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**Is Reality Limited to What Science Can Uncover? C.S. Lewis’s Critique of Naturalism**

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Is reality limited to what science can uncover? It is a fascinating question, as you might expect, and opens up lots of important lines of thought. One of the writers that we will be considering today is C. S. Lewis. He uses an illustration that opens up our question rather nicely. Think of waterlilies in a pond. From the surface, you can see their leaves and flowers. But what you don’t see are their stems and roots, which anchor them to the bottom of the pond. Now none of us is going to want to have a superficial view of our world, in that we naturally want to probe deeper, and discover what lies beneath the surface. So how do we go about doing this? What tools do we have to go deeper?

There is no doubt that there is a cultural debate going on at the moment about which discipline offers us the most reliable knowledge of ourselves and our world. For some, there is only one answer to that question: the natural sciences. In his recent book The Grand Design, Stephen Hawking declares that “philosophy is dead”, leaving the field clear for scientists to become “the bearers of the torch of discovery in our quest for knowledge.” Others would agree. Some of you will have read Alex Rosenberg’s book *The Atheist’s Guide to Reality* (2011), in which he declares that the application of the scientific method is the only reliable and trustworthy source of knowledge. “Science provides all the significant truths about reality, and knowing such truths is what real understanding is all about.”

*The Atheist’s Guide to Reality* dismisses a series of important philosophical and theological discussions on the meaning of life on the basis of the assumption that science is “our exclusive guide to reality.” The great questions of life can be answered simply and unambiguously by the application of science. Rosenberg offers his readers a few examples to show the importance and scope of this approach.

*Is there a God?* No.

*What is the nature of reality?* What physics says it is.

*What is the purpose of the universe?* There is none.

*What is the meaning of life?* Ditto.

*What is the difference between right and wrong, good and bad?* There is no moral difference between them.

It’s a very simple approach to life. Yet I have to confess that it leaves me uneasy. Let’s look at the fourth of those questions again, and consider the answer that Rosenberg gives.

*What is the difference between right and wrong, good and bad?* There is no moral difference between them.

I have to confess that I think this is a hopeless overstatement. Our recent history makes it clear how badly we need to distinguish between good and evil! I have always been impressed by the sombre realism of R. G. Collingwood’s famous remark: “The chief business of twentieth-century philosophy is to reckon with twentieth-century history.” I don’t think I am on my own when I feel I need to be able to say more than “I disagree with Adolf Hitler’s programme of genocide.” I want to be able to declare that it is bad; that it is evil; that it falls short of core human values, which we need to maintain for the sake of civilization.

I would suggest that most of us would be happy if Rosenberg was to restate his position, making it clear that the issue is the capacity of science to articulate moral values.

What is the difference between right and wrong, good and bad? Science is unable to identify or affirm any moral difference between them.

The argument is surely not about declaring that the distinction between right and wrong is trivial or non-existent; it is about recognizing the limits of science to help us determine what is right and what is wrong. That’s a view that many scientists hold. We might think, for example, Peter Medawar, who won the Nobel Prize for medicine for his work on immunology. He was quite clear that there were “questions that science cannot answer and that no conceivable advance of science would empower it to answer”. For Medawar, those questions had to do with moral values and the meaning of life. Science couldn’t answer questions like that legitimately using its proper methods. Albert Einstein made a similar point in a landmark lecture at Princeton in 1939. While Einstein insisted that the natural sciences were outstanding in their sphere of competence, he nevertheless emphasised that “the scientific method can teach us nothing else beyond how facts are related to, and conditioned by, each other.” Issues like meaning and moral values simply lie beyond this kind of analysis.

Yet Rosenberg echoes an important cultural trend – the privileging of the natural sciences as sources of knowledge. The term “scientism” is often used to refer to this approach, which its critics would define as “a totalizing attitude that regards science as the ultimate standard and arbiter of all interesting questions.” The philosopher Roger Scruton is very critical of such an approach, which he regards as an unsubtle attempt to subjugate reality to what science is able to determine:

Scientism involves the use of scientific forms and categories in order to give the appearance of science to unscientific ways of thinking. It is a form of magic, a bid to reassemble the complex matter of human life, at the magician’s command, in a shape over which he can exert control. It is an attempt to subdue what it does not understand.

