Charles Darwin was born on February 12, 1809, 205 years ago on Wednesday. The US Congress has been debating whether to give 12 February the official title of Darwin Day, which may seem slightly surprising since Abraham Lincoln was born on that very same day and year. Still, Lincoln has two Days already, and Darwin’s theory of evolution constitutes one of the most important and influential advances in the history of science.

It has affected, and affected for the better, many things besides biology. They include religion. Before Darwin, a great many Christians, Jews and Muslims took literally the biblical account of God’s creation of man and woman quite separately from his creation of animals. Scholars had of course long been aware that the Bible offers two contradictory accounts of this creation, and that to take it literally is to misconstrue its proper purpose; but what was familiar to scholars had not percolated through to the ordinary coalminer or bishop. Darwin’s theory of evolution showed that we are the products of a long evolutionary process. This by itself caused those who would listen to rethink what the real claims of their religion are, getting rid of the many spurious claims that had become attached to it over the centuries, and returning to its core message about God’s relationship to us and ours to Him.

There were, of course, some who would not listen, and there still are. There are still some who reject evolution. Long before any of them, Darwin’s friend the biologist Philip Gosse came up with the perfect way of retaining Biblical literalism whilst accepting Darwin’s results. Gosse held that God had created the world in 4004 BC, just as Archbishop Ussher had calculated on the basis of Biblical texts. But he had created it in such a way that it already had, built into it, all the marks of a long-distant past, including the apparent fossils of long-dead creatures, and the apparent remains of earlier civilisations. This long-distant past had never, of course, existed. Nothing had existed before 4004 BC, except God. According to Gosse, Darwin was wrong to think that we had actually evolved; but right to think that all the evidence available, Biblical evidence apart, supported Darwin’s evolutionary account of things.

Philip Gosse did not have a wide following. This may seem odd, since his idea is very similar to Bertrand Russell’s later suggestion that the world was created five minutes ago, complete with everyone’s memories including yours. And that suggestion has never been refuted. Actually Gosse wasn’t the first person to think of creation along these lines: it was proposed 200 years earlier by Descartes. Which just shows how philosophers can get there first!

Setting aside such rather dotty ideas, we need to recognize how much not only Darwin’s ideas, but the contributions of other sciences too, have helped us to sort out what matters in the Bible from what does not. Biblical writers were human, however inspired they may have been; they thought of their religious tradition as very much their own, sharply different from that of their neighbours. And different it certainly was, in its development of monotheism and of an increasingly sophisticated conception of God. But we now know that its monotheistic tradition was by no means as long, or as complete, as those writers believed, and we find Canaanite writings and Babylonian writings that have been reworked and appear as Bible stories or as parts of psalms. It is not the details of the history that matters, but the development of mankind’s appreciation of God and of our relationship with God.
So Religion should welcome Science. And Science should welcome Religion too. Indeed it must, for Science is itself based on Religion, and wouldn’t be possible without it. Without it, Science could never justify any of the claims that it makes. Newton knew this, as did many of his contemporaries, but it has often been lost sight of since. The whole idea of mathematical physics, for example, arose from the belief that God had a mathematical mind, and had accordingly created a world that human mathematicians could understand.

Not just mathematics, but scientific theories quite generally, rely on principles of human thinking. These are principles that come to us naturally, but which cannot possibly be justified by sense-experience, because the whole point of theories is to take us beyond sense-experience: to explain sense-experience and to predict what it is going to be like in the future. They include the principles of logic and mathematics; they include the principle that tells us that the simplest theories are the most likely to be true; and they include the principle of induction, that tells us to expect nature to continue to be uniform in certain ways, into a future that has not yet happened – to expect grass to be green, and rain to continue to be wet tomorrow.

These principles seem to us obvious. But their obviousness is no guarantee of their truth. Sense-experience cannot guarantee it, since we need them to interpret sense-experience and construct our theories. These theories very often yield predictions about new sense-experiences: about readings on screens perhaps, or the effects of drugs, or whether it will rain tomorrow. And these predictions very often turn out to be right. That does not prove that the theories are true, it just shows that our principles of thinking have delivered the right results. But what justifies these principles? If all we can say is that they seem natural to us, it is actually very surprising that they turn out right so frequently. As David Hume – not exactly a religious man – put it, “What peculiar privilege has this little agitation of the brain that we call thought, that we must thus make it the model of the universe?” And so successfully?

This success needs an explanation. The successes of science have been immense, and they continue all the time. We are surely right to be confident that they will continue into the future. These ways of thinking that come naturally to us have proved to be well attuned to the way the world works. What explains this remarkable match between the world and human minds?

Some people think the theory of evolution explains it. But it doesn’t. It doesn’t try to. It is certainly true that if our ancestors’ ways of thinking had led them to disaster, they would not have survived, and we should not be here. So we may have inherited instincts that enabled our ancestors to survive and bring up their young. But their survival did not depend on principles anything like as sophisticated as those that enable us to develop such successful scientific theories. For our ancestors to survive and bring up their children, they needed nothing like the mathematics of complex numbers or the capacity to develop relativity theory. They didn’t even need the capacity to predict what colour grass would be in the 21st century; if they had expected it to be blue or pink in a time so far ahead of their own, it would have made absolutely no difference to their capacity for survival.

A natural reply would be to say: all right, our ancestors did not need such advanced principles as ours in order to survive. But the evolutionary process allows for developments that are not necessary for survival, traits that are the by-products of other traits that themselves provide an evolutionary advantage and carry the by-products along with them. The comparison is commonly made with spandrels, the surfaces that are created between arches when people
build a vault: the intention is to build the arches rather than to build the spaces between them, but the spaces between them prove useful surfaces for decorating. In the same way, the objection goes, these advanced capacities of ours evolved as a by-product, a by-product that proved to be useful. They haven’t been of any evolutionary advantage themselves. It’s true they keep many of us here in bread and butter, but that is a recent development, too recent to have any effect on the evolutionary process. But perhaps they were a by-product of something else that genuinely was of evolutionary advantage to our ancestors.

I can accept that they may have been a by-product of evolution, though it is not easy to see what they might have been a by-product of. But the objection misses the point. However they have come about biologically, there is nothing about it to ensure, or even to make it likely, that they would lead us to the truth. And yet they do lead us to the truth, again and again, in all sorts of new applications and new situations. Why? The evolutionary account does not answer that question. It does not pretend to answer that question. But the question needs an answer.

What needs explanation is the coincidence between human ways of thinking and the way the world works. This little agitation of the brain that we call thought does give us the model of the universe. There are only two ways in which that could be explained, and our scientific claims thereby justified. One would be to say that the universe is not independent of our minds, but is somehow a projection of them. This is an interesting idea, but ultimately I believe incoherent. Certainly it is pretty remote from common sense. The other is that our minds and the universe correspond because some third being has arranged things in that way. Such a being would have to be powerful enough to design both us and the world in which we live. Such a being would clearly be favourably inclined towards humanity, and could be said to have created us in its image, since the patterns of our thinking so closely match those that it used in designing the universe. Such a being is God.

If this is right, as I think it must be, we can see not only how science depends upon God; we can see also that God has designed us to have the capacity to do science, and more generally to learn about the world. If God has given us this capacity, he intends us to use it. He has other intentions for us too, of course, moral ones above all. But the enterprise of science, and the enterprise of learning about the world, and improving things within the world, is a central part of God’s purpose for us. Today’s Gospel tells us, “Let your light so shine before men, that they may see your good works, and glorify your Father who is in heaven”. That applies to all of us: we must make the best use of the tools God has given us to come to know the world and to improve it. Scientific activity, and scientific advance, are a crucial part of that. Science is not the enemy of religion, nor religion of science: the pursuit of science is a religious obligation.