



Pascal's Fire: Scientific faith and religious understanding

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Introduction by Lord Sutherland of Houndwood KT FBA, Provost of Gresham College:

Good evening, and welcome, ladies and gentlemen, to Gresham College. This is a very important event. I know many of you have been here before, but for those that have not, a special welcome. I hope you get some sense of the range of things that we do here and the things that our lecturers and professors do for us with such excellence – give lectures and lead seminars.

The event this evening is to mark the launch of a new book, Pascal's Fire: Scientific faith and religious understanding. I have no doubt that we will get both of these from this book. The reason for having the launch here at Gresham College of course is that the book is built upon lectures given in this College by our current Professor of Divinity, Professor Keith Ward. Keith has been a professor in several different contexts and several different ways: at Kings College London, twice; of course the Regius Chair in Oxford, a great distinction; and at Gresham College, where he is still Professor of Divinity and his lectures will be running again next year.

The book is, as always with Keith, a marvellous piece of writing and, more importantly, a marvellous piece of thinking. The clarity of his mind is awe inspiring; his arguments, the way in which he gives reasons for things, are tremendously well done and convincing. I occasionally disagree with some of the conclusions, but that's an argument that Keith and I have been having over the last 30 years! The way in which he writes, however, is a message to those who wish to talk about the relationship between religion and science, because it can be done badly, both by scientists and by theologians and religious believers; they can get the thing out of context and out of kilter. Keith does not do that. This is, if you haven't already discovered, one of many books he has written, but this one particularly timely and apt, on the relationship between religion and science.

Keith is one of the few philosophers and theologians who will take on the scientists from the standpoint of religion. Not just take them on by running up a flag and uttering a few platitudes, but by discussing, by arguing, by enquiring, and by listening, and coming up always with cogent, clear suggestions, proposals and conclusions. In this I think, by and large, the religious community have failed those of us who want a good argument in this area. There have not been many who have been willing to take the scientists on on their own ground, but - and this is the proof, as well as reference to previous writings – here is a marvellous example of the way in which someone who is deeply engaged in the Christian faith can discuss with scientists about science, and about the conclusions of contemporary science.

There has not been a period, at least not for three or four hundred years, since the founding of Gresham College interestingly, in which the need to interrogate science has been so great, the reason being it has huge impact on our daily lives and on all sorts of issues, and where decisions are required that deeply affect how human beings live.

I am delighted to ask you to welcome Keith Ward, who will talk about his new book.

Keith Ward, Gresham Professor of Divinity

Thank you very much indeed Stewart. It is a little bit like listening to one's own obituary - but I'm still here, so I'm very grateful for that!

Pascal's Fire refers to a document which was found sewn into the clothing of Pascal, the great 17th Century French scientist and mathematician, and that document, part of it, reads like this:

23rd of November 1654: From about half past ten in the evening until half past midnight, the god of Abraham, the god of Isaac, the god of Jacob, and not of the philosophers and men of science.

Well, that's a very interesting thing to sew into your clothing and carry around with you everywhere you go, particularly since Pascal was a philosopher and a man of science. This book is about the whole subject of whether scientists and philosophers have a god and, if they do, whether that god is different from, or the same as, the god of the religious. I have given a clue to what I think about that by titling the book "Scientific faith and religious understanding". My case in the book really is that the god of the scientists, and there is one, is the same god as the god of the religious, but approached in a different way. That difference is quite important, because it marks a difference between scientific approaches and religious approaches to reality. I put that more broadly actually: the approaches of the natural scientist, the approach that the scientists make to reality, and the approaches that are made in the humanities in general.

You probably remember some years ago C.P. Snow wrote a book called "The Two Cultures", and I think we are still in two cultures today; things have not improved very much. On the one hand, you have people who can do mathematics, and they are called scientists; and on the other hand, you have people who cannot do mathematics, and they do history and English and philosophy and subjects like that. That is not the only difference between them of course, but you have to ask what is the real distinction between science and the humanities, and that is the distinction which is most important, because religion, although it has been called in medieval times 'the queen of the sciences', is actually one of the humanities; it is a humane discipline.