There is clearly an important debate here, which goes beyond the well-known tensions that exist between the natural sciences and the humanities. Does science answer all our questions? Or just some? If it can only answer some questions, of course, we need to ask a further question. If science can’t answer some of our questions, just where do we find those answers? Some, of course, would say that those might be invented answers. If there is no scientific answer, there is no real answer – just made-up responses, which have no claim to truth.

So how can we engage such a complex and important question? Let me begin by asking a more limited question, which is helpful in orientating our discussion, and setting it in context. Is reality limited to what we can see, touch, feel, hear, or smell? Or is there a realm beyond the scope of human senses, which occasionally makes its presence felt in our lives? Like Isaac Newton, we sometimes have a haunting sense of standing on the shoreline of something immense and vast, perhaps dipping our toes into its cold water. I often find myself coming back to his words:

I seem to have been only like a small boy playing on the sea-shore, diverting myself in now and then finding a smoother pebble or a prettier shell than the ordinary, whilst the great ocean of truth lay all undiscovered before me.

I love reading history books, especially books about the development of the natural sciences. At times, of course, these can be very irritating. Science is all too often presented in highly uncritical terms, as if it moved from one great discovery to another. We need to realize that science sometimes gets things wrong, even for the best of reasons! One of my favourite stories concerns Galileo’s use of a telescope to study the night sky. Why do I like this story so much? Well, maybe it’s because I can remember building myself a little telescope many years ago, and discovering the wonderful world that it opened up. Galileo, I thought to myself, must have had a similar experience. He saw – perhaps the first ever to do so – the craters and mountains of the moon, and the four largest moons orbiting the planet Jupiter. His telescope enabled him to see stars which were invisible to the naked eye. Galileo’s vision of our world was vastly expanded by this new piece of technology!

But let’s pause, and focus on an important question that is raised by this wonderful story of scientific discovery. As far as we know, there are no recorded observations of the moons of Jupiter, or the lunar craters and mountains before Galileo. Yet those moons, craters, and mountains were there before Galileo saw them. It was just that they could not be seen by the unaided human eye. Galileo was able to see far more stars with the aid of his telescope than anyone else could. Yet the stars that Galileo now saw did not come into existence because of his telescope. They had always been there. The telescope enhanced the reach of his vision, so that he could now observe things that lay beyond the capacity of the unaided human eye to discern.

I’m sure you can understand the point that I am making. If we limit reality to what we can discern through our senses, we must immediately concede that there are many, many things that lie beyond our capacity to experience them. The problem of the “unobservable” is a well-known issue in the philosophy of science. An unobservable is something whose existence, nature, properties, qualities or relations are not directly observable by human agents. As technology expands our capacity to observe such entities – whether these are seen directly or indirectly – these are, at least in one sense, no longer “unobservable”.

Many, however, would argue that this is not really a problem. What is observable depends on your historical location. Nobody knew about the moons of Jupiter in ancient Greece, because they didn’t have the optical technology to see them. Now we do. Now I take this point. But it still remains the case that our natural human capacity to see things is limited. And if we limit reality to what we can see unaided, we shall only discern a very small part of our strange and complicated world.

It gets more complicated. Let’s move from Galileo to Newton, and think about Newton’s remarkable idea of gravity. Newton established a series of principles which seemed to govern the behaviour of objects on earth – for example, an apple falling to the ground. Newton argued that these same principles applied to the motion of the planets. The gravitational attraction between the earth and an apple is precisely the same force which operates between the sun and a planet, or the earth and the moon.

Newton applied the laws of motion to the orbit of the moon around the earth. On the basis of the assumption that the force which attracted an apple to fall to the earth also held the moon in its orbit around the earth, and that this force was inversely proportional to the square of the distance between the moon and the earth, Newton was able to calculate the period of the moon’s orbit.

