



Evolution: Science, Ideology, Reason and Faith

Speakers: **Dr. Michael Behe**—Professor of Biological Sciences at Lehigh University

Dr. Michael Hanby —Associate Director of the Institute of Faith and Learning at Baylor University

Msgr. Lorenzo Albacete —Theologian, author, columnist

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Crossroads: Good evening, and, on behalf of Crossroads New York Cultural Center, we welcome you to tonight's panel discussion "Evolution: Science, Ideology, Reason and Faith." Before we begin, I would like to point out that this title has been carefully chosen in order to open the current discussion on evolution and faith to a broader dimension than the worn-out controversy over evolution vs. creation, science vs. religion. What has become clear to any intelligent observer is that many of these words have now become so loaded with ideological undertones that they are almost completely irrelevant. On one hand we have the creationist ideology that turns its back on twenty centuries of Christian reflections on the book of Genesis in order to advance a crude literal interpretation of Genesis that only gives more credibility to those who claim that human reason and Christian faith have nothing to do with one another. On the other hand, less obvious and thus even more insidious, we have what has been dubbed the ideology of "scientism," which reduces human reason to the methods of the empirical sciences, while at the same time promoting its own set of philosophical and theological prejudices under the cover of "science."

What motivated us to propose tonight's discussion is the desire to go to the bottom of these topics without being closed in by the ideological positions found on either side of the current debate. To facilitate this goal we would like to ask the following questions: What is science and what are its limits? What is it at the origin of scientific knowledge? What sparks scientific research? What is reason? What is the relationship between reason and faith? What are the agendas that move the two sides in the evolution vs. creation debate? How much of this debate involves science and how much involves politics? What is at stake?

To help us to explore and hopefully answer some of these questions, we have three experts with us tonight. I would like to introduce first Dr. Michael Behe, Professor of Biological Sciences at Lehigh University who is well-known nationally as a proponent of the theory of Intelligent Design. His current research involves delineation of design and natural selection in protein structures. Next we have Dr. Michael Hanby, Associate director of the Institute of Faith and Learning at Baylor University. Dr. Hanby has done in depth philosophical and theological work on the doctrine of creation, on the notions of evolution and design in biology, and on the nature of scientific knowledge. Our third panelist is Msgr. Lorenzo Albacete, a former rocket scientist (he was actually a physicist before discovering a different vocation) and now a well-known theologian, columnist and author of *God at the Ritz*, - a book where the relationship between science and faith is lucidly discussed. Msgr. Albacete has kindly agreed to act as moderator of the discussion.

For those who are with us for the first time, I remind you that our cultural center finds its inspiration in the life of Communion and Liberation, the Roman Catholic international movement founded by Monsignor Luigi

Giussani. Father Giussani always emphasized that a lived faith must, by its inner logic, generate a new culture. “Test everything, retain what is good.” This suggestion of Saint Paul defines our concept of what culture is, and summarizes our mission statement better than any pre-packaged ideology, whether from the left or from the right. It is now my pleasure to hand the microphone over to Monsignor so that he can begin the discussion.

Hanby: I would like to begin by thanking Carlo Lancelotti and the Crossroads Cultural Center for inviting me here this evening. I would like to thank Monsignor Alpacete, who is something of a legend in the circles I travel in, for moderating this discussion. It is a real pleasure finally to meet him.

But most of all, I would like to thank Michael Behe first, for joining us here tonight, but more importantly for his work. Of course, I find Intelligent Design to be profoundly inadequate in certain respects, though not for conventional reasons. I don’t think ID threatens to corrupt young minds by slipping the camel’s nose of religion beneath the tent of hard-nosed science. Nor do I challenge ID in the name of Darwinian explanations of evolution. I am barely a layman with regard to the science, but from my perspective Professor Behe and ID have put the right questions to Neo-Darwinian theory and have drawn some blood. Rather, the concern from my point of view as a theologian is that the appearance of a fundamental disagreement between Intelligent Design and Neo-darwinism is in fact an illusion, that what unites them is more profound than what divides them, and what unites them are certain deeply flawed metaphysical and even theological commitments that ground the science. Theology thus has little or nothing to gain by hitching its fortunes to the wagon of Intelligent Design in its current articulation.