So part of what I want to do is to explore that difference between the disciplines. Let me just state rather briefly, because you can read the book of course, what I think it is that, in the natural sciences, certain things are selected as of importance, and many things are simply neglected and not considered. The things that are selected are things that are publicly observable, first of all. If you are a scientist, you must deal with things that everybody could in principle observe in the same way that you could, so they are in public space, they can be observed. Some of the observations in quantum physics are so abstruse that most of us would look at them and not know what we were looking at, so it does get very complicated, but observation is still important and other people can check what you say.

Another aspect of scientific approach is that you should be able to measure in some way; you should be able to quantitatively assess the data. It is no good saying things go faster and faster; you want to know exactly at what speed light goes. You need a precise number. So things have to be denumerable. You have to be able to give a number and say exactly what that number is, and you could not have equations in science if that was not true.

Science also deals with things which are repeatable and predictable, so that if you have a scientific law, you will say, "Whenever this sort of thing happens, then the following consequence will occur," or "If the cause exists, then this effect will exist." That must be repeatable, and you must be able to predict it. So again, science is saying, well, I am only interested in things which are repeatable.

That is what science deals with. It has been remarkably successful, and has taken out of reality that section of publicly observable, quantifiable, denumerable and repeatable experimental phenomena. The question then is: Is that all there is? Is human life composed of such things, or could there be something else?

The answer may seem obvious to you, but it is not obvious to every scientist who writes on these topics. For example, E.O. Wilson wrote a best-selling book called *Consilience* some time ago, and in that book he said what we have to do is achieve a consilience, a harmony, between scientific method and method in the humanities, and he said this can be quite easily done, and what you do is this: you reduce all humanity's explanations to explanations in science. So, in the end, physics is the only thing that explains everything. For Ed Wilson, the ultimate explanation of everything had to be an explanation in terms of physics. Physics does not necessarily talk about particles anymore, but let us suppose it did, and say that physics will tell you about the smallest particles there are and how they bump into one another and what they do in certain

circumstances. From that, if you got complicated enough, you would be able to explain why you came to this lecture tonight, what you are interested in in life, why you married or did not marry your partner, and what you are going to do next. It is all explained in terms of physics; you are just a construct of millions of very tiny things, perhaps super-strings, and the physicists will explain it all to you. So when you say, “Why did this happen to me?” the physicist will say, “well, it’s because of Ohm’s Law, and the gravitational constant, and given 25 million years, I could explain it all to you. Admittedly, I haven’t got the time, I haven’t got enough computer power.” So it is a faith. “I could explain it” – that is the faith of the exaggeratedly egocentric physicists, the physicists who think their discipline can explain everything.

Of course, in the academic world we all think our discipline can explain everything. We are familiar with some biologists who think Darwinian selection can explain everything, and we have heard them, but physicists also do this same thing. Sociologists say the same thing. Karl Marx said, “I can explain everything in terms of the laws of economics and production and exchange.” Some theologians, perhaps, have said, “I can explain everything in terms of god.” So it is a familiar move this – “My discipline explains everything. Yours is a bit inferior. It depends on mine.” There is something odd about that, and what I am arguing for is just a plurality of different disciplines, none of which is reducible to the others. They all have their own proper methodologies.