Now unfortunately, Newton’s figure was incorrect by roughly 10%. Yet this error arose through an inaccurate estimate of the distance between the earth and the moon. Newton had simply used the prevailing estimate of this distance; on using a value which was more accurate, determined by the French astronomer Jean Picard in 1672, theory and observation proved to be in agreement. Newton’s laws of motion also allowed him to calculate the mass of each planet, the flattening of the Earth at its poles, and its bulge at the equator, and how the gravitational pull of the Sun and Moon create the Earth’s tides.

But here is my point. Newton proposed something that could not be observed – gravity – to explain what could be observed. Newton himself was uneasy about the idea, which seemed to him to be profoundly counterintuitive. Yet it seemed to work. Nowadays, we might suggest that Newton initially worked with an instrumentalist, rather than a realist, understanding of gravity. In other words, Newton initially regarded the idea of a gravitational force between bodies as a helpful idea, or a useful framework for thinking. It didn’t necessarily mean that gravity really existed – just that this was a helpful way of seeing things. But gradually the concept of gravity became widely accepted, despite concerns being expressed about its plausibility by writers such as Leibniz.

The overall trajectory of Newton’s thought was this: we need to propose something that we cannot observe to explain what we do observe. It’s a classic move in the philosophy of science, and only causes problems to those very few extreme logical positivists who limit meaningful statements to what we can actually observe. Perhaps the best example is “dark matter”. This is not something that we observe, but something that we can’t observe. There is a mismatch between the amount of material that we can observe in the universe, and the amount that seems to be there in the light of the gravitational force it generates. The solution to this enigma is to propose the existence of “dark matter” – matter that really is there, and creates gravitational attraction, but can’t actually be seen.

So how does this relate to thinking about God? Let’s go back to Newton’s argument that the falling of an apple to the ground and the rotation of the planets around the sun are both to be accommodated within the same explanatory framework – namely, gravity. In many ways, the quest for explanation is an attempt to find the best “big picture” or framework which fits in our observations in the most satisfactory manner. Newton’s theory of gravity offered such a “big picture”, which was able to position and accommodate observations about the rotation of the planets, the earth’s tides, and the falling of bodies to earth.

The theologian William Inge (1860-1954) developed a similar approach. For Inge, the Christian faith offers a conceptual framework, a mental map, which both accommodates and encourages the scientific enterprise, as well as illuminates our understanding of the world and ourselves within it. God is not something whose existence we can prove by direct observation, as if God was a hitherto unnoticed moon orbiting the planet Jupiter. Rather, God provides a framework for making sense of our world.

Rationalism tries to find a place for God in its picture of the world. But God . . . cannot be fitted into a diagram. He is rather the canvas on which the picture is painted, or the frame in which it is set.

God is thus to be compared to a canvas – a framework of explanation which can bear the intellectual weight of the world around us, and our experiences within us, supporting and holding together a richly textured reality.

Inge’s argument is not that our observations of the world prove the existence of God, but that the Christian vision of God explains what we observe in the world. The intellectual trajectory is not from the world to God, but the other way round. The theory is tested by asking how well it fits the observations. Some of you will know this famous one-liner by the well-known nineteenth century theologian John Henry Newman, in which he makes much the same point: “I believe in design because I believe in God; not in God because I see design.” A Christian conceptual framework, according to Newman, is able to accommodate what is observed and experienced.

Now there are many issues we could discuss here – for example, how we might evaluate possible theoretical interpretations of what we observe? What criteria should we use? But I don’t want to lose our focus on the core question that the title of this lecture raises: Is reality limited to what science can uncover? I have begun to reflect on this question already. But I suspect many of you would like to hear another voice in this conversation. So let me introduce C. S. Lewis’s ideas on this subject, which I assure you are both interesting and provocative.

Lewis is very well known, and probably needs little in the way of introduction. Lewis himself had no quarrel with the natural sciences. His concerns focussed on two related issues. One was whether human knowledge was limited to what the natural sciences could disclose; the other was whether the sciences should be seen as the saviour of the human race. For Lewis, these two themes were clearly related. As a somewhat precocious teenager, Lewis was convinced that science had completely eroded any possible intellectual basis for belief in God. In 1916, he declared that the “recognised scientific account of the growth of religions” was that they were simply mythologies invented by human beings, usually to explain natural events or to deal with human emotional needs.

