likes Scandinavian democracy. C. S. Lewis dislikes most things in the modern world. Perhaps it is not possible to avoid such self-revelation, but I shall try to provide some facts.

In spite of Professor Lewis's aspersions on scientists and word analysts, I believe that there are at least two sets of facts which would be helpful to the discussion. Firstly, knowledge about the direction of human evolution in the past seems to me strongly to support Professor Lewis's belief in the importance of the individual. Secondly, the growth of knowledge and the changes in behaviour in recent centuries lead me to believe, contrary to him, that individual men and women have more freedom in many societies than they had previously.

No Experts but Ourselves

A scientist cannot fail to be struck by the dramatic nature of the recent increase in knowledge, and in this field he can only say that he knows there has been progress and that it is continuing. Perhaps this is why scientists seem in general to be happy people, not prone to a gloomy " end of the world" or " angry young man" attitude. Increase of knowledge is for them " movement in a desired direction," which is Professor Lewis's definition of progress. Of course, it might be that the effect of knowledge is to lead also to movements in other directions, undesired, for example, by authoritarians. Not being an historian or sociologist I am no more qualified than Professor Lewis to speak about the complicated web of social changes.

Incidentally, he warns us against the danger of letting scientists make decisions on matters outside their own field. Perhaps one may also wonder how useful is the advice of an English scholar about questions of history, sociology, politics, ethics and morals. Curiously, he tells us nothing at all of his views on progress in literature! However, we must not tease him, his point is that we all have a right and indeed a duty to air our views on these questions, for which there are *no* experts but our good selves.

Evolution Still Continuing

One contribution that the biologist can make to the problem is to take a wider view. Of course, we are all concerned mainly with what is happening in our own time, but modern studies enable us to know at least something of events very far away and long ago. Surely from any point of view, as C. P. Snow says, this knowledge is something splendid and not to be ignored. It is the privilege of man to be able to see where he is in the universe, and to know where he has come from.

All biologists now agree that living organisms have changed very greatly during the 1,000 million years or more since life began on the earth. Moreover, evolution continues steadily to-day. In order to see whether we can discern any directions in these changes we must think for a moment about how living things differ from non-living. It may be expressed by saying that the living creature, whether animal or plant, is continually doing things in order to keep intact. A rock lies inert where it is for thousands of years and suffers only passive change. But a plant must take in water and raw materials with its roots and through its leaves; inside its tissues fantastically complicated chains of chemical processes build up the cells from unpromising raw materials. Similarly an animal must go out and find its food and then not only digest it, but weave the products into its own varied tissues. If any of these processes fail it soon wastes and dies. One further characteristic must be noted – no living creature remains alive indefinitely. The organization of each species can be preserved only by passing it on to new individuals through reproduction.

The Decisions of a Plant

All these activities of living organisms are effective because they are controlled and directed in certain ways, so as to be appropriate to the environment in which each animal or plant finds itself. The living thing differs from the dead in that it operates with what we can call a set of "instructions" that "tell" it what it is best to do in the circumstances that it is likely to meet. This characteristic adaptedness of living things has always been one of their most mysterious qualities and we are still far from understanding it. However, we can make some progress with the problem by using the language and mathematical methods that have developed for study of machines that we make for ourselves to operate under "instructions" which "tell" them what to do.

The essence of an "instruction" is that it enables the system, whether machine or man, to make a decision between two alternative courses of action. Organisms can be regarded as continually making decisions. For example, when a plant takes in raw materials from the soil it can use them either to build leaves or flowers. "Correct" decisions are those which lead to continuation of the species and its spread and extension into new conditions.

In order to make such decisions organisms collect "information" about the surrounding environment and about the probable effects of the various actions that they may take. We are so used to using such words as "decision" and "information" about ourselves that it seems to some people absurd to apply them to animals and plants. Nevertheless, biologists are begin-

ning to do this with great effect, recognizing, as has happened before, that what seemed at first to be properties of ourselves can be found in all life.

Of course, if they are to be used scientifically these words need to be carefully defined, as the word "energy" has been. In defining "information" we need to identify the "code" with which the organism works. This is in itself a stimulus to biologists because it makes them recognize that organisms contain thousands of specially selected groups of chemicals which operate as signals.

