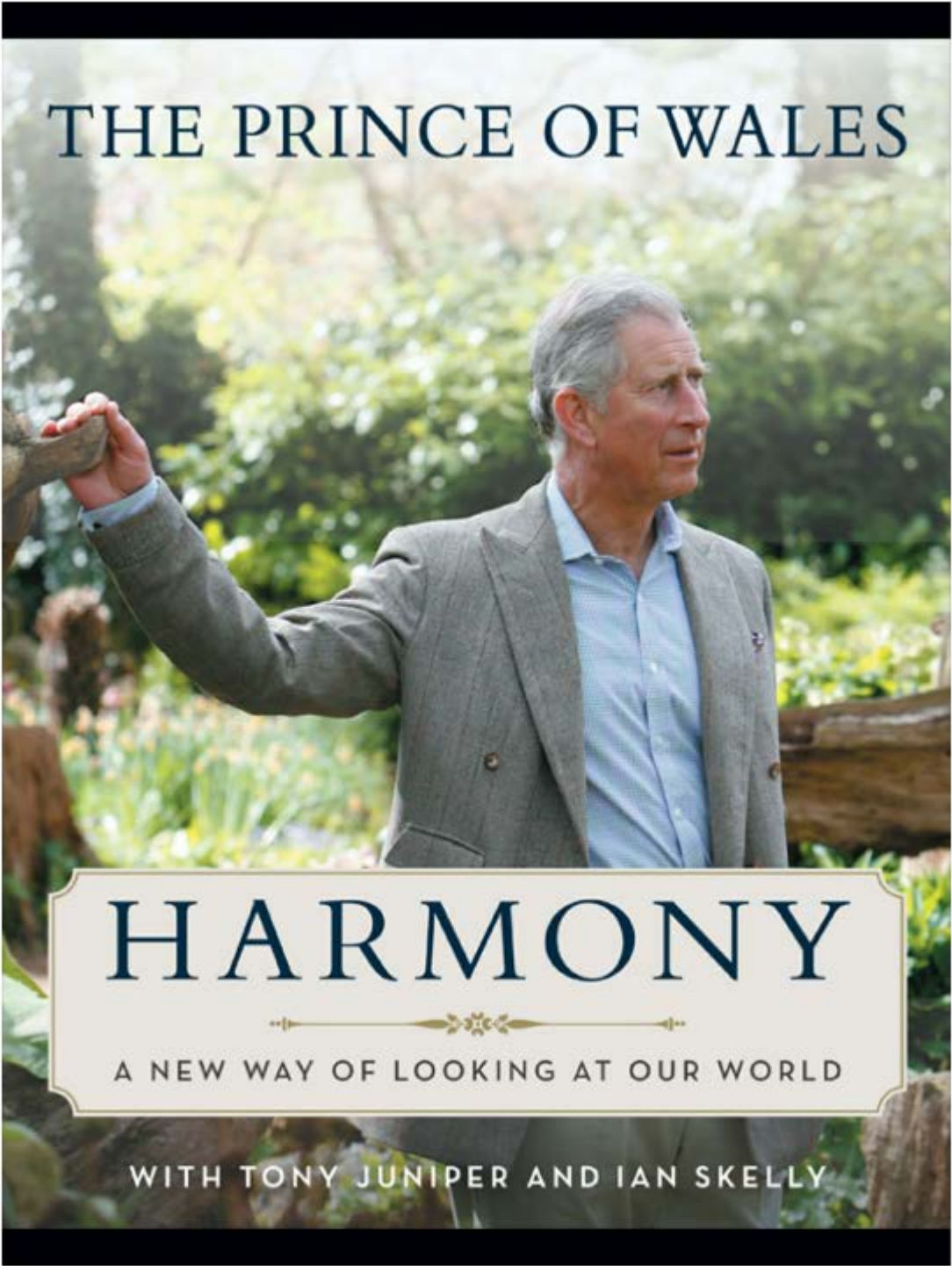


A photograph of the Prince of Wales, Prince Charles, standing in a lush garden. He is wearing a grey tweed jacket over a light blue shirt. He is holding a small branch or twig in his right hand and looking off to the side. The background is filled with green foliage and flowers.