Think, for example, of history as a discipline. Is history a science? Some desperate historians in universities which are short of cash say yes, it is definitely a science – you can have scientific history, because you might get a grant if you’re lucky. But actually, history is not a science because, although it deals with things that are publicly observable, in fact they cannot be publicly observed. My daughter, who went to a French school, was taught that the Battle of Waterloo was not a defeat for the French, it was a tactical withdrawal, so obviously, history is not a science! If you read different history books, you will see different accounts of the same events, and of course we like that, don’t we? There is a series on television about a re-thinking of the Second World War and the period then. We like that. We like historians to say something new. Historians do not stand up and say, “Well, what my colleague said was entirely correct, and of course I agree with it, and I can do an experiment to show that it was true.” That doesn’t happen in science. You say, “What my colleague said was totally wrong!” If you can not say that, you will never become a professor of history – that is essential to gaining a university chair. You have to kill your predecessor intellectually!

So we do celebrate originality. We do that in science too. We like people who are original, so maybe the parallel is with something creative, an insight, and I certainly think that exists in science, but creative scientists are very few. The sad truth is that most physics graduates will do rather humdrum things in laboratories, and if they are successful, they will become managers and stop doing them anyway. The really creative scientists are very few and far between, but of course it is important that they do exist. In history, you are looking at creativity, originality. Newness and originality of perspective is very important, and that marks one important difference, not between religion and science, but between the humanities and the natural sciences.

In the humanities, to put it in a brief sentence, you celebrate diversity and uniqueness, and you hope that people will disagree. In the sciences, you celebrate unanimity and a cumulative expansion of commonly received knowledge, and you hope that people will agree. If they do not, you might be very upset. I used to think that I was in a subject, theology, which was very depressing because people used to write to me with all sorts of theories of the universe which were all completely false, and I thought, well, this is just a trait of theology, but I was very much reassured when a professor of physics, who is a colleague of mine, said, “No, every week, I get three letters disproving the Theory of Relativity, but not using the mathematical techniques that Einstein used,” and so then you think this is the same everywhere. People are looking for originality but then not quite having the necessary foundation for it.

The distinction I want to make now is why should the sciences be the only mode of access to reality? I have mentioned history. I have mentioned originality, and I want to ally with this uniqueness of perspective. You cannot remove personal evaluation from your study of history. You cannot publicly observe the facts of history; they have gone in the past. You cannot carry out experiments upon them, and you certainly cannot measure them. There is no way you can measure, for example, what was Napoleon’s ratio of courage to Wellington’s ratio of courage. Can we have an equation? No, we cannot.

Even the humanities which try to be scientific, like social science, have failed. Social science has completely failed ever to come up with any quantitative law which predicts anything correctly. We know this is true because the present Government (I want to be particularly rude to them!) employs huge reams of

economists to tell them what is going to happen next, and they always get it wrong! So the only thing we know about predictions in economics is they are going to be wrong. You can almost bet on the opposite of whatever they say, and of course the Opposition Government always does. In micro-economics you can get some equations, but when you apply them to human motivations, and human intentions, and human evaluations, mathematics does not work any more. They are not publicly observable. Something is going on in human consciousness which is very important. What is important about what is going on there, that affects all of our lives, is that we are developing a unique perspective, which is different from other people's, which is not publicly observable. What we think about is never publicly observable. Even if we try to make it public, as I am doing now. I will probably say afterwards, "I didn't quite express what I really meant" and you might say, "Well, what on earth did you really mean then?" I would answer, "Well, I did my best and it didn't come out right somehow." So there is a great difficulty in expressing personal perspectives.

So where do personal perspectives come in? They come in in history, they come in in morality. Morality is not a science, even though in Cambridge it is called Moral Science. It is definitely not a science, because again there are no publicly observable tests you can make. Is abortion permissible or not? What experiments would we carry out to answer that question? You cannot do it. But personal perspective is important.

We don't worry – well, we might worry, but we cannot do anything about the fact that in morality people disagree. We expect disagreement. We know that people will have different perspectives, and we know that such disputes are not settleable. There is no neutral way of settling a dispute. We just have to accept the fact that human beings are going to differ fundamentally about what they think morally. We can do the best we can. We can be rational in morals, we can look for all the evidence we can find, but after we have done that, we can look at all the arguments we can think of and try to see the objections to them, we can use our reason to reason our way through, but we are never going to get, and we don't expect to get, agreement.