Each living thing continues to act correctly because it carries in itself the instructions needed for life in its particular environment. We now know quite a lot about how these instructions are passed on from generation to generation by heredity. It is by the very, very long history of selection among the genes that all the different species, each with its own peculiar way of living in its own environment, have appeared.

In the present discussion we can inquire what have been the changes during evolutionary history in the means by which organisms acquire the information that enables them to operate effectively. In particular, can we see any sense of "progress" in this respect?

An Increase in Complexity

It would be fascinating here to discuss the first origins of life. How did this system for storing information and passing it on for the future begin? All we can say is that it is not impossible to imagine the appearance of groups of molecules with simple information-storing and self-reproducing character. For present purposes we are more concerned with the much later changes in animal organization that can be followed in the fossil record. In the evolution of the vertebrates, the group to which we belong, there has been an increase in the complexity of the organization by which life is maintained. It is not easy to measure the complexity of an animal, buit it has to be admitted that the "higher" types, such as the mammals, have more different types of cells than the lower ones. To take one example, the human skin is not all alike – there are many different sorts, on the face, head, fingers, body, soles of the feet, and so on.

A Higher Quality of Life

But one may say what is the "use" of being complicated – a fish lives perfectly well with a much simpler skin. True enough, but it lives in a simpler environment. For example, it doesn't have any problem about finding water to drink or, in keeping itself from drying up, or in keeping warm. Perhaps not all biologists would agree, but I believe that by increasing complexity as evolution has proceeded, organisms have come to live in places where no life was possible before. Professor Lewis has told us that he is not interested in survival as such, but in the "quality" of life. It may interest him to know that a biologist can believe that there is an exact sense in which we can say that man shows a higher quality of life than any animal before him. Man is able to ensure survival in most varied surroundings, in some of which no other large animal can live.

A still more interesting point appears when we inquire how animals come to get the information by which they keep alive. Roughly it is in two ways. The process of natural selection of hereditary variation ensures, by survival of the fittest, that only those well adapted to the surrounding conditions shall survive. I shall not stop here to argue all the difficult questions as to how it is that the processes of mutation and recombination enable the population to collect the necessary information in this way. This is the primitive way of acquiring information for the species, in it the individual has, as it were, only a minor role. It is the population that gets the information, by changing the proportion of genes.

We are more interested in the fact that individuals as well as populations can learn, and can adapt themselves to their environment. this, of course, is not a characteristic confined to man and his relatives. all living things adapt, even the simplest bacteria. but mammals have specialised in one form of information-getting, namely learning with their brains. moreover, man has learned how to pass on his information by heredity from their parents and a little from what they learn themselves, we get it from a great number of "parents" whose words we hear and books we read. Speech and writing are thus a sort of mechanical process of reproduction. Incidentally, this is one of the many senses in which individual man is less ”solitary” than other animals. He receives so much and can give so much to the whole race that I see no reason that he should feel that there is a large part of experience in which he lives (and dies) alone “outside of time and history and progress,” as C. P. Snow puts it. Each individual man or woman has more to contribute to his fellows than in any other animal species.

Learning in the brain is a function of the individual and this is the power in which man excels all other animals. This is why I agree with Professor Lewis that emphasis on the rights and duties of the individual is the characteristic feature of human progress. Modern man lives by receiving knowledge, acquiring more and passing it all on. It is easy to see the imperfections of the process and the restrictions it imposes on the individual. But think how much worse at it were our great-grandfather ape-men of only, say, a million years ago; hairy creatures who had at most a language of a few grunts and settles everything by force.

The Best Observer of All

Thinking in this way about times very long ago may seem impractical and irrelevant. I do not believe it is so. Many historians say that their studies are a poor guide for the present – that is for them to say. The biologist sees that all living things act as they do because of their history. They are storers of information. The types that can store most not only survive more readily but can survive in more varied conditions, that is have lives of higher quality. Man is the best observer and information sorer of all and he has found out in recent years how to allow individuals to be free to develop new methods of observation and new methods of passing on what they find.many of the restrictions on this freedom are a result of the social training that is necessary is we are to use the system at all. We must use approximately the same words and behave in reasonably orderly ways. There is some evidence that the revolutionary change that has “tamed” us sufficiently to do this has been a progressive delay in the rate at which we grow up. We spend much longer as docile infants and children than do other

animals. Probably this is due to a change in the balance of our glands, slowing our development so that we never become "fierce" and "individualistic" as an ape. We never fully grow up. There is perhaps a sense in which this means limitation of "freedom," but does anyone want us to go back to being a gibbering fighting crowd? "Except ye become as little chindren …" Without the capacity to sit quiet and learn, how should we speak, read or do any of the things most characteristic of man?