# THE PRINCE OF WALES

## HARMONY

A NEW WAY OF LOOKING AT OUR WORLD

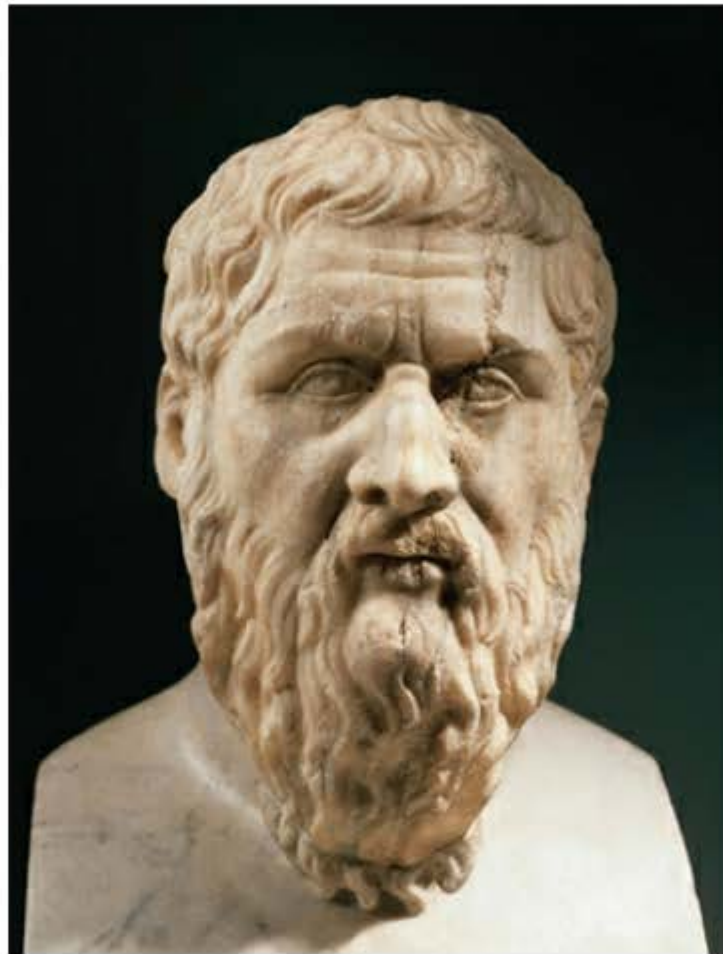
WITH TONY JUNIPER AND IAN SKELLY

## The Age of Disconnection 4



*Two instruments that looked into the heavens and forged the future. Galileo's telescope beneath the one invented 60 years later*

*by Sir Isaac Newton, the world's first reflecting telescope. Galileo gradually improved the power of his telescope, grinding lenses himself. Newton also conducted experiments into perfecting lenses and in so doing demonstrated that refracting white light produces the colours of the rainbow.*



*Plato 428–347BC held that the whole universe is a divine drama and that philosophy should be seen as a way of inner enlightenment. In this way the Platonic tradition, which informed classical*

*learning, considered all education to be a reminiscence of immutable and eternal ideas.*

*There are two sciences: the science of manipulation and the science of understanding.*

FRITZ SCHUMACHER

**T**he journey through the history of ideas and discoveries is a fascinating one. Like a river that courses through different landscapes, our scientific endeavours have found a way round many difficult obstacles, but just as a river shapes the topography of the countryside that it flows through, so these solutions have shaped our collective mental landscape. It is pointless to accuse a river of taking a wrong turn or choosing a particular course – rivers simply find the easiest way to the sea – and the history of ideas has followed much the same principle. An idea was born, experiment followed and the success of a project then led others to follow suit until progress took a certain direction. Then, at some point, the mood of thinking began to coalesce around this approach. Historians of ideas often report that, as this happens, the original, fluid observations made by the pioneer get exaggerated so that when principles become fixed they are fixed

according to those exaggerations. And so a particular way of looking at the world that was never quite what was originally intended becomes more concrete and the pressure to conform more overt. This happened to the way scientific thinking developed in the years that followed the fast-moving world we are about to plunge into. What has ended up today as a very rigid, mechanistic way of approaching nearly every aspect of life was not necessarily the one pursued by those who directed the process of scientific discovery in Europe from the seventeenth century onwards. So there is a need, it seems to me, to review how this came about and, perhaps, to compare the modern impulse that drives the 'exciting' and 'original' new ideas of today's progress with the perspective that was there at the origin.