As a child, Lewis read voraciously and widely, and devoured writers such as Jules Verne (1828-1905) and H. G. Wells (1866-1946), whose novels spoke of travel in space and time, and explored how science was changing our understanding of the world. Lewis was clearly deeply impressed by the idea that science had the potential, not simply to transform the future of humanity, but to transform its nature. Yet Lewis’s views about the human future darkened through his first-hand experience of the destruction and trauma of the First World War. Technology that he believed was meant to enhance the human future was being used to destroy it. Lewis’s optimism about the future was tempered by a realism, and informed by a growing anxiety about the darker side of human nature. Science, like every human activity, was capable of being misdirected and abused.

Lewis’s conversion to Christianity in 1931 gave him a new intellectual framework within which to consider the place of science. Lewis’s concern was that science, originally conceived as a means of learning more about our wonderful and beautiful world, was being turned into a tool for mastering the world, and subduing it to serve our ends. He increasingly came to see H. G. Wells’ social Darwinism as articulating a scientific myth of progress which was inattentive to the darker side of human nature, and the potential abuse of the power that science placed in human hands. Lewis did not have any problems with the idea of evolution as a scientific principle; he was, however, deeply opposed to the way in which some transposed evolution from a scientific theory to a metanarrative, expressed in the myth of cultural progress. As he later put it, “dreams of the far future destiny of man were dragging up from its shallow and unquiet grave the old dream of man as god.”

Lewis found himself admiring the medium through which H. G. Wells expressed his evolutionary optimism – namely, science fiction – while disliking the ideas and values that Wells expressed. As many of you will know, Lewis responded with his own three works of science fiction – *Out of the Silent Planet* (1938), *Perelandra* (1943), and *That Hideous Strength* (1945) – in which he tried to use the literary medium favoured by Wells to subvert his ideas and values.

Now we need to be fair to Wells here. One of Lewis’s main criticisms of Wells is his uncritical optimism about human nature and its potential. Yet Wells himself had concerns here, especially about the capacity of science to disclose and solidify human moral values. He recalibrated his views about human nature as the world descended into global conflict during the Second World War. In my view, one of Wells’s most intriguing books dates from the end of his life. In his short work *Mind at the end of its Tether* (1945), Wells maintains a severely critical view of religion, while conceding that humanity finds itself in a very dark place. Two world wars – with barely a generation in between them – called into question naïve views about human wisdom.

One of the main points that Lewis defends in these novels, as elsewhere, is that science is unable to give us a full “big picture” of reality. There are limits to a scientific understanding of our world, and especially to human nature. For Lewis, this is especially evident in the field of morality, which was explained away. Listen to these lines from That Hideous Strength, in which Lewis argues that the moral boundaries to human behaviour were eroded and discredited, in that “all morality was a mere subjective by-product of the physical and economic situations of man”.

Interestingly, we find this view in Wells’s *Mind at the end of its Tether*, in which he remarks that “the present writer has no compelling argument to convince the reader that he should not be cruel or mean or cowardly.” After all, he noted, such things are already “in his own make-up in a large measure”; to act naturally is thus to follow such instincts. Wells hopes that people will make a good choice, while not having any means at his disposal to lay down how we might objectively define what is “good” in the first place. It is a wonderful statement of a noble aspiration, which is made untenable by the denial of any objective basis on which we might be able to identify what is “good”.

We see here Lewis’s concerns about what he termed “naturalism”. Now we need to be clear that this word means many things, and that Lewis’s use of the word is simply one possibility among many. For Lewis, naturalism is the view that our beliefs – such as belief in God – are simply the result of environmental factors or evolutionary pressures, Lewis insisted that such approaches ultimately ended up invalidating the thought-processes on which they ultimately depended.

In his 1941 essay “Evil and God”, Lewis identified what he believed to be the fundamental problem with this argument. “Mechanism, like all materialist philosophies, breaks down on the problem of knowledge. If thought is the undesigned and irrelevant product of cerebral motions, what reason have we to trust it?” Those who represent all human thought as an accident of the environment are simply subverting and ultimately invalidating all their own thoughts.