Why We Must Have Restriction

Professor Lewis is very frightened of restrictions, but all human societies impose them – mostly much more severely than our own. It is a curious sign of the progress of Western man that it is possible to put forward an ideal of freedom which would be unthinkable for more primitive communities. The point is that we now understand why we must have restriction and realise that language, tradition and dogma, though they are features that differentiate us from animals, are also themselves sources of constraint. In learning to liberate ourselves from tradition as an end in itself we have developed new ways of acquiring knowledge much faster in the last few centuries than ever before. Doing this, we have continued one of the main directions that has been taken by evolution in the past. In this sense I believe that we have made, and are making, progress.

August 3

This Dangerous Concept

by Jacquetta Hawkes

Two famous writers – one a scientist by training, the other a medieval scholar – and a biologist have already contributed to our debate on progress. The fourth article is by Jacquetta Hawkes, an archaeologist and a poet. The last word in this debate will be left to a historian, Dr. Arnold Toynbee, whose article will appear next Sunday.

One man's progress is another man's regress. Of that C. S. Lewis's definition of progress as "movement in a desired direction" can leave no doubt. One man loves to see a lonely haven with the moors behind, another longs for it to be turned into a busy port girt with factories; one man dreams of world government, another of independence for Scotland; one man thinks society exists for the individual, another that the individual must be sacrificed to society. And among them there will always be the fanatic – such as Karl Marx – who knows the direction of his choice to be the only right one. That is why the whole concept is so dangerous.

Heightening of Consciousness

One factor which helps to determine our judgment of progress in human affairs is the time scale on which we think. Both C. P. Snow and C. S. Lewis took what seem to me to be extremely short-term views – hardly extending beyond the last century. Professor Young, on the other hand, showed the vast impersonal perspectives of a zoologist. My own time scale, derived from the long view of history exposed by archaeology, falls somewhere between the two. From it I have received certain impressions both as to the direction in which it seems proper for man to move and as to whether we are at present moving in this way. It all sounds splendidly detached, but I am fully aware (perhaps more aware than Professor Young) that my selection and interpretation of "facts" is coloured by my temperament, experience and training.

On the general direction, then, the million years of human history, following on the aeons of biological evolution, leave no doubt that what is most distinctively human is the heightening of consciousness. That is the way we took unknowingly, and which it must now be right for us to follow in our greater self-knowledge. Thus not even the most ardent lover of the past would deny the progress which has led from the life of the *Pitecanthropi* tearing flesh or supping human brains among the trodden bones of their cave floor, to a dinner-party in Dr. Johnson's circle or a meeting of the Royal Society.

A Privilege to be Primitive

When we advance to the first total ascendancy of *Homo Sapiens* at the end of the Ice Age, already we have to be a little cautious. For if, like Professor Lewis, we attach paramount importance to the happiness of the individual, then the reality of progress since those days is doubtful. For is it not a fact that whenever they are free to do so, the most privileged members of modern society hasten to hunt, to fish, to sail small boats, to camp out and grill steaks in the open air – all those things which everyone could do in Palaeolithic and Mesolitic times?

Few of us could support this contention quite seriously (though our inherited need to come close to nature is real enough), but when we reach the last 6,000 years since man began to create high civilisations, then the judgment of progress becomes really very difficult. If just now I used "heightening of consciousness" rather than "improvement of mental capacities" and other terms preferred by scientists, it is because it more clearly comprises the life of the senses, states of mystical awareness and all the creative activities of the psyche as well as our more purely cognitive and intellectual powers.

For me, although knowledge can be valuable and intellectual achievement almost always admirable and sometimes awe-inspiring, man is at his greatest and most complete in imaginative creation. That is to say in all the visual arts, in music, literature, the highest scientific vision – and in the expression of religious myth and symbol which I believe to find its proper place in the same category. In this realm of experience, the only one where we have a sense of possible relationship with levels of being beyond our small comprehension, there can be no progress. There is no progress between the paintings on the walls of the Altamira cave and those on the walls of the Sistine Chapel, or between either and the work of Picasso. There can

be greater complexity as a result of the accumulation of experience, but no "movement in a desired direction."