However, this is not to say that I think the work of Professor Behe and his compatriots is unimportant, far from it. Nor do I mean to suggest that it is *simply* false. It just isn’t simply true either. Still, insofar as Intelligent Design has been successful in exposing the weakness of Darwinian explanations, I take it as an important agent in bringing to the surface the epistemological crisis now besetting the Neo-Darwinian paradigm. As Alasdair MacIntyre and Thomas Kuhn before him have shown, such epistemological crises are typically accompanied by at least three features: first, a failure on the part of the adherents of the dominant explanatory paradigm even to recognize their situation as a crisis; second, a tendency to dismiss and ostracize those who first begin to reveal the paradigm’s shortcomings; and third, the midwifery of conceptual schemes, which, while successful critically, are nevertheless insufficient in themselves to constitute a replacement. This third feature may eventually describe ID, so history may well half-vindicate Professor Behe and his contemporaries. It is because of this second feature that we really owe him thanks. I am well aware, even as a lowly theologian, of the risks in challenging the Darwinian consensus. The Dover case shows us nothing if not that this consensus is vigorously policed. I can only imagine the courage it takes to question this consensus from within the guild of biology. Thank you for that.

Deep confusion inevitably arises whenever philosophers and theologians ask scientific questions and make scientific claims without knowing it, and whenever scientists make philosophical and theological claims without knowing it. That is to say that confusion reigns on all sides in the perpetually unedifying ‘origin of life’ debate. I am a theologian, not a scientist, and I am going to try very hard not to fall into that trap myself. This gets me off the hook—much to my relief—for providing an alternative account of the workings and origins of the bacterial flagellum or the cilium. That is not the business of a theologian, or the doctrine of creation for that matter, and the theologically minded need to resist the temptation of thinking otherwise. Professor Behe will undoubtedly agree with me on this, and I would imagine that he is pretty confident in his having avoided these category mistakes. Intelligent Design, he has argued, is not philosophy or theology, but science. As a result and to his credit, he is rigorously consistent in refusing to exceed the rather narrow speculative limits set by the design inference. Questions such as ‘who designed the designer?’ or ‘why did the designer design?’ are unscientific—they also happen to be un-theological by the way--and he declines to entertain them.

Yet this call to disentangle metaphysical claims from scientific claims is almost invariably misunderstood, and my concern is that ID and Neo-Darwinism share a similar misunderstanding of this distinction. As I result, I will argue late that the real insight inherent in ‘irreducible complexity’ has largely been missed.

There is indeed a difference between metaphysical, theological, and scientific claims, but the characterization of this difference is itself a philosophical and not a scientific determination. For the distinction rests on presuppositions about any number of matters that exceed the competence of science. Among such presuppositions are judgments as to the nature of matter, causality, and nature, the nature and limits of reason, the goods of scientific inquiry in relation to broader human goods, and the validity of the question of Being *per se* as distinct from investigation into particular beings, judgments, that is, regarding the possibility and importance of metaphysics. Such determinations are the presuppositions of science, not its conclusions, and they exert profound internal pressure on the shape of the scientific enterprise from the outset.

