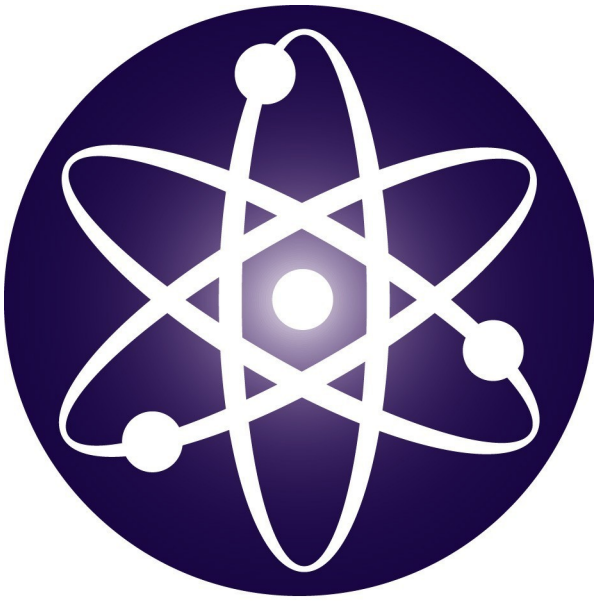

Science
AND THE ENLIGHTENMENT

Extract from 'Modern Art and the Death of a Culture'

By H.R.Rookmaaker

Science

Before discussing the main themes of the Enlightenment in more general terms, we must first concentrate on one key area -science- in which it is essential to compare what was to come with what had already gone before.

When Christianity was preached in Europe, culture and spirituality were changed very deeply. If we realize what the simple conclusion of understanding Genesis I means to man's outlook on reality and his endeavour to understand it, this will be immediately clear. Genesis I says that God created the world and that there is no being that has not been created. This has given man a freedom for research formerly unknown. To the heathen, whether Greek or Germanic, the gods gave order to reality. Ionian natural philosophy, for instance, began something that might have developed into a scientific philosophy similar to that of the eighteenth century; but there were objections from the majority of the Greeks who were afraid of such impiety.

Take lightning, for instance. What is it? The wrath of the highest god? His tool and weapon? Can we investigate it? We had better not, as that could be sacrilegious-and dangerous. The heathen gods, being part of the cosmos and its regulating principles, made it at the same time impossible to analyze these principles open-mindedly. But as soon as we come to know the true God, who is not part of the cosmos but its Creator, then everything is open for investigation, for everything has been created by Him. So only on this basis there is freedom for science.

What is more, in contrast to the ancient scientists who were always in danger of being accused of going against the 'divine' order, this Christian freedom did not need to go against the understanding that God reigns over the cosmos. Science proceeds from the assumption of causality. We ask what made a thing happen like that when we make an experiment. There is no event without a cause, no cause without a result. If we see a stone moving, the question is what made it move. And we always try to find a natural cause, a cause within

the created order of reality. But again, this does not exclude God, nor explain God away.

Elijah, for instance, prayed to God for rain. But he knew, as man has always known, that there can be no rain without clouds. So he sends his servant up the hill to see whether the clouds were coming. Praying for rain and understanding the basic rule of causality do not conflict. Why should it be a problem that Jesus walked on the water? If Jesus was God, and so Lord of creation, there is no reason to query whether He could. This is not contradicting science. It keeps the world open to God, who as Creator can work in His creation. This is the basic assumption of all prayer, and at the heart of biblical teaching: that God has created *and* sustains the world; that He is interested in His creation, and does not let things go 'by chance'. He looks after man, His creature.

It is a pity that it took a long time before these principles were realized. Perhaps it had been mystical ideas about the relationship of Christianity to the world that had previously kept men from being really interested in matters of science (and historical circumstances such as the barbarian invasions cannot be ignored). So it was only in the sixteenth century, after the Reformation, that science really began its fantastic development. Of course, Humanism played its part. But it must be said that it capitalized on the freedom in looking at the world which Christianity brought. Many of the scientists of the seventeenth century were in fact devout Christians, and never found their activity minimizing their faith.

The Age of Reason

What happened, then, with the eighteenth-century Enlightenment? As with all periods of deep and many-sided changes, it was a time of conflict and contradictory aims and ideas. Yet, as we have seen, it is essential to an understanding of what was to follow to understand its basic principles. For they were principles which still very much affect us today.