If the history of civilised man is looked at by anyone holding these values, it must appear not as a more or less continuous advance, but as a series of episodes great and small; cultures and civilisations rose, often with astonishing speed and quite inexplicably, flourished for a time in all their delicious peculiarity of style and temper, and then fell into a decline. Creative individuals born into the later phases of a civilisation can no more recapture the spirit of its first flowering than an aging woman her past beauty. On the other hand the products of decay have their own worth; they should not be held to be worse than the products of growth, merely less healthy, less promising for the future.

If this is true within a culture or civilisation, is it also true as between one civilisation and another? Can one say that there was progress between Sumerian, Egyptian, Minoan, Chinese, Hellenic, Inca and our own Western civilisations? Or is each to be regarded as unique, and with its own strengths and weaknesses? Certainly the infinite variety of the past should make us extremely cautious in claiming absolute progress for our own society. When reading some of C. P. Snow's more optimistic claims, I reflected how the Inca's attained to the virtue of the Welfare State; women held a high place in Minoan and other ancient societies; while as for kindliness, did not the Chinese create a civilisation in which the gentle and reflective were held in supreme honour?

Nevertheless, many people who take a long view of history do still contrive to find an element of progress in it. Gordon Childe, for example, ended "What happened in history" with these words: "Progress is real if discontinuous. The upward curve resolves itself into a series of troughs and crests. But in those domains that archaeology as well as written history can survey, no trough ever declines to the low level of the preceding one, each crest out-tops its last precursor."

'You can't stop it, can you?'

What Childe and others who think like him recognise as the upward curve, is the advance in technology. For this, and to some extent also the accumulation of practical and scientific knowledge, have been almost continuous throughout our history. Although there have been minor relapses, notably with the fall of the Roman Empire, they have been rapidly made good, and the development has gone on beneath all the flowering and dying of culture and civilisations. For this reason it has been seized upon not only by Marxists for the materialist interpretation of history, but also by those of us who, permeated by the nineteenth-century idea of the inevitability of progress, have been determined to find a cultural equivalent to biological evolution.

Such wishful thinking has led very many people to assume that technical elaboration must be progressive, whereas in truth, surely, it is neutral, able either to serve or to endanger the quality of individual life. One odd effect of this confusion has been to give the word progress itself a pejorative meaning – particularly in America. "You can't stop progress, can you?" they ask as they look at a lovely countryside ruined and the only agreeable part of a city

demolished, or as they suffer the little daily hell of traffic congestion, din, stench and parking problems.

This subject has brought us down with a rush from an Olympian survey of the rise and fall of past cultures into the midst of our own Western civilisation and its present alarming plight. Most historians, I suppose, would agree that this civilisation had come into being by the eleventh century, and that it has shown acute symptoms of decline since 1914, if not before. However, societies and cultures are not, so far as we know, organic in the sense of being universally bound to the cycle of life and death. And with our Western civilisation, not only has the phase of "historically normal" decline coincided with the tremendous increase in scientific knowledge and mechanical power, but these in turn have produced a further novel condition.

A Dazzling but Delicate Chance

By their fantastic productivity and speeding of communications, virtually the whole world has been drawn into the net of one civilisation, and this state of affairs, while it is dangerous in that it leaves no virgin barbarian peoples able to create an original culture, may further a chance of revival through the blending of traditions and a transfusion of fresh energy.

Is there, then, a chance that these revolutionary elements may carry our civilisation into a new phase of creative energy of a kind that can be regarded as movement in a desired direction? Of course there is a dazzling chance, but to me it seems a terribly delicate one. Even setting aside the likelihood of self-destruction (and I consider Sir Charles's picture of survivors achieving an exalted liberalism soon after a nuclear war as quite unrealistic) there are dire threats and losses already offsetting improvements in health, in material prosperity and the status of women.

There is the enormous increase in the number of human beings, with the resulting tendency towards mass life and conformity under absolute government. In the East political power-lust, and in the West commercialism gone mad, are destroying our hard-won freedom of thought. Then there is the horrifying spread of ugliness and of inhuman urban uniformity; passivity and depersonalisation in work and recreation; loss of the conditions favouring peace, privacy and peculiarity.