In one sense I have myself been a victim of this tendency to exaggerate. I have found that if you have the temerity to question conventional wisdom in science, for instance, then you end up being labelled as anti-science, when in fact I have never been so. What I am happy to be considered is 'anti' the *kind* of science that fails to see the whole picture; the kind of science that, because of the particular course it has taken, has eliminated the commonsense understanding of our inter-

connectedness with Nature and the realm beyond the material. Once upon a time I found this was a particularly lonely position to take but now, I am pleased to say, there are an increasing number of scientists who also take this view and are working to widen the parameters again, not least because discoveries in things like quantum physics and in consciousness studies are kicking over the traces of the mechanistic view. This view has been the entrenched position of science for the past four hundred years. Even so, there is a long way to go, particularly when much of science is funded by large corporations with a vested interest in a particular outcome. Science has assumed such authority that its particular ruling on a question can mean vast profits for the companies who fund the science and therein lies a problem which is all too obvious.

Understanding how this mechanistic mindset has come to be so dominant is necessary if we hope to be able to identify when it bites too hard on our perception of things. It will also demonstrate what is excluded when it comes into play. So this section of the book charts the way in which the mood was set as the Scientific Revolution launched the modern world and how its specific language became the only language by which we are allowed to consider

the world, particularly since the emphasis on Modernism became so comprehensive in the twentieth century. The combination of these and other related influences has carved the mental landscape we find ourselves in today. Although we seem not to think so, it is a narrow gorge that obscures the view of the wider horizon, and my aim here is to lift our perspective so that the full picture is revealed. If we can do this we will better understand where the fractures in our perspective occurred and why. If we can heal those fractures, surely we may then be better placed to heal the Earth.

There are many factors that have shaped the modern Western attitude to Nature, but if I were to put my finger on the biggest ones, I would point to three: the fascinating changes in human perception caused by the Scientific Revolution of the seventeenth century, the impact on our outlook of the Industrial Revolution of the eighteenth century and the deliberate demolition job carried out on traditional culture by what became known as 'Modernism' in the twentieth century. I want to explore the three of them here as we pick up from the last chapter at the point in the story where Europe began to turn away from its faith in religion and towards our present faith in science and reason.

## **Revolution and reduction**

Seventeenth century Europe was rarely a peaceful time. There were many great changes afoot as the old order began to be challenged on many fronts by the new. Central to the politics of the time was the increasingly desperate struggle by the Roman Catholic Church to maintain its authority in the face of two great challenges: the growing trend towards humanism and the Protestantism that was questioning the supreme power invested in the Pope. The latter in particular created a tinder-box that ignited into war several times during that period. It is hard to say which side was the victor in the religious wars of the seventeenth century. It is far easier to decide whether belief or reason won the struggle in the wider battle for hearts and minds. The individual's submission to the authority of the Divine began to weaken in the Western world as the freedom of self-reliance began to take centre stage.

exists in the mind of God. Aquinas saw no separation between creation and God and he taught that we should experience the world very much from the inside out. In other words, the prevailing attitude, certainly as Aquinas began his studies, was that the Creator was not separate from His creation. Instead, divinity was considered to be innate in the world and in us. The natural world itself was an expression of this sacred presence and in such a created unity, humanity had an active role as participant. This is the view that still prevails in many indigenous, primary cultures of the world, as we shall see later. Many times the Qu'ran describes the natural world as the handiwork of a unitary, benevolent power and very explicitly points to Nature possessing an 'intelligibility.' It finds no separation between Man and Nature precisely because there is no separation between the natural world and God. It, too, offers a completely integrated view of the Universe where religion and science, mind and matter are all part of one living, conscious whole. This is the relationship the Stoics of Ancient Greece responded to with their idea that 'right knowledge' can only come about by living in agreement with Nature, where there is a correspondence or a sympathy between the truth of things, thought and