In a way the Enlightenment was the resurgence of the principles of Humanism, gaining new strength as the impetus of true Christianity after the Reformation lost momentum or retreated into a mysticism that left the world to its own devices. The old pseudo-Christian view of the two provinces in human life, faith and nature, which was revived at this time in a neoscholastic theology among both Catholics and Protestants, made it easier initially for Humanism to gain ground. The inevitable result was only apparent later as faith became something set apart from the real problems of culture, something of no more than private importance, with no influence on the things that really matter. And so, in the long run, the place of Christianity became problematical and many lost their faith.

The first principles of this new cultural movement known as the Age of Reason were developed in France and England by philosophers such as Descartes, Hobbes, Locke, Hume, and the French Encyclopedists such as Diderot. The first three wanted to retain their Christianity. Descartes made his pilgrimage to the Virgin Mary. Locke wrote a much-used book in 1695 called *The Reasonableness of Christianity* (for he would accept revelation only so long as it was reasonable). Indeed, their basic starting-point was found in reason. I doubt everything, said Descartes, but one thing I know for certain, that I am, because I think. So God was made unnecessary, left out of account. However gently, He was pushed out of the door. For personal life, for heaven and redemption, He might be useful, but in the discussion of matters of science, politics, the big issues of the organization of the world, man must start with reason.

We can understand their intention. Reason, or, as they called it in the eighteenth century, common sense, is something that all men have in common. And they all live in the same world using the same senses. If we start from this, we can get rid of all the seemingly subjective discussions on matters of religion. And, after all-in this they were true Humanists-man is good, and in starting from his reason and perception things will go better; a 'better, more human world can be made, a world in which man will be tolerant of his neighbour rather than persecute him.

In pushing God out of the door of their reasoning, the result may well have been a radical scepticism of everything. But they avoided this either by sheer humanistic optimism or by keeping detached from the ultimate questions man is inclined to ask.6 What they did not avoid was an increasing change of emphasis from what was reasonable to what was rational. The rationalist's reason is like an idol; it is like King Midas's fulfilled wish: everything it touches changes and dies, even if it glitters and sparkles. The Reformation had never asked man to accept faith as a leap in the dark: for the Bible itself points to facts. Faith and rationality do not exclude each other. But rationalism is something different: it means that there is nothing more in the world but what the senses can perceive and reason apprehend.There is nothing but scientific fact -or fancy. And God? God is amenable neither to sense -perception nor to reason. So God is left out. . .

Starting in every human endeavour with man changed virtually everything, though it took a long time before

all the consequences were seen or realized-perhaps only today are we beginning to see it in all its depth and breadth. In the older framework, man had his place in a large universe. There. Were principles, ideas outside man, just as there were angels, devils and other forces. In philosophy man's endeavour was in the field of ontology, the theory of being: how is the world structured, what is the place of man in it? But now the primary problem was that of epistemology, the theory of knowledge: how can we know, how do we get true knowledge? Locke wrote an *Essay concerning human understanding* (1690), Hume an *Inquiry concerning human understanding* (1739 and 1748), while Kant made epistemology the cornerstone of his philosophy. Again and again the main point is this: we as man stand before a big ‘X’ called the universe, and the only way to come to any understanding of it is to use our senses (seeing, hearing, weighing, measuring) and to use our reason to coordinate the sensations or perceptions we have had. So the ideas outside man are no longer of any reality nor of any validity as normative principles.

Of course, starting with man and his reason meant that not only God (who is He-an idea too?) but also many other elements were excluded from man's world-view. Angels, devils, they are probably only old superstitions. At least one thing is sure, we cannot prove their existence: have you ever *seen* an angel? They did not stop to ask whether many people in biblical times had seen angels either-they were not a common everyday experience in the sense of being frequently seen or heard-but men belief in biblical times was not based solely on statistical evidence. Then the principles, norms and laws themselves also disappeared. If we have agreed upon the principle that we shall not ask God for guidance nor accept His commandments, and if we say only things experienced or reasonable are true, well then, why not steal? The fact that God gave a commandment is irrelevant. So Hobbes constructed his 'social contract': man in the beginning of history, having found that stealing is a nuisance and a hindrance to all human endeavour, decided that it was reasonable that man should not steal. This is fine, of course, but 'What if man (or a group of men) decided, by a majority vote tomorrow, that in the present situation it is now more reasonable to steal? The principle of the Enlightenment excludes the possibility of true norms or basic principles. So good and evil have be put aside as part of real reality - they can at best be considered subjective human evaluations of behaviour. But in a way man also disappears. Diderot wrote in the famous *Encyclopedia* (1752-72) under the entry 'Man' that he 'seems to stand above the other animals' . . . Man is really only an animal who can *see* any basic difference? If we read on, and appreciate the spirit in which sentences like these were written, it comes down to this: there is no basic difference between man, animals, plants and things. This was a credal statement, of course, avowedly anti-Christian, but a faith without any sort of proof. So the sciences were called in to provide the proof and give it a solid base. Science accepted the new task, and, with the theory of evolution, would seem to have 'proved' it finally, for in examining the possible mechanism of evolutionary change there would seem no need for a God behind natural reality, no need for a Creator. Science became scientism. Evolution was from its very beginning evolutionism, more than just a scientific theory, but rather a philosophy with its own anti-Christian or at least non Christian dogmas. In this way human existence was equated with natural, biological or physical reality, and the new science tried to give this view a foundation in facts. But they were naturalistic facts alone, from which, following the principle of uniformity, everything beyond the natural, everything which cannot be perceived by the senses, everything beyond the rationalist's reason, is excluded.