But ethics is part of human knowledge. There is such a thing as moral knowledge, even though we cannot obtain agreement about it. My case here is simply that knowledge in morality, in history, in law, is not like scientific knowledge but it is still knowledge. It is what you might call, and what Michael Polanyi did call, personal knowledge. The knower is personally involved with the objects that the knower is concerned about.

I am concerned with that difference between the humanities and the natural sciences, and I am concerned to say you cannot reduce one to the other. There is a proper form of understanding. I have chosen the words "religious understanding" because understanding contrasts, at least it does in German, with explanation – so I am going to make it happen in English too! Explanation is something that explains something to everyone's satisfaction. Understanding is person-relative. You can understand something more or less well by interpreting it in a very special way, but you are never going to expect agreement in understanding. You can have shallow understanding; you can have deep understanding. It is a form of knowledge, it is a form of sensitivity to what is real, but it is not scientific. My basic case here is that science omits from consideration, intentionally, most of the things that we as human beings are concerned with.

Science has a thing nowadays called the 'problem of consciousness'. You will read many books which say the problem of consciousness is the last remaining scientific problem. But let me suggest to you that it is not a problem at all! There is no problem of consciousness. Why should people think there is? We are all conscious – well, most of us are! We know what consciousness is. As Augustin said, we are in it, we are having it all the time. We find it hard to put into words what it is, but we are aware of what is going on. The so-called 'problem of consciousness' is that neurophysiologists, who deal with what is happening physically in the brain (and that is science, what happens in the brain, publicly observable, measurable, repeatable, you can do experiments on it) the problem is how does that array of facts, of things that are going on in the brain, tie up with our immediate experience of our consciousness?

A good example of consciousness is if you are listening to this lecture. If I say the sentence that I am just saying now, that sentence would be very different, if I just said it in the street or you heard it for the first time; it would be very different from your hearing it after all the other words I have said. Something in your consciousness is connecting up what happened before this in the lecture to what is happening now. You are doing something personal and interpretative, because I think I can guarantee that almost everyone in this room will give a different interpretation of what I have said. I know most of you have only had one glass of wine so far, but it is nevertheless true that we know that you will have a different interpretation. In

university classes, that is what you do – you go around and say, “What did that person say?” They only said it five minutes ago, and everybody gives a different account. That is because your conscious interpretation of what happens depends, integrally, upon your past experience, all the experience you bring to bear on what is happening, what you expect, what you don’t quite understand, what you do not integrate, and it is all going into your experience; it is very, very personal.

That is what is important about people writing biographies, or autobiographies, because we find out what is unique about them. We do not want a scientific account. We do not want an autobiography which says, for example, “25 million microtubules resonated at a certain frequency, and that is my autobiography.” We do not really want that; we want to know what they thought, what they did, what they experienced. It is experience; that is the clue.

So there is a big difference between what you might call physical explanation, the thing that a doctor would do if they looked at your body and your brain, the physical explanation, and a personal explanation, when you are interested in what a person’s experiences are and how they are facing their life with their goals and their motives and their values. Of course, this is the difference between psychologists who say, “If you are depressed, I will just inject you with this and you will feel much better” – that is the natural science approach (I’m not decrying it, it’s a particular approach) – and the counsellor who will say, “Let’s talk about this. I’ll charge you £100 an hour, and it will take 25 years, and you won’t feel any better, but nevertheless, it will be good.” I’m not decrying that either of course! You do get this difference of approach: you get the physiological approach and the approach which makes experience important.

You might ask, but where is religion? I have said religion is a humanity and not a science, and that is why people get so mixed up about religion and science. They might as well talk about science and history. You would say “What’s the difference between science and history?” The question would not occur to any reasonable person, unless somebody said, “You can reduce history to physics,” and you would think, “Does that mean we close down all our history departments then and just make them go and do physics?” No. There is something essentially different about the approach, and religion fits with history and law and morality and art and love, and all those things in human life which make us the unique people we are.