action. They held that it is our duty to achieve an attunement between human nature and the greater scheme of the Cosmos. The Daoism of China or the Vedic tradition of India also operate from this point of view. In fact what the West calls 'Hinduism' is perhaps better described as 'Sanatana Dharma', which translates as 'the ever-living law' – very much the Eternal Law Aquinas talks of. It was this image of 'God' that Aquinas inherited; that 'God' was the principle at the heart of the unfolding universe – what the Welsh poet, Dylan Thomas, called 'the force that through the green fuse drives the flower.'



*Statue of the Virgin Mary, one of the many statues on the Charles Bridge, Prague. Thomas Aquinas is the figure on the right offering the book to Mary. He became an immensely influential philosopher and theologian. He suggested that the spiritual truth of our existence is available through 'natural revelation', that is, through our own human nature.*

This sense of the unity at the heart of all things, as we have seen, is central to traditional Islam, and remains a mainstay of great sacred traditions of both the East and the West.

Bearing all this in mind, then, what I found particularly intriguing when I was guided through this medieval view of things by Dr Milne was what appears to have happened to that prevailing mood of thought during the thirteenth century. For a variety of complicated political and theological reasons, a different definition of God began to emerge. Slowly but surely God began to be defined as something that lay outside of creation and was separate from Nature and, as that happened, so Nature itself came to be seen more and more as an unpredictable force; something likely to be unruly, without inherent order and capable of going its own, sometimes dark, way. It could do this regardless of the so-called Divine Will because the Will of

God had become external to the created world. That is an extraordinary shift in the collective perception of experience.

The first evidence of this intriguing shift comes in the way education began to break apart. Aquinas's approach to learning at the University of Paris had been the traditional, classical one, which aimed to arrive at an integrated knowledge of reality *as a whole* – one that was apparent in the outside world, but had its roots on the inner level. In other words, it incorporated what was known scientifically or empirically with what was understood philosophically and also sensed spiritually. But as this fundamental shift began to take hold, so each discipline began to take its own separate course, and so the integration of scholarship ceased to be the central aim of learning.

This may still seem terribly esoteric, but I have to say I find it very revealing. Clearly this was a highly significant shift in the collective perception of Western thought. In time it framed the outlook that allowed science to make its clean break from religion and forge ahead towards modernity. It effectively shattered the organic unity of reality, which could be traced back to Plato and Pythago-

ras and, before them, the Egyptians and the start of the Vedic tradition in India. At the heart of things, within a very short space of time, that all-important, timeless principle of *participation* in the 'being' of things was eliminated from mainstream Western thinking. Or, to put it more graphically, with God separate from His Creation, humanity likewise became separate from Nature. Nature began to be seen as something outside of us. We were still a part of creation as other things were, but we were no longer creation itself. Leading thinkers began to stress the role of humanity as the instrument of the Will of God, an instrument that was free to pursue a mastery of the will *over* other things in Nature.





*The second century astronomer Ptolemy's view of the Earth at the centre of the cosmos – a view clearly still commonly held as late as 1535 when this diagram was drawn. By then Copernicus had claimed the Suncentred scheme, although Aristarchus had done so in 250BC. Even so, our deepest connections with the natural world are tied up with the patterns seen from Earth.*

That transformation was due in no small way to the Scientific Revolution, which established the authority of a mechanistic approach to thinking, often called 'reductionism'. It was reductive because it involved separating out the elements that made up an organism, reducing or atomizing the organism to understand how it worked. It is this

reductive approach to studying the world that, in my view, came to dominate thinking beyond the realms of the scientific laboratory. It persuades us now to see the whole of the world as one of cold and separated utility. But what made this possible? How did it come to be? After all, the Scientific Revolution did not happen overnight.