In his book *Miracles*, Lewis pointed out that, if “naturalism” is the result of rational reflection, then the validity of that process of thought has to be assumed in order to reach this conclusion. Or, to put this another way, if all events are determined by “irrational causes”, as Lewis holds naturalism to entail, then rational thought must itself be recognised as being a product of such irrational causes – which contradicts the core assumptions of the process of reasoning which is involved in reaching this naturalist position. A similar point had been made earlier by G. K. Chesterton: “The man who represents all thought as an accident of environment is simply smashing and discrediting all his own thoughts – including that one.”

Lewis’s critique of what he termed “naturalism” resonates with the anxieties of many scientists at this extrapolation of their ideas. J. B. S. Haldane (1882-1964), a self-confessed materialist, found himself deeply unsettled by the idea that his most important thoughts were predetermined by physics:

If my mental processes are determined wholly by the motions of atoms in my brain I have no reason to suppose that my beliefs are true. They may be sound chemically, but that does not make them sound logically. And hence I have no reason for supposing my brain to be composed of atoms.

Haldane came to appreciate that his materialist account of human thought-processes means that he ended up “sawing away the branch” on which he was sitting. His own account of the mechanism of human thought subverted the validity of its outcomes.

Let’s go back to that line I cited from *That Hideous Strength*, in which Lewis argues that materialist accounts of ethics ended up affirming that “all morality was a mere subjective by-product of the physical and economic situations of man”. One of Lewis’s most important discussions of this view is found in his wartime work *The Abolition of Man* (1943). In its opening pages, Lewis reflects on how moral values are increasingly viewed as subjective. He asks us to think of two people looking at a waterfall, one who considers that it is “sublime”, the other who considers it to be “pretty.” So what is the status of these statements? Lewis argues that a reductionist would understand the situation in the following way.

When the man said “This is sublime,” he appeared to be making a remark about the waterfall. ... Actually... he was not making a remark about the waterfall, but a remark about his own feelings. What he was saying was really I have feelings associated in my mind with the word “Sublime”, or shortly, I have sublime feelings.

Lewis rejects such a subjective account of beauty, arguing that it is proper to distinguish our reaction towards an object with what it might be about that object that merits such a response in the first place. Until quite modern times, Lewis suggests, people believed that “objects did not merely receive, but could merit, our approval or disapproval.” He extends this idea to ethics, arguing against views of ethics which rest on our subjective emotions. “All judgements of value cannot have any ground for preferring one of their impulses to another except the emotional strength of that impulse.”

Now I have brought Lewis into this discussion to indicate some of the concerns that arise from any purely scientific attempt to deal with values, whether aesthetic or moral. It’s an excellent example of the importance of the topic of this lecture – namely, is reality limited to what science can uncover? I now want to move on, and focus once more on questions of morality. This time, I will turn to an area of scientific exploration which some regard as opening up new approaches to understanding the origins and status of human moral values – the field of evolutionary ethics. This holds that human moral values arise naturally during the process of biological and social evolution in response to our environment.

In his *Descent of Man*, published in 1871, Charles Darwin (1809-82) argued that ethics was best seen as representing a human response to biological needs. Darwin suggests that humans are biologically inclined to be sympathetic, altruistic, and moral, in that this proved to be an advantage in the struggle for existence. Herbert Spencer (1820-1903) developed Darwin’s ideas into what is often known as “social Darwinism” by elevating biological facts (such as the struggle for existence and natural selection) to prescriptions for human moral conduct. This led Spencer to suggest that, since life is a struggle for human beings, it follows that, in order for the best to survive, it is necessary to side-line or eliminate the weak. “To aid the bad in multiplying, is, in effect, the same as maliciously providing for our descendants a multitude of enemies.”

More recently, writers such as E. O. Wilson have argued that all ethics emerges from biological necessity. In his *Sociobiology: The New Synthesis* (1975), Wilson argued that human concepts of morality can be explained in terms of humanity’s biological and social evolution. Morality is understood as a useful adaptation that increases the fitness of certain groups by providing a selective advantage for their survival.

It’s an excellent example of the transformation of evolutionary theory from a descriptive or analytical account of biological organisms to a prescriptive account of human behaviour. We find this in Wilson’s important statement: “Scientists and humanists should consider together the possibility that the time has come for ethics to be removed temporarily from the hands of the philosophers and biologicized.”