They Talk Like Naughty Boys

It is more profitable to seek for the attitude of mind, inspiring these evils. I find it perfectly exemplified in Professor Young's article. Brushing aside Professor Lewis's claims for the "quality" of individual life, he says: "A biologist can believe that there is an exact sense in which we can say that man shows a higher quality of life than any animal before him. Man is able to ensure survival in most varied surroundings, in some of which no other large animal can live." The word *exact* is the clue. Anything subject to scientific analysis and measurement is more real and therefore of far greater importance than all those higher values and qualities which elude them. This particular form of the argument leads straight to the conclusion that a man barely conscious in a grotesque container hurtling through space ad thousands of miles

an hour is showing a higher quality of life than anything possible for the greatest artists and thinkers.

The scientists don't really see us (or at any rate, themselves) simply as large animals, or believe that what counts as success in biological evolution can be identified with what is desirable for civilised man. They talk like naughty boys trying to shock the grown-ups – and one can see how they are driven to it by a society burdened with an atrophied Church and a dangerous amount of dead moral and mental lumber.

Rescuing the Individual

Yet it does immense harm, not only exposing us to all the particular evils already named, but paralysing our will to resist the titanic challenge of the machine, to master it, instead of ourselves being mechanised. For the hour has come to make rigorous selection from among the welter of technical possibility, developing what serves fully human ends and rejecting what demands too great a sacrifice of these higher values.

In short, I do not despair of automation and nuclear energy being used as means towards the further heightening of consciousness and enrichment of life. But they will not do so unless we honour these values with all our hearts and minds. I think, indeed, that we should do well to forget the dangerous concept of progress, and concentrate with all humility on rescuing the individual and his inner life from the appalling dangers now threatening. Let us sit down and cultivate the garden of consciousness, then perhaps we may find we are moving in a desired direction.

August 10

Our Tormenting Dilemma

by Arnold Toynbee

Winding up our debate from the point of view of an historian, Dr. Toynbee concludes that progress has always involved difficult choices between rival aims. The "underlying issue," he suggests, "is the tug of war between individual souls and a collective humanity," and he shows that this issue has never been more critical than it is to-day.

"Progress means movement in a desired direction." That is C. S. Lewis's definition of the word. I agree with J. Z. Young and Jacquetta Hawkes in accepting it, and with Jacquetta Hawkes again in finding the word "desired" full of illuminating implications.

Different people desire different things; the same person may desire different things at different times; each of us, at every moment, desires many more things than one; and some

of his simultaneous desires may be incompatible. So progress involves conflicts, changes of mind, and, above all, choices. And a choice implies a price. We do not have to choose between things we want and things we do not want. Choices are forced on us when we want two or more things that are mutually exclusive, or at least not completely reconcilable with each other.

To have to choose is bound to be tormenting. It means settling priorities and facing the consequent sacrifices. We are conscious that the whole world to-day is even more tormented than usual. One reason is that a number of important world-wide issues have come up for decision all at once. These have been brought out very clearly in the four previous articles in this series.

The Underlying Issue

The underlying issue is the tug-of-war between individual souls and a collective humanity – the human equivalent of ant-heaps and beehives. Does not progress mean giving individuals the utmost possible scope to make the most of what is in them? What is desirable for man must be something from which man can benefit; and man is to be found only in individual representatives of humanity. Persons are realities; communities are fictions.

The creative acts by which progress – if there is progress – is brought about are the acts of individual human beings. When we attribute acts to nations, to Governments, and, above all, to committees, we are abandoning reality for the realm of mythology or, at best, of legal fiction.

So far, the case for giving individuals a free rein might seem to be overwhelming. Yet, give it, and at once you find that a few individuals get their scope at the cost of preventing all the rest from having a fair chance. The inequalities of natural endowment and of social opportunity always work out unfairly for the majority if they are not artificially offset by some amount of social restraint. So, in the cause of justice for the majority of individuals, we have to clip every individual's wings.

This is done to some extent even in the most individualistic societies. Otherwise, society could not exist; and, without society, man could not be human. So does not progress lie in securing social justice for the many at the cost of curbing the few? But this comes close to subordinating human souls to human ant-heaps.

This issue has been tormenting humanity since civilisation began. To-day it is presenting itself in two acute forms: the issue between individual souls and the Welfare State; and the issue between the relatively prosperous Western minority of the human race and all the rest of us.