There have, of course, been huge benefits from the path we have taken, and these were clearly a driving force that accelerated progress to its present speed today, but I have long felt sure that, quite apart from the sheer eagerness displayed by the great scientific pioneers like Galileo or Francis Bacon to understand the wonders of the world, there was a deeper reason why, generally, people felt more and more comfortable with the idea of exploiting Nature by mastering her ways. So the discovery I came across some years ago that there was, indeed, a possible cause of this change in thinking was as encouraging as it was revealing. I do not intend to turn this into some sort of philosophical exposition – what I would like to do is explore the solutions we might adopt in today's modern world – but I do feel it is important to expose a certain fact of history that is little considered any more, if only so that it may be more widely considered. When I was first

germinate, but in the end they sprouted and so our modern culture was born and has since created a general attitude in society that has little problem with the view that we live in an inert, purposeless, mechanistic universe. As this mechanistic world view grew and, eventually, as industrialism took over, so Nature was more and more reduced to what it is today: raw material. Raw material is a functional thing, but it can only have a function when it is removed from the ecosystem that supports it, put into a factory and turned into something else that is sold as a product. I can hear people saying now, 'And what is wrong with that?' The answer is, nothing at all if we pay attention to the whole picture. As it is, we only concentrate on the outcome, on what rolls off the production line. We do not take into account in an immediate way the impact that this has had on the entire system – which, by the way, also includes us.

### **The great divorce**

Galileo Galilei had been a professor of Mathematics at Padua University when he first made his name by taking a toy invented in Flanders called a spy-glass and turning it into a powerful tool for trade.

He realized that in the febrile commercial world of Venice a broker in the hurly-burly of the markets of the Rialto could make a lot of money if he could spot and discover what was on board a heavily laden merchant ship when it was still some two hours from port. But it was when Galileo increased the magnitude of his new 'telescope' and turned it to look at the stars above the Venetian lagoon that he helped to set science upon its singular journey into the unknown.

His discoveries of Jupiter's four satellites and his mapping of the surface of the Moon sent shock waves of excitement throughout Europe. Here was final proof of the theory, suggested by Nicolaus Copernicus a generation before, that the Earth was not the centre of the universe. It was in fact like all the other wandering planets, a small satellite of the Sun.

Galileo paid heavily for his adventures in space. He was tried by the Church for heresy in 1633 and, although he escaped the fiery fate of many other condemned heretics, he was sentenced to house arrest for the rest of his life, an event that has come to mark the famous split in the Renaissance between faith and reason.

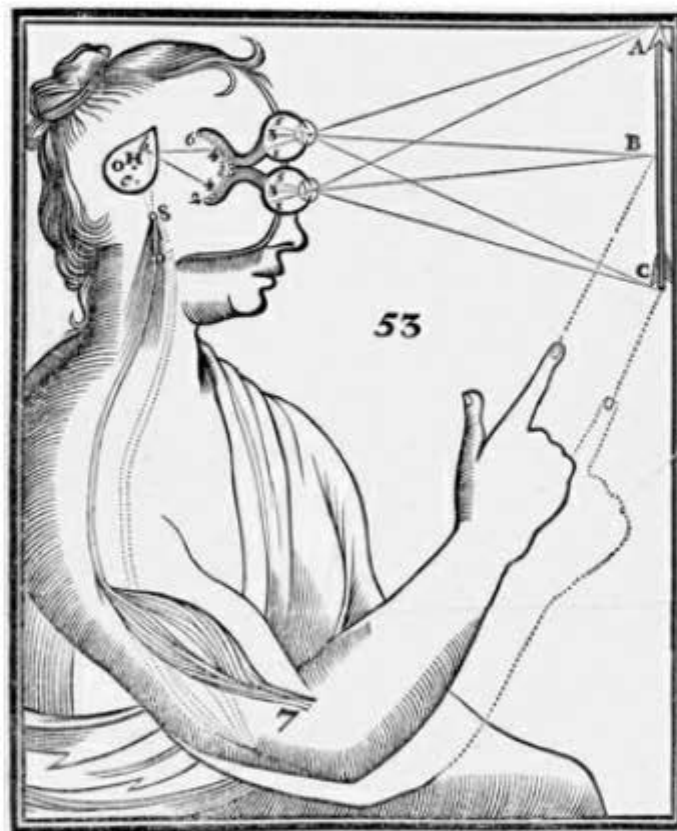


*The cover of a history of the Royal Society of London, founded in 1660 and made Royal by the new King Charles II. His bust sits between the first president and Sir Francis Bacon, who, much revered for his analysis of experience ‘by mechanical means so as to arrive at true conclusions’, was dead by the time it was founded.*

That split was also being forged, perhaps unwittingly, by Sir Francis Bacon in England, who published a highly influential book on science in 1620 called the *Novum Organum*. The ‘new instrument’ this title referred to was the process of reduction. In his book, Bacon describes an enquiry into the workings of Nature as being a process that should

pass through 'progressive stages of certainty'. This set in train the way in which science breaks 'being' down into its quantifiable and measurable parts. Organisms are fixed or pinned, clamped, pressed or pulped to extract yet smaller parts for analysis. These days they can be very small indeed – molecules and genes – even though, as we shall discover later, this 'fractionizing' of a creature and the 'atomizing' of reality has been revealed by science itself to be a limiting method of investigation. Quantum physics, for instance, has blown some interesting holes in the classical mechanics of Newton's theory. This study of matter at the tiniest of levels reveals that electrons can only form certain patterns as they flit about in atoms. The structure of atoms – which dictates the whole of chemistry – and the structure of the smallest elementary particles that make up the structure of the atom, both conform to certain rigid principles of mathematics. At this level such structures have been described as 'perfection'. They create a dance of form and matter, a dance that has been described to me as geometry itself, involving trillions of particles that constantly flip between existence and non-existence on so small a time scale that it happens between what physicists actually call 'a moment'. This

is all hard to understand, but it suggests that the fabric of space is an astonishingly dynamic thing. Classical mechanics, which assumes that matter is continuous, could not explain such perfection and certainly cannot measure it. Interestingly, cutting-edge research into the nature of consciousness still struggles with what it is that makes an organism conscious and gives humanity its sense of being.



*A drawing of the way we perceive the world, according to Descartes in 1686. He arrived at his famous conclusion 'I think, therefore I am' by eliminating anything of which there could be doubt, seemingly ignoring that the 'beingness' of all things must first be there for it to be eliminated. Hence the subtle wisdom of the ancient*

*Vedic proposition of India, 'Ho Sum' which means 'it is, therefore I am.'*

This 'sense of being' seems to me to be a crucial element that was sidelined by so-called 'Cartesian' thinking that began its rise to prominence in the middle of the seventeenth century. Named after the mathematician and philosopher Rene Descartes, the Cartesian approach was to imagine the world as a vast and complex mechanism. If we want to know how an element in Nature works, said Descartes, it can help to see that the organism is a machine. He suggested that animals did not have feelings because they did not have souls and in this way they can be seen simply as mechanisms to be wound up or wound down. Despite being a religious man, Descartes still felt it possible for humanity to manipulate these machines and exercise unbridled control over them, which is still very much the convention today.

I trust it is clear that I am not suggesting remarkable people like Bacon, Galileo and Descartes set out to destroy the world. None of them was an atheist. They all acknowledged the reality of mind and of spirit, but they did separate these elements of their experience from their scientific method of

exploration, leaving these to the philosophers and theologians, and this became the set pattern. As people looked back on their approach and defined the route by which they had achieved their great discoveries, so the world became fixed on a particular method of exploration that excluded the other levels of thought and the non-material aspects of being and in this way empirical science and the mechanistic view of the universe was pushed more and more to the fore.