The single overarching virtue recognized by a Darwinian metanarrative is the capacity to survive and reproduce. Moral conduct is thus seen as something that aids the long-term survival of morally-inclined communities of humans. According to Wilson, the prevalence of egoistic or selfish individuals within a community will make that community more vulnerable, and might thus ultimately lead to the extinction of the entire group. There is thus a human genetic inclination to be moral, a vestigial trace of earlier periods in human history.

Now critics of evolutionary ethics argue that it amounts to little more than “just so” stories. We do not have access to our evolutionary past, and hence can only speculate about what we might have been like, or what pressures or influences might have shaped our past history, and how these might be passed down, and in what manner, to the present. At the descriptive level, it is relatively easy to appeal to evolutionary theory to offer an explanation of the origins of certain human capacities, or patterns of thought and behaviour.

Proving these explanations, of course, is rather more problematic, given absence of secure hard evidence concerning our distant psychological past. Evolutionary psychology is often invoked to support a post-modern moral scepticism or relativism, or to undermine traditional moral realism. Yet these claims cannot be validated, partly because of the serious difficulties in transitioning from description to prescription, and mainly because of the necessarily provisional and tentative nature of any scientific understanding of the evolutionary past.

In addition to this serious general problem, a more specific concern might be raised. Surely human beings have now moved beyond their original biological roots and transcended their evolutionary origins, where the fundamental goal was simply physical survival? Surely we could now formulate goals in the pursuit of goodness, beauty, and truth that have nothing to do directly with issues of survival, and which may at times even militate against survival?

This point was made by Darwin’s great supporter and interpreter, Thomas H. Huxley, in his 1893 Romanes Lecture at Oxford University, entitled “Evolution and Ethics”. Huxley notes that human animals have triumphed in the “struggle for existence” through their cunning and “ruthless and ferocious destructiveness,” which enabled them to survive and ultimately to dominate the biological realm. Yet human beings, having subdued the remainder of the biological world, have now discovered that these “deeply ingrained serviceable qualities have become defects”. The violence and ruthlessness that secured the triumph of human beings over other animals are now seen as base instincts, out of place in civilized society. The qualities appropriate for the “struggle for existence” are “not reconcilable with sound ethical principles.”

Ethics, for Huxley, is thus a principled resistance to precisely those animal qualities that secured human domination of the living world, and the Darwinian processes that underlie them. Yet – and here Huxley must be heard – this demands the subjugation of animal instincts that linger within us. Our hereditary history continues to shape our present – and it must be resisted, even though it cannot be eradicated. “The practice of that which is ethically best – what we call goodness or virtue – involves a course of conduct which, in all respects, is opposed to that which leads to success in the cosmic struggle for existence.” Evolution may explain the origins of ethics; it cannot itself function as the basis of ethics, in that we are now called to leave behind those former virtues of violence and aggressiveness which are now seen as vices.

Evolution may teach us how the good and the evil tendencies of man may have come about; but, in itself, it is incompetent to furnish any better reason why what we call good is preferable to what we call evil than we had before.

Having laid out his concerns about reading off moral values from the evolutionary process, Huxley drew his basic moral conclusion. “Let us understand”, he declared, “once and for all, that the ethical progress of society depends, not on imitating the cosmic process, still less in running away from it, but in combatting it.”

So can science help us develop moral values? I personally have little doubt that science can help inform our moral reflections. But I don’t think it can or should determine those reflections. Let me develop his point by reflecting on Sam Harris’s work *The Moral Landscape* (2010). Harris rose to fame in 2004 as one of the leading representatives of the “New Atheism,” arguing for a fundamental link between the irrationality of faith and its pursuit of violence – seen, for example, in the 9/11 terror attacks in New York city. I have to admit that I was puzzled by some of the moral views he set out in that work as his rather uncritical defence of the use of torture, and his disturbing argument that “some propositions are so dangerous that it may even be ethical to kill people for believing them.” I must confess that such statements made me wonder what Harris based his ethics on.