That is why, in the end, everybody – I speak as a minister of the Church of England – everybody has their own religion, whether they tell you or not. A lot of people will be able to agree with a lot of what somebody else says, whether it is the Pope or the Archbishop of Canterbury, and you say, “Well, I tend to agree with that,” but in the end, everybody has their own unique perspective, and it is good that they do, because as you experience things in life, you come to frame your own view of how it is that your goals are going to be shaped by your ideals, and whether or not there is something objective, over against you, which demands that you act morally and rightly and which offers you the promise perhaps of something like a personal relationship.

If you are religious, that is what happens. What happens is you say that (this is Pascal’s Fire, you see) you say there is the possibility of an experience which will transform your life, so that you say goodness and truth and beauty are not only objectively existent but they are rooted in a deeply personal reality with which I can communicate or to which I can relate. In prayer, in contemplation, in worship, it is possible to relate to that reality. That is the fire; that is what puts the fire into religious beliefs. Of course here I am talking about religion in general. I am not talking about any specific religion, but I think what is common to religion in general is that people say there is an objective reality which is compassionate, wise, of supreme value, and it is possible for human beings to relate to this. Different religions propose different intellectual ‘workings out’ of what this reality is and of how you can relate to it.

The point about religion and science then, Dine tried to put religion into the humanities bracket and say it’s not different from the other humanities. It’s an exercise of personal interpretation, of personal experience. But of course you live this out in communities, in traditions, so your experiences are in fact helped to be interpreted by the tradition in which you have been brought up, and that is a very natural thing to do, and these traditions will be constantly changing as new knowledge comes along. But how does this relate to science?

In the first part of the book, I look at what scientists have said and how they have related to this humane religious outlook. I am interpreting religion as the most humane of disciplines, a discipline which is concerned with personal experience and interpretation of reality as you perceive it, and which is concerned to find some way of relating yourself to that which is of supreme value to you. In a very broad sense, that is what religion is about. There are many different sorts of particular religions, but that is the religious attitude, and that is the sense in which Einstein was religious – not that he went to synagogue, because he didn’t,

but that he did have that view that the whole of the natural world is the creation, or the expression, of a reality of supreme wisdom. What I would call God, Einstein called that “the wise one.” That was not a slip of the tongue. He said, “Science without religion is lame; religion without science is blind.” By religion, he meant this rather broad thing that I am talking about.

Let me just point out one or two of the things that I have brought out in the book. I have looked at, first of all, the way in which our view of the universe expanded through the growth of natural science, and here it is just worth remembering (I’ll just pick out one or two big names) that Copernicus was of course a canon of the Roman Catholic Church. So there was no conflict there at all between the Copernican hypothesis and religion, and in fact Copernicus’ book *The Revolution of the Heavens* had a foreword written by his local cardinal saying what a wonderful book it was, and the Pope said “Thanks very much.” That was before Galileo, so something else accounts for Galileo, but I won’t go into that. Copernicus was a deeply religious person. Johannes Kepler wrote hymns glorying God as the creator of the heavens. I think it is an entirely plausible hypothesis that modern science began in an atmosphere where it was assumed that God, being a rational god, had created a rational universe.

Let me get to Isaac Newton; he certainly thought that. Isaac Newton sat in Trinity College, not under an apple tree I don’t think, but in Trinity College, Cambridge, and Isaac Newton said, “I believe,” as a Christian - slightly heretical, it’s true, but still a Christian. He said, “I believe that this universe was created by an exceptionally wise and mathematically competent being. He was probably very much like me! So if I wonder what are the simplest, most elegant mathematical laws upon which a complex and interesting universe like this could be shaped, and if I can work those out, that will be probably what God did. Newton thought about it, and lo it was so; the laws of mechanics were the laws that God had used. So Newton said, “Well, what I have been doing is just exploring the mind of God.” You will find that in the appendix to *Principia Mathematica*. So there was no conflict in Newton’s mind between religion and science. He thought that science was the exploration of the elegance and the beauty and the wisdom of a universe created by God.

That is what you find, very largely, until we get to modern times, which are decadent and corrupt, and you find that in Darwin. Darwin thought that evolution was a progress towards perfection which God had designed, so that everything would become progressively more and more perfect, and the evidence of design was absolutely unmistakable. I am, I should tell you, talking about Erasmus Darwin, who was the grandfather of Charles. Charles wasn’t quite so confident about the design, but Charles Darwin never denied it. Charles Darwin was in general a deist I think you could say – he did think that the laws of the evolutionary universe were designed by God, but that there were no interferences, there were no divine interruptions or guidances of the world as far as he could see, and that was because of the problem of evil basically. I won’t go into that, but Darwin was, I think I would be right to say, rather agnostic, but denied always being an atheist, and his grandfather was a noted theist. The co-originator of the theory of evolution, Alfred Russell-Wallace, was a very deeply religious person, some people might say too religious! He certainly had very deep religious beliefs.

You can go on. I do not want to say science has always been religious – that would be ridiculous. Some of my colleagues in Oxford would certainly disagree with me if I said that. But you get Michael Faraday, and you get people like Niels Bohr and Werner Heisenberg who in 1925 originated the first mathematical formulism for quantum theory, and they would say, yes, there is more to this universe than simple accident.

Let me just end this little piece of the story of science by one or two quotations from quantum physics. The people I am going to quote are all Nobel Prize winning quantum physicists, so they are not people who have an axe to grind, they do not all have a particular religious view, but they have very interesting views.

Eugene Wigner says: “Study of the external world leads to the conclusion that the content of consciousness is an ultimate reality.” What he is saying is that any physics which doesn’t consider consciousness is not really physics. The former Gresham Professor of Astronomy, Roger Penrose, from Oxford, is also saying that the laws of physics will have to change to take account of consciousness. So consciousness becomes important. This connects with religion because what religion says, most basically, is that the fundamental reality of the whole universe is a consciousness. It is a mind. It is a cosmic mind of supreme value, a mind which has expressed itself in the way this universe is. Not all, but a great many of the very best quantum physicists actually agree with that.

Von Neumann, the best mathematician among quantum physicists by general repute, says this, and it’s really quite extraordinary – this is a physicist talking... You know, physicists used to be people who said, “Everything is made of hard little lumps knocking into each other” – atoms. Von Neumann says: “All real

things are contents of consciousness.” Now you can take that from Bishop Barclay and say, “There’s another nutty philosopher,” but when you get it from the greatest mathematician, who is a quantum physicist in the modern world, you think there is something very odd going on here. What is going on is that quantum physicists are saying materialism is dead, it is finished, it is over; we don’t know what matter is any more. But when physicists talk about not just material things in this space time, but about many space times, ranged out in a universe, so that matter is only one form which energy takes in this space time, but there are other space times than this or there may be perhaps an infinite number, there are forms of matter we hardly know about – dark matter for example – then your whole view of physical reality changes. You say no longer are we talking about hard lumps.

What is an electron? I like this one! Nobody knows. But I can tell you what a very well known quantum physicist has said to me, when I asked him what an electron was, he said, “An electron is a probability wave in Hilbert space.” I said, “Thank you very much for that.” And he said, “If you take the square of the frequency of the probability wave, you will find the probability of locating an electron at a particular place.” I said, “That’s great...but what is an electron?” He said, “Well, I can’t tell you any more than that really, but I can tell you it’s not a little thing which goes round and round in the nucleus of an atom.” So you say, what sort of universe are we in? Well, all I want to say is it is not the universe we thought we were in before quantum physics. It is, to quote Bernard D’Espagnat, another major quantum physicist, it is what he calls “a veiled reality”. It is veiled, there is a veil over it; we will never know. All we know is how reality appears to us when we enter into certain experimental relationships with it. Emmanuel Kant lives again. We know reality as it appears to us. The way it really is is probably quite different, but it is not only that it is quite different, it is the mind which gives you some glimpse into what it is like, and what the mind tells you is that it is intelligible, it is elegant, it is beautiful and it is wise.

As Roger Penrose has said, “I am more certain that the platonic world, the world of mathematical ideas, is real than I am that chairs or tables are real.” When someone who has developed the mathematics of black holes tells you that, you think physics is not what it used to be! It is revealing to us a world which is much more mysterious. The faith of a physicist is that the world is intelligible, that it is beautiful, and if we don’t see that, we have to work harder to see it, that the mind will tell you what the universe is like because the universe is ultimately mind itself. What religious believers do is to say “I can work with that.” This is the god of modern science. It is the god of course which is not compulsory for a scientist – my colleague Professor Dawkins does not think that God is compulsory for a scientist, I’m aware of that – but it is a god that many scientists actually do talk about, and if they don’t call it God, they still talk about an ultimate intelligence and an ultimate elegance in the structure of the universe. That means the religious believer is going to say, right, from that background, where materialism and determinism is no longer an option anyway in science, we can say that the religious motivation, as a humanity, is to seek a personal interpretation of a relationship that might be possible to such a mental reality which underlies what science cannot attach.

The conclusion of the book tries to explore elements of human knowledge that the sciences cannot and do not wish to touch. I could put that very simply: the sciences do not wish to talk about value and purpose. They do not want to talk about value because they seek to exclude evaluation – you just want measurement – but evaluation, what we think is ultimately worthwhile, is of the greatest importance in human life. Because they do not want to talk about value, they are precluded from talking about purpose, because you cannot have a purpose without a value, which is the goal or the purpose that you are aiming at, so naturally modern science will exclude purpose, by definition, from the universe. That does not mean purpose is not there; it just means natural scientists are precluded from talking about it, and until they talk about value, which they never will, they will never talk about purpose. So we should not be surprised at all the little arguments that go on about intelligent design, because of course intelligent design is, in part, the view that there is a purpose in the way the universe goes. As a scientist, you cannot commit yourself to that view. It is just not what you are talking about. It is like asking a physicist, “Who won the Battle of Waterloo?” The physicist will say, “That’s not my field!”

So religion and science do, as Stephen J Gould has said, belong to different parts of human knowledge. Religion belongs in the humanities, but humanities and religion have to connect with the best scientific knowledge of the world. What I have done, as a person who works in the humanities, is to look at what these scientists are saying about the world, and ask what can we now do to integrate, to find a true consilience between the findings of the natural sciences and the findings of humanities, which include religious perspectives. My suggestion is that the only true consilience is one which preserves, faithfully, both aspects, of predictable, experimental, publicly observable knowledge, but also personal, conscious, experiential knowledge, and holds them together in a view of the world which each person has to work out

for themselves, but which in our world traditions has usually worked out as the idea of one quasi-mental or spiritual reality, which is what underlies and is veiled by the physical reality with which the natural sciences deal.

Pascal's Fire is the fire which does not belong to natural science, though that has its own flame of knowledge; Pascal's Fire is the fire which takes you beyond the public and observable into the personal and experiential, and speaks from an experience which is life-transforming. Naturally, not all scientists will have such an experience. Such an experience is fairly common in human life, but not universal. It is never going to be the case that all scientists will be religious, but I think what any knowledgeable scientist really has to say, to be intellectually respectable, is that most scientists would grant that even if they are not religious, religion is a very important aspect of human life, and it is not encompassed by the techniques of natural science, and it is something of which you have to say, if you say everything that is human interests me, you have to say this is of supreme interest for anyone who is concerned with human nature and the nature of reality itself.

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