*This 'sense of being' seems to me to be a crucial element that was sidelined by so-called 'Cartesian' thinking that began its rise to prominence in the middle of the seventeenth century.*

Certainly by the end of that volatile and bloody period in European history during the seventeenth century a messy divorce between science and religion had occurred. What had been a purposeful and unified understanding of Nature was replaced by a purely scientific, mechanistic conception of Nature. It is interesting that the Catholic Church has never accepted this reductive view of creation but, even so, the Christian Church in general has struggled to keep science within the larger unified

view of Nature, not least because the majority of Christians have been swept along by the scientific view of the natural world regardless of the Christian view. If I may delve a little deeper for just a moment, it seems to me that this happened because confusion exists on both sides. Religion's notion of science is different from science's idea of itself, just as 'scientism', which is what we really mean when we talk of science, has a somewhat false notion of religion. Certainly it is the case that the split was established between science and religion *by the scientific community*, but this split now goes much deeper. It is not merely one that divides two institutions, religion and science: it is a split dividing the psyche in many societies, and it is therefore present in most individuals.

The outcome of this divorce is that from the seventeenth century onwards science was able to view Nature in terms of its mechanisms. Nature became completely objectified. 'She' became 'it'. Nature was deemed by science to be inanimate, unconscious and mechanistic. Intelligence and purpose were not to be found in Nature, but outside it, the property of some sort of transcendent God which religion could deal with on its own. Meanwhile, humanity came to be seen as having the right – a human right, that is

– to explore, manipulate and exploit every element of the natural world for the betterment of mankind. What is more, as time went by, scientific rationalism began to expand its profile so that today, as I have already mentioned, it decides the ethics of a debate in questions of, say, genetic manipulation. It certainly has a much more authoritative voice than philosophy, ethics and religion.

By the end of the eighteenth century the idea that the universe was a living presence, that it had purpose and was endowed with an inherent intelligence, had become, as it remains very much today, an inconceivable notion. Gone was God, the constant sacred presence that participated in the being of things and, in His place, an external, separate arbitrary Will that imposed itself upon Nature, with humankind acting as its instrument. This arbitrary Will is the God in the sky, outside the world of things but connected to them through us His instruments. By then, human wilfulness had adopted the name of 'Reason' and Nature was being plundered and spoiled in the name of Reason. There was nothing sacred about it at all. Nature had become nothing more than a great opportunity for experimentation and the supplier of natural resources. Take this rather unnerving observation

about how to deal with pests from something as apparently benign as *A Treatise on the Culture and Management of Fruit Trees*, compiled in 1803 by an Englishman by the name of William Forsyth, who wrote: 'It would be of great service to get acquainted as much as possible with the economy and natural history of these insects as we might thereby be enabled to find out the most certain method of destroying them.'

By that time this detached view of the world around us had become very dominant in many significant fields of endeavour. I have been particularly fascinated by the extensive research done of late by Dr Milne on how attitudes to the law changed in Europe during the seventeenth and eighteenth centuries. Matters of law have always attracted the greatest thinkers of the day – being so complicated perhaps they have to – but notice the striking difference between the way modern thinkers began to approach the law once they loosened the ties to classical thinking and the way in which human nature had been conceived before that time. The leading thinkers from the mid-seventeenth century onwards saw the law as we tend to see it today. People like Hobbes, Mill, and Rousseau, who helped to develop the concept of

modern individualism and whose Utilitarianism eventually gave birth to modern consumerism, all regarded the law as a means of curbing the tendency towards what they called the 'savage inclinations' in human nature. As Dr Milne has shown rather incisively, even though Rousseau in his most famous book, *The Social Contract*, considered Man to be the 'noble savage' he still maintained that there is a conflict between the 'natural' human state and the 'social' one and so, for him, along with his contemporaries, society was seen as 'artificial' with the law being a pragmatic invention that is not grounded in any universal natural order. For Rousseau, society exists to defend against threats and dangers, not for the attainment of the universal good. This was not the view of human nature taken by the great thinkers of ancient Greece or Rome. Figures like Plato and Aristotle did not believe human nature was fundamentally savage. They held that it inclined towards the good and true. Aristotle, for instance, believed that we are, first and foremost, 'political' creatures: not just gregarious like other social animals, but creatures who delight in the mutual recognition of universal law, justice and the common good and do so in union with the natural world. For Plato, this union is the source of our

sense of law and our capacity to formulate laws through collective understanding. So in this sense, law is the expression of the essential sense of the unity and harmony of Nature. It links contemplation with action. Big and small, the impression is very clear as to what was unwittingly happening. It had not been the plan, but, Western thought and its outlook were laying the foundations of our present Age of Disconnection.