Growing Up and Staying Young

The first of these issues was set out brilliantly, but in perhaps rather a defeatist spirit, by C. S. Lewis. The second was expounded, with remarkable detachment and impartiality, by C. P. Snow. Both raise the question: What choice between incompatible desired objectives are we going to make?

Here the question: “What is progress?” again arises. J. Z. Young tells us that man’s never-quite-growing-up is one of the ways in which he has progressed beyond the non-human animals. Growing-up means setting hard; staying immature means retaining the capacity to adapt ourselves to new situations.

For C. S. Lewis, on the other hand, the Welfare State’s most heinous offence is that it is forcing adults to be infantile by depriving them of the chance to exercise responsibility.

Perhaps the solution of the apparent contradiction between J. Z. Young’s position and C. S. Lewis’s lies in asking what is the influence to which the soul is exposed. If it is being played upon by a dictator, it is surely better, at one’s peril, to be grown-up. If it is being called by God, like Samuel, or like the children to whom Jesus held out his arms, it is better to be childlike than to be a hard-set Pharisee. It seems desirable to be both childlike and grown-up at once, if we can manage it.

Looking back over the vista of history in which Jacquetta Hawkes views our question, let us ask: “What movement, in what direction, seems to have been most steadily desired, and most constantly pursued, by the greatest number of human beings over the greatest length of time?” Surely, as Jacquetta Hawkes suggests, man, so far, has put his treasure in cumulatively increasing his command over non-human nature. Technology, together with the scientific knowledge it requires, has been by far the most successful of man’s achievements up till now. In the West, within the last two or three centuries, progress in technology has been accelerating at a quite unprecedented rate.

Success in technology implies success, to some extent, in another field as well: the field, not of man’s action upon non-human nature, but of his human relations with his fellowmen. Technology does not require only the inventor’s ingenuity and the mechanic’s skill; it also requires agreement about objectives, and co-operation in pursuing them, between numbers of people. An isolated human being is technologically more helpless than a woodpecker or a spider.

Robinson Crusoe salvaged from the shipwreck a generous sample of the tools that had been devised by man’s collective efforts up to that moment, as well as a cumulative education in how to use them. Yet he was brought up short against the technological limitations of the isolated human being when he failed to budge the big fine boat that he had built up-country.

So man’s success in technology implies that he has had some success in the sphere of co-operation. Yet the co-operativeness that has sufficed to make the fortune of technology has been tragically inadequate for man’s more pressing needs. The tools with which technology has equipped him, and the surplus of food and commodities that it has enabled him to accumulate after satisfying his day-to-day wants – these have mostly, so far, been misspent on making war. And war is the most glaring of the penalties for the failure of human beings to agree.

Moreover, most of the residue that has not been spent on war has been monopolised, until our own day, by a privileged minority. Almost the only part or lot that the majority has received out of technology’s surplus product has been the military equipment needed for making them into cannon-fodder.

Where Technology Has Failed

This has made nonsense of man's stupendous technological efforts and achievements; for man does not covet a command over nature for its own sake. He covets it in the hope of thereby managing to make human life happier and worthier of man's spiritual nature. Our technological success has signally failed to fulfil the desired purpose of this amazing feat of progress.

Yet, in spite of the misuse of the fruits of technology for making war and for giving odious privileges to a minority, it seems probable that, in most places and times, down to our own day, there will have been almost a consensus that technological advance was something not merely desired, but intrinsically desirable. Think of the high hopes of the founders of the Royal Society. They felt sure that they had found a constructive substitute for the bitter theological controversies that had stoked up the Wars of Religion. If disputes over points of science and technology did arise, these could be settled by experiments that would command universal assent. Meanwhile, the results of their researches, and the application of these, would increase the welfare of the human race. They forgot that the wars which theological controversies had evoked had been fought by weapons forged by science.

Taking a World Plebiscite

To-day we are wide awake to the truth that advances in technology spell increases in the destructiveness of weapons. If, to-day, a world-wide plebiscite were to be taken on the question whether technological progress is an unmixed blessing, there would certainly not be an unanimous answer in the affirmative. We are aware that our progress in technology has so greatly outshot our achievements in the field of co-operation that we are in danger of starting a war that might make the surface of this planet uninhabitable.