So man became 'natural', and lost his particular place in the cosmos. He lost his humanity. What does that mean? If man is just another animal, for instance, then what is 'love'? After a long development the answer came out loud and clear: Libido. Lust. Love is *really* only sex. All that seems to be more is 'in fact' sublimation, a nice kind of facade to hide the real drives. Sex one can see and experience. But love?

We must always be on our guard when we hear the word 'really' used like this. More often than not it means that an essential quality is removed! For the new science, which we should call mechanistic science, became a kind of 'revelation', the only way to get true knowledge. All things are *really* only natural things, animals, plants, non-living matter. There are no basic differences to the scientific eye. Science has become the revelation of the new world, and man clings superstitiously to the word scientific as true to reality. But it is a reduced reality.

The nineteenth century-and ours too--has laboured to work the new principles out. The result has been a *demasque* in which many things held sacred or deep are brought down to what they *really* are: sex, lust, power, the survival of the fittest, an instinct or will to live. Life itself, instead of the varied and deep meaning it had in biblical language-man's full being, his true humanity, his work, dreams and aims, so that Christ Himself was able to say that He. is the Life-life became nothing more than biological life, the beating heart and sexual urges and quest for food and drink. We can understand the man who, standing at the end of this development, asked recently in one of the underground papers, 'Is there a life before death?'

Man in the box

Science had been the way to acquire insight into the structure of reality, into the way this world is built, to find out the greatness of God's creation. But now it was elevated by the rationalist into the tool to know all truth, the foundation of all knowledge. But the world was no longer open to a transcendent God. I t had become a closed box, and man was caught in that box. The content of the box was the only true reality allowed by the men of the Age of Reason, the things that can be understood by rationalist reason and mechanistic science, together with the dream of the new world they had begun to build. What we have already called 'scientism' was this faith in reason, with science as a kind of revelation. The world they were building was a fulfilled technocracy, scientistic truth put into practice.

It took a long time before all this was fully worked out. Maybe it never will be, completely and fully, for-real reality, that which is more than naturalistic nature, cannot be ignored. It took a long lime before the scientific methods that were used with such great success in the natural sciences and technology were applied to other fields of human endeavour, to economics, sociology, and man too, through Freud and others, to psychology. Then man is really caught in the box, an object determined by natural laws to be studied by science with scientific methods-and nothing more. Scientism was almost a new religion: man was *really* no different from animals, plants and things. And Darwin seemed to give the final proof, by providing the mechanism of natural selection, of the evolutionary vision of what man really is and could become?

The world in which we live is built upon these principles. They still hold man in their grip. Scientism is still the way man hopes to make a better world. It is, and will be, a technocratic world, as technocracy, which includes man, too, is at its heart. Man is no longer a human being who buys things: no, he is a consumer. He has become a little wheel in the big machine, a unit in social statistics, an electronic oscillation in the computer.

In thinking of the process by which man has become what Marcuse has called 'one-dimensional man', there is one thing we must never forget. Man will always remain human, for he cannot change his own basic created being, whatever he thinks of himself. He can never get away from his place that was assigned to him in the fullness of the created universe. This means 'of' that man can never be happy with the fact that he is 'caught in the ‘box'. He knows that he is *really* more than an atom-or a rabbit. And so he wants to escape from the box, even if the principles of his own philosophy deny him the possibility of doing so. He can but protest against the dehumanization of present-day society, the establishment. . . .