Harris sets out his answers in *The Moral Landscape,* which has a very significant subtitle: How science can determine human values. For Harris, science is able to provide a reliable and objective basis for human ethics. Yet from the outset, Harris makes it clear that he does “not intend to make a hard distinction between ‘science’ and other intellectual contexts in which we discuss ‘facts.’” This radically undermines his case for the uniqueness of science, by conceding that many disciplines can be understood as rational–empirical inquiry into “facts.” Science is simply one among several disciplines of relevance – and not the only one.

I found myself enjoying – and agreeing with – parts of Harris’s work, such as his criticism of E. O. Wilson’s assertion that morality is “merely an adaptation” to “further our reproductive ends”. Harris rightly observes that, while evolution did not design us “to lead deeply fulfilling lives,” human ethical reflection can hardly fail to take this goal into account. I think this point needs to be given much greater prominence in contemporary discussions, which are dominated by the issue of the lingering influence of some fundamental human instinct for survival.

The core assumption of Harris’s approach is that our ethical thinking and moral actions should be motivated by improving the “well-being of conscious creatures,” through encouraging “principles of behaviour that allow people to flourish”. Now I am sympathetic to this being recognized as one of several core values of responsible human reflection. But why should it be the only core value? And, much more importantly, just what is the scientific basis of this claim? It is clearly a value judgement, not an empirical observation. Harris simply asserts his belief that morality is equivalent to maintaining or enhancing the “well-being of conscious creatures.” Yet this fundamental presupposition is an unevidenced, metaphysical assumption, not a scientific conclusion.

As C. S. Lewis himself pointed out, what generally happens is that scientists absorb the cultural values of their context – for example, their peer group – and sometimes then retroject those values onto the scientific enterprise itself. In other words, moral or social values that have cultural origins are assumed to have some kind of scientific warrant. We find this point nicely illustrated in Charles Darwin’s *Descent of Man*, where his account of the development of human beings is clearly influenced by some of the cultural assumptions that were dominant in British imperial thinking of the 1860s and 1870s. This passage from the *Descent of Man* is rarely cited these days, and I think you can probably see why:

The western nations of Europe ... now so immeasurably surpass their former savage progenitors [that they] stand at the summit of civilisation ... The civilised races of man will almost certainly exterminate, and replace the savage races through the world.

Now let me make it clear that Darwin was not commending the “extermination” of what he termed “savage” human races by more “civilized races”; he was simply expressing the wider cultural judgement of his day that this process would indeed take place, and that western culture then stood at the apex of civilization as the outcome of this process of competition. But I think you will all know that some others saw this as a justification for colonialism – for those of you who are interested, you might like to read Cecil Rhodes’s thoughts on this matter.

Since the advent of Darwin’s theory of natural selection, the imagery of conflict and a struggle for survival within the biological world has come to dominate discussion of human beings. Having emerged from within the biological realm, should we be surprised that humanity is characterised by tendencies towards violence? Darwin’s own language is highly suggestive here.

The inevitable result is an ever-recurrent Struggle for Existence. It has truly been said that all nature is at war; the strongest ultimately prevail, the weakest fail. … The severe and often-recurrent struggle for existence will determine that those variations, however slight, which are favourable, shall be preserved or selected, and those which are unfavourable shall be destroyed.

Thomas Huxley’s lecture “Evolution and Ethics” (1893) as well Richard Dawkins’s *Selfish Gene* (1976) opened up some fundamental questions about the biological origins of human tendencies towards violence and selfishness, and how this might be alleviated, if not entirely eliminated (00-00). The geneticist Steve Jones recently developed this point further, reflecting on the dark side of human nature, and pointing to hereditary factors which might shape contemporary human attitudes. Traditionally, Christian theologians speak of “original sin” in the sense of tendencies that lie within us from birth – rather than being acquired from our social context. This resonates with genetic reflections on violence and self-centeredness. So perhaps it is natural that out next lecture will deal with the question of human violence, and how we can make sense of this. To help us do this, we will look at J. R. R. Tolkien’s concerns about technology. As many of you know, Tolkien’s concern was that technology makes it possible for us achieve massive levels of violence and destruction, raising the question of human morality and integrity in a highly focussed way. We shall consider these questions when we meet again next month!

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