Co-operation among ourselves is the field in which we most need to succeed, and it is also the one in which we have been the most unsuccessful. If a vote could undo all the technological advances of the last 300 years, many of us would cast that vote in order to safeguard the survival of the human race while we remain in our present state of social and moral backwardness.

I cannot, by the way, resign myself, like C. S. Lewis, to the possibility that we may commit universal genocide by thinking of this as an act of God for the fulfilment of His purpose of winding up human history. If we do it, it will be our own doing, if human freedom and human responsibility are not illusions. If they are, and if the truth is that we are God's puppets, then the liquidation of the human race in an atomic war would acquit us of responsibility at the price of proving us to be automatons, and would demonstrate God's omnipotence at the price of proving Him to be a monster. I do not believe that we can shuffle off our responsibility on to God; and, if we could, I should not want to.

In the meantime, we are in two minds; for if our fears of what technology may enable us to do are greater than they have ever been, so also are our hopes. We hope that technology may now have advanced far enough to be able to give the benefits of civilisation to all men – so far, that is, as these benefits are in technology's gift. The world is now divided between

C. P. Snow's pauper majority of the human race and his privileged minority. The majority now believes that social justice has become attainable, and that a continued withholding of it has therefore become intolerable. The minority fears that it may lose the freedom that is its most highly prizes possession, and that the result may be, not freedom for the majority, but servitude for all.

Here is a dilemma that is making us rack our brains. Freedom is poisonous when it is a minority's monopoly; equality is unsatisfactory if it does not bring freedom with it; for freedom certainly is the greatest prize in life, and a share-out that does not include it is bound to be disappointing.

However, we, the privileged minority, too easily forget that three-quarters of the human race are still short of food, clothes, and shelter. Till these elementary needs of theirs have been satisfied, the value of freedom will remain beyond their horizon. To-day it looks as if a majority of the human race were going to opt for progress in two desired directions: freedom from war and freedom from want. What is going to be the price of progress along these two lines?

In the fields of politics and economics, at any rate, the price is bound to be that curtailment of freedom which C. S. Lewis dreads. I agree with him that this prospect is alarming. Restricting freedom means stifling creativity, and man's creative powers are his only asset. Everything else that he has comes out of these.

All the same, I think C. S. Lewis is too pessimistic. Is a society with *no* free men in it – in other words, a perfect "1984" – a genuine possibility? I know of no such society in the past. Man has the same saving virtue as his brothers the camel, mule and goat. He is cussed, contrary, and not thoroughly domesticable: think of the attempt to freeze life in Japan under the Tokugawa regime, and how it was defeated by internal forces long before Commodore Perry turned up.

Honey Without Being Stung

Perhaps we may have to live through a chapter of history in which there will be fewer free men; but, if so, are we not likely to work through that stage? If, at that price, we do succeed in abolishing war and privilege, is not the regimentation needed to achieve these two aims likely afterwards to relax? And is it really beyond the wit of man to get honey without being stung? Are all human activities so closely interwoven with each other that a loss of freedom in some fields is bound to bring the loss of it in all the rest? Or can we be unfree in, say, politics and economics without losing our freedom in, say, the creative arts and religion?

History suggests that this is a possibility. German music and philosophy, Persian poetry, Chinese porcelain-manufacture flowered under authoritarian regimes. Religion flowered under the Roman and Chinese empires, at the price of producing martyrs who baffled the political authorities. And I should like to ask J. Z. Young a question about biology. Isn't it Nature's practice to mechanise everything she can in order to release an organism's energies for free action in other fields? If a human being were not an automaton in respect to his heart and lungs – if he had to make an act of free choice each time that his lungs were to inhale and

that his heart was to beat, how much energy would he have left over for making free choices in the spiritual field of consciousness, thought and will?

But freedom remains a meaningless word until we know what it is freedom *for*. And here I agree enthusiastically with Jacquetta Hawkes that the most precious freedom is our freedom for creative art and for religious experience. This, as she truly says, is a sphere in which there is no such thing as progress. In the seventeenth-century "battle of the Ancients and Moderns" the moderns, after winning on science and technology, had to concede that Louis XIV's court poets were not, after all, really better than Homer. "What is the true end of man?" – "To glorify God and enjoy Him for ever." This is a desired direction in which all men can move in all circumstances – even the worst that C. S. Lewis forebodes.