For instance, it is a well known fact that Darwin’s own Darwinism is essentially Victorian capitalism set to biology. Karl Marx took one look at *The Origin of Species* and famously remarked that the natural world as Darwin imagined it was filled with English shopkeepers. Natural selection simply is Thomas Malthus’ positive check on population growth; in his program it was part of a social theodicy to show how God makes good use of evil, and Darwin’s adaptationism retains elements of this, in its logic at least. Natural selection works to a benign end, like Adam Smith’s invisible hand, to restore equilibrium in the ‘biological division of labor.’ David Depew and Bruce Weber have shown how these appropriations from English political-economy presuppose in turn the mechanistic ontology, with its atomism and passive conception of matter, that had been a fixture of the landscape of English science since Newton, and Simon Oliver has shown in turn how Newton’s reconfiguration of matter and motion required his voluntarist understanding of God and Arian christology. Scholars such as Adrian Desmond and Richard Lewontin have added to our understanding of how Darwin’s Darwinism puts the social and ontological assumptions of Victorian England into practice, and Depew and Weber have shown further how Darwinism’s reception in the U.S. and on the continent was colored by the divergent philosophical and political presuppositions of those contexts. Whether in France, Germany, or Russia, the reception of Darwinism was more than simply a phenomenon of science. These examples do not in fact get to the heart of the matter in all its metaphysical depth, and they do not necessarily discredit Darwin, which is not my point. However, I think they do illustrate that the relationship between science and metaphysics is more complicated than science’s frequent assertion of metaphysical neutrality, and its refusal of responsibility for its metaphysical claims, would have us believe.

I would suggest two complications in particular and a couple of conclusions which follow from them. First, science is not competent to draw the distinction between science, philosophy, and theology, and when scientists do this, they are not engaged not in science, but in philosophy and theology. This means secondly, that philosophical and theological considerations, though different from scientific ones, are not something simply tacked on to the end of scientific inquiry. I think the examples illustrate this point. In other words, it’s not as if the inference of design from irreducible complexity is a scientific inference and the question of who designed the designer is a theological question. Rather, it’s that irreducibly philosophical and theological considerations and presuppositions enter in to the very formulation of scientific questions, thus determining the shape of subsequent scientific inquiry and *predetermining* how God and being can be thought of. I think the examples of Darwin’s debts to Malthus, Smith, and even Newton illustrate this point. Consequently, while the difference between science, metaphysics, and theology means that science must have a certain autonomy, at least up to a point, to pursue its investigations according to its own methods and formulae without extrinsic doctrinal interference from philosophy and theological authority, such autonomy does *not* mean that scientific inquiry is self-sufficient, that it can ever do without, indeed ever *does* without, judgments of an irreducibly metaphysical, even theological nature. When this is denied, we end up *not* with pure science uncontaminated by metaphysics and theology, but bad metaphysics and theology covered up by what I would contend is dubious science. For both logically and ontologically speaking, all judgments regarding the nature of nature contain an intrinsic orientation to the claims of metaphysics and indeed ultimately of faith: for or against. And I will argue shortly

that judgments regarding nature made against the claims of metaphysics oriented to faith will be not simply metaphysically deficient, but deficient with respect to their naturalness. It follows from all this then, that *real* scientific freedom is found not in opposition to metaphysics and theology. Rather good theology and metaphysics liberates science *to be* science, partly by freeing it from the burden of being theology as well.

Let's consider first how these sorts of judgments enter into the ID project. A good deal of attention of late has focused on the nature of the design inference—is it scientific or philosophical? Professor Behe insists against some erstwhile interlocutors that the inference is scientific, which I take to mean that the conclusion it renders is more probable than the Darwinian alternative. I've already registered my layman's agreement with his criticism, but it nevertheless seems to me that this whole line of interrogation, much like the Dover court case, is wide of the mark. The real question here concerns not the nature of the inference, but the manner in which irreducibly metaphysical judgments enter into the question animating the program—metaphysical judgments, incidentally, which ID and Darwinism *share*. Professor Behe tells us repeatedly in *Darwin's Black Box* that the question of design is a question of origins, in this case of the complex molecular systems that Behe calls “the basis of life.” Professor Behe looks at what he takes to be the irreducible complexity, the ‘coordinated all at once’—of these systems, and concludes that since none of the individual parts comprising such systems could provide a competitive advantage apart from the whole in which it is a part, it could not have been selected and cannot therefore be the product of natural selection working gradually on “numerous successive, slight modifications.” He concludes instead that irreducible complexity exhibits design, which implies a question reiterated in the final chapter of *Darwin's Black Box*: whether there is something beyond the natural world which might account for it, or at least its irreducibly complex features.