*Westfield shopping centre, London. Consumerism is now at the core of Western culture. Shopping defines who we are and is about more than meeting our practical needs – a triumph for sophisticated*

*advertising. But is it possible to inspire a more sustainable way of living?*

Not that it seemed like that at the time nor for many centuries after. The idea of progress through science and technology was the established mainstream political and economic agenda from the eighteenth century onwards, which, with its emphasis on human rights, the triumph of reason, and the importance of the free market, is known to us today as the Enlightenment. Part and parcel with the progressive movements came the accepted authority of science. I am the first to acknowledge that the Enlightenment caused wonderful things to happen, but I do wish that the champions of mechanistic science would be more prepared than they are to accept it also brought downsides with it.

## **The industrialization of the mind**

The very fact that such a notion can find the credence it does in our world today is down to the influence of those two other related developments: the impact of three centuries of industrialization and the twentieth-century ideology that emphasized the speed and convenience of the machine

which became known as 'Modernism'. Perhaps a specific example that affects us all might be the most vivid way of describing how industrialization benefitted from the authority of mechanistic thinking.

Consider the legacy of one Justus von Liebig, who grew up in Germany in the early years of the nineteenth century. One day in 1817 there was a very loud explosion in a quiet street in Darmstadt where he lived. The window frame of his family's house blew out and bounced in a cloud of shattering glass across the road. Justus's father dealt in painter's supplies and domestic chemicals and Justus had become fascinated by them. Ever since a travelling pedlar had sold him a toy torpedo, propelled by a fulminating combination of substances, Justus had been experimenting with the chemicals it contained. To begin with he had taken the torpedo to bits to discover that it was propelled by a mixture of mercury, nitric acid and alcohol but then he set about making his own, much more successful toy torpedoes, which his father had taken to selling in his shop. The trouble was, he could not put these fulminates down and his experiments became ever more dramatic until he finally took a load of them

shown it, by Dr Joseph Milne of the University of Kent, I was certainly astonished because it seemed to me to be a missing piece of the jigsaw and confirms what I have always felt intuitively to be true. So, if this is to be a complete explanation of how I have tried to put the best of ancient learning back into practical action for the future, it would be wrong of me to exclude this discovery at this point.

I found it a fascinating revelation to be taken back to the thirteenth century and to look, not so much at what scholars of the time were writing, but how they saw the world. There were few universities then but in one of them, in Paris, sat the great thinker of his day, Thomas Aquinas. At the time, the Church was still the undisputed authority on all matters, including science, so it fell to someone like Aquinas to decide the big questions of his day. It was his task, for example, to judge Aristotle's fate. The work of the ancient Greek philosopher had recently come to light via the Arab world of Spain and Aquinas had to advise whether Aristotle should be considered a friend or an enemy of the Church. Aquinas operated within a traditional view of the universe. If you were to read his work you would find that he describes something he calls the 'Eternal Law'. What he means by this is the law that

modern individualism and whose Utilitarianism eventually gave birth to modern consumerism, all regarded the law as a means of curbing the tendency towards what they called the 'savage inclinations' in human nature. As Dr Milne has shown rather incisively, even though Rousseau in his most famous book, *The Social Contract*, considered Man to be the 'noble savage' he still maintained that there is a conflict between the 'natural' human state and the 'social' one and so, for him, along with his contemporaries, society was seen as 'artificial' with the law being a pragmatic invention that is not grounded in any universal natural order. For Rousseau, society exists to defend against threats and dangers, not for the attainment of the universal good. This was not the view of human nature taken by the great thinkers of ancient Greece or Rome. Figures like Plato and Aristotle did not believe human nature was fundamentally savage. They held that it inclined towards the good and true. Aristotle, for instance, believed that we are, first and foremost, 'political' creatures: not just gregarious like other social animals, but creatures who delight in the mutual recognition of universal law, justice and the common good and do so in union with the natural world. For Plato, this union is the source of our