Wittgenstein once said “We predicate of a thing what lies in the method of representing it.” That is, the form of every question determines the shape of its possible answers. Notice here how the very formulation of the design question determines in advance how both ‘nature’ and ‘God’—if that's what we want to call our hypothetical designer—may then be conceived. The *natural* world is the aggregate of mechanisms transparent to scientific analysis, and this is no less true of the organic realm than the inorganic. Professor Behe tells us, “Modern biochemistry is operated by machines—literally molecular machines.” By contrast, God, or at least the designer, is the hypothetical thing outside or beyond nature who may have set the universe in motion.

ID and Darwinian biology alike would claim to be metaphysically and theologically neutral, to have no metaphysics or theology of their own that would contaminate their claims to be scientific. But actually each has predetermined, in very similar terms in fact, how the hypothetical relationship between God and the world can be conceived. The presuppositions about nature which I just outlined are the basis of the distinction between ‘so-called’ naturalistic and supernatural explanations. This distinction lies at the root of the common contrast between science and a metaphysics or theology which would contaminate the scientific enterprise. Though this is a complete distortion of the traditional meaning of ‘supernatural,’ the contrast is nevertheless instructive. One could not think about nature and the supernatural as competing alternatives without already holding certain presuppositions about God, or perhaps more accurately, without forgetting how to think about God coherently.

The contrast between natural explanations and supernatural speculations presupposes that if God, he must be *extrinsic* to nature whose identity is completely immanent. The basic relation of God to the world, then, is that of two finite *things* in tension with one another. This is the basis of the notion of “divine intervention,” a phrase whose very grammar pictures divine action as a *force* among and in competition with natural forces and processes. And it is the unspoken basis of the notion that the relationship of an irreducibly complex artifact such as the blood-clotting system to its designer is “analogous to the laboratory work of graduate students piecing together bits of genes in a deliberate effort to make something new” (p. 205). For the design relationship thus conceived is, after all, a relationship between two finite beings externally related to each another. In other words, the lurking presupposition behind both ID and Darwinism is that God, if he exists, is *a thing*. He may be a very grand thing, but he is a thing nonetheless and therefore an item alongside other items

in the universe rather than its transcendent source. So if you like ID but aren't so sure about God, you can plug in Francis Crick's space aliens instead without significantly altering the question at hand or damaging the theory. This is troubling, to say the least. The problem isn't peculiar to ID but is rather constitutive of modern science in general. In disavowing metaphysics, in denying that being itself is a question upon which upon which physics somehow depends, most of modern science since the 17th century has supposed that all real questions are physical questions, though this supposition is itself metaphysical. The subsequent elevation of physics to the status of metaphysics and theology entails the implicit metaphysical stipulation that 'God' must be an object, as is evident in 17th and 18th century natural philosophy. The irony then, is that in saying nothing about God, modern science says far too much. ID is ostensibly for the truncated 'God' permitted by modern science; militant Darwinians are against, but they might as well be arguing over how many microbes can dance on the head of a pin for all its relevance to a genuine doctrine of God and creation.

This is because the conception of God and nature at the root of this debate makes no discernible theological sense. The doctrine of creation in any theology aspiring to orthodoxy is first and foremost a function of the doctrine of God. Its chief purpose is not to give an account of the world's origin; indeed there are good metaphysical reasons for insisting that this is impossible in principle. Its purpose, rather, is to protect the difference between God and the world, to prevent us from stumbling into the error common both to ID and to Darwinism, of treating God like a thing. We do not know what God is, but we do know what God cannot be. We know that God is not a thing, not a species contained within a larger genus, not an item within the universe. And since God is not a thing, we can't exactly think of him as beyond the universe either. The extrinsicist view of God doesn't work. Likewise, whatever it means for God to act or to create, it can't mean simply 'intervening' like a bolt from the blue, or designing creatures like a scientist in a laboratory. Creation *ex nihilo* is not ordinary causality so much as the intrinsic basis of all causality, and God is neither an engineer nor a mason. This is why Aquinas insists that human craft, while it participates in God's creative act, is nevertheless *not* an adequate analogy for God's creation of the world.

The orthodox and coherent view is that God is not *a* being, one thing among others, but rather that God is the very act of being as such in all its fullness, in which everything else participates so long as form and existence are granted to it. Hence Aquinas says, "as long as a thing has being, God must be present to it, according to its mode of being." However since God is not a thing in tension with other things, he goes on to say, "*But being is innermost in each thing and most fundamentally inherent in all things...Hence it must be that God is in all things, and innermost*" In other words, just as a closed, mechanistic understanding of nature entails an idolatrous understanding of God as a finite object, so a properly *non*-idolatrous understanding of God, not as a being, but as the very fullness of being itself, requires a different conception of *nature as nature*. It calls for an understanding of nature *intrinsically* constituted *as natural* by its relation to the act of being that is *not* nature. Indeed that is precisely what creation was for Aquinas—an intrinsic relation of dependence. And though Aquinas believed with the rest of the tradition in the creation of the world in time, he held as a consequence of the nature of God, that even if Aristotle were right and the world was eternal, it would still be a creature utterly dependent upon and intrinsically ordered toward God. So here again, the question of creation is not fundamentally about 'origins', not about *how* the world came to be, but rather about what the world *is*.

On an orthodox understanding of the doctrine of God, the natural and the supernatural are not contraries. If true it would follow that the juxtaposition of 'natural' with supernatural explanations is predicated on a misunderstanding of both God *and* nature, and will therefore issue in accounts of nature that are at best fragmentary and incomplete, at worst dangerously reductionistic. Yet the common *metaphysical* presuppositions built into both ID and Darwinism from the very outset, prevent a conception of nature on the order that I have described from ever coming into view. Once again, I am not suggesting that this renders either ID or Darwinism *simply* false. Nor am I urging proponents of ID to disabuse themselves of metaphysical presuppositions in order to become pure science. This chimera may be a useful tool for a secular society to police religious discourse, as we saw in the Dover case, but a pure science free of metaphysics remains

nevertheless an illusion. Rather, I am suggesting, counter-intuitively no doubt, that for ID to add to our knowledge as a science, for it to avoid the specter of totalitarian reductionism, for it to be science *rather than* theology, it needs to integrate a proper theological metaphysics into its self-understanding. This is exactly the same advice I would give to Darwinians.

I would now like to illustrate what I mean in saying that a better metaphysics would produce a better and more comprehensive science by shifting directions slightly. Hopefully this will help pave the way for a few words at the end of my remarks on what I take to be the real promise of ID. Since my concerns are not simply with ID's implicit understanding of God, but also with its understanding of nature, I would like to pose a few questions. If we were to accept ID on its own terms, what would we have actually learned? Or to put the matter a little differently, what would ID add to our knowledge if we were to accept it as true?

Well one might start by saying that it would have demonstrated the inadequacy of Darwinian explanations of evolution as the winnowing of gradual, random, and independent mutations by natural selection. I have already registered my layman's agreement with Professor Behe on this point. I still take the notion of natural selection to be more truism than true, despite the attempts of Eliot Sober and others to attempt to demonstrate the contrary, and I realize Professor Behe's quarrel with Darwinian explanations doesn't lie so much with the mechanism of natural selection as with the related issue of Darwinism's inherent gradualism. If he is correct in this it would be no small thing, not simply because truth and falsehood are intrinsically important, but because I think Daniel Dennett is right that Darwinism is indeed a "universal acid" that evacuates the world of all intrinsic meaning and erodes genuine human flourishing. But all of this, it seems to me, is nevertheless addition by subtraction. What *positive* addition would ID make to our knowledge?

The answer, I think it must be said, is not much—though I am sincere when I say to Professor Behe that I am eager to be educated on this. I have already noted Professor Behe's principled refusal to speculate as to the nature and identity of the designer. For all we know, the designer could be one of Francis Crick's space aliens. So ID tells us nothing of the alleged designer lurking beyond the natural world. This circumspection is not necessarily a fault, mind you. Perhaps it could be made consistent with Aquinas' claim that we really haven't the faintest idea of what we've demonstrated when we've demonstrated God's existence. But in a metaphysical context where the world is a machine and God is interchangeable with space aliens, we have more metaphysical and scientific work to do in order to get there.

So we know nothing of the designer. What about the design process then? Professor Behe cautions us on the first page of *Darwin's Black Box*, that "understanding how something works is not the same as understanding *how* it came to be." But here again, this seems to be precisely what Intelligent Design theory does *not* tell us, and what a properly rigorous doctrine of *creation ex nihilo*, creation from nothing, would deny us in principle. At its best, ID gives us probabilistic reasons for thinking *that* the world exhibits design. But *how* the world came to be—how it passed from blueprint to artifact, by what means, by virtue of what types of causality, for what ends—remains, and shall ever remain, a mystery, particularly if one allows that there are indeed legitimate questions above and before physics that envelop physics, that there are in fact genuine metaphysical questions. ID resolves none of these questions. And the outcome of the 'origins of life' debate is indifferent to their outcome, except insofar as it continues to marginalize or confuse them.

So far, then, ID seems to add little to our knowledge of the hypothetical designer, and gives us no knowledge the design process. What about the designed artifacts? In Professor Behe's case, these are biochemical systems and molecular machines. I would think that organisms also exhibit "the ordering of separate, well-fitted components"—those very subsystems investigated by cell biology and biochemistry—"to a function that is beyond that of any of the components themselves." What might ID teach us about them? Ok, they are irreducibly complex, but what does this really mean other than a) neo-Darwinian accounts of the origins of such systems are unsatisfactory and b) they function in precisely the way other biochemists and cell biologists,

subscribing to a neo-Darwinian paradigm, already understand them to function? Recall the earlier quote. “[U]nderstanding how something works is not the same as understanding how it came to be.” ID does not appear to challenge the neo-Darwinian characterization of how things work. Indeed, it seems perilously close to joining the neo-Darwinians in conflating how a thing works, or how it came to be, with what a thing *is*. “The real work of life,” Professor Behe tells us, “does not happen at the level of the whole animal or the organ: the most important parts of living things are too small to be seen.” He tells us further that biochemists have discovered “with piercing clarity that life is based on machines—machines made of molecules.” Biological wholes, it seems, are simply the aggregates of their ontologically prior component parts. It is thus difficult to avoid the conclusion that biology conducted under the banner of Intelligent Design adds nothing to our knowledge of biology that isn’t apparent to the other biological sciences, because it shares the same mechanistic presuppositions as those science—hence the constant recourse to analogies with mousetraps, Rube Goldberg machines, and the like. Yet because ID is no less mechanistic than neo-Darwinian biology, it is, despite appeals to irreducible complexity, no less reductionistic than at least some strains of neo-Darwinian biology. Indeed in some ways ID seems even more reductionist, since Professor Behe’s explanations seem to subordinate the artifact that is the organism to the artifact that is its molecular basis. If ID is no less reductionistic than Darwinian biology, then it is potentially no less dangerous than neo-Darwinism.

Because it subscribes to the mechanistic ontology that generates the chimera of pure science, ID hasn’t considered deeply enough what it means to say that Darwinism doesn’t work. For this reason, it seems to me, ID has missed the real importance of its own central insight. This insight may be called the asymmetrical dependence of whole and parts—a term I am borrowing from David L. Schindler. On the one hand, wholes such as the blood-clotting system, or the bacterial flagellum are dependent upon the parts which comprise them. Just to this extent, Professor Behe is correct to say that living things are “based on” such mechanically interacting parts. Without those parts, there simply is no whole. And yet in another, arguably more profound sense, the parts are always already *ontologically* dependent for their status as parts on the wholes of which they are parts. The relative dependence of the parts on the whole, and conversely, the relative priority of the whole to the parts, suggests that the unity of the whole, while dependent upon the parts, is not *reducible* to those parts, but in some sense transcends those parts as the principle of the coordinated interaction that empirically manifests this unity. This means in turn that while this unity is manifest in the coordinated interaction of parts which may be empirically observed, just to the extent that this unity is not reducible to this interaction of parts, this unity is not *reducible* to what can be empirically observed.

This may all sound rather confusing, and I’ll get to the punch-line momentarily. But first note the implicit distinction here between two kinds of dependence: ontological dependence and chronological dependence. While these are certainly related, the whole’s transcendence of its parts means that they are not reducible to one another. The parts can be *ontologically* dependent upon the whole for the determination of their meaning as parts, even if the development of the whole is *chronologically* dependent upon the unfolding and development of the parts, as in the case of an embryo maturing into a child and a child maturing into an adult. As Adrian Walker notes, this distinction is at the root of the difference between organisms and machines, between the artificial and the natural. In his example, a lawnmower as a designed artifact may indeed empirically manifest the blueprint in the mind of its designer, but its unity only comes about as a consequence of its piece by piece assembly. But an embryo contains its blueprint, so to speak, within itself, and it unfolds out of itself the parts it needs to exist as a unity consisting of but transcending the irreducibly complex interaction among its irreducibly complex systems. And because the embryo is the kind of thing it is, it will unfold according to the patterns which an everyday kind of empiricism would regard as the mark of generic and specific differences.

What I’m suggesting is that ID, and Darwinism too for that matter, are misled by their mechanistic ontology into asking the wrong question, namely, the very same question you would ask if you knew nothing of watches but happened upon one while walking along the beach, to cite William Paley’s famous example. The problem is that nature is not artifice, organisms are not machines, *creation ex nihilo* is not merely efficient causation, and

God, if we have a coherent sense of that word, is neither a space alien nor a mason hovering outside the mechanism of the universe. And yet, because both Darwinian biology and ID insist that they are conducting science uncontaminated by metaphysics and theology, they give us mirror images of the same bad metaphysics and bad theology, such that nature is collapsed into artifice, organisms are mere machines, creation is simply causation, and God might as well be a space alien.

Darwinian biology seems obstinate in clinging to this blindness, and some even seem to have a positive cultural stake in perpetuating it, which perhaps serves as an index of the extent to Darwinism is really social Darwinism after all. But it need not be so with ID. For irreducible complexity contains a real insight that gestures toward a different question: not whether, beyond nature, there stands a designer, but rather whether the picture of nature which leads to such a crude conception of God is the right one to have held in the first place. The question, rather, is whether the whole's transcendence of its parts and the dependence of the parts on their wholes call forth something like an Aristotelian substantial form, essential identity, or *nature* manifest in the coordinated material interaction of parts but irreducible to them. This in turn leads immediately to the question of whether there are principles of nature, principles *in* nature, inaccessible in principle to analysis by biology. In other words, it forces the question of whether biology alone, severed from metaphysics and theology, is adequate to understand the biological world precisely as natural and biological.

I am well aware that this doubly heretical. The invocation of form or essence violates Ernst Mayr's prohibition against 'typological' thinking, and it violates modern science's understanding of itself as sole guardian of knowledge of the natural world. But note this. If the ontological identity of any thing is not identical to its development, its status as a whole isn't simply the consequence of the independent development of parts any more than the creation of the world for Aquinas was inconsistent, in principle, with its eternity. The relation that is creation, that determines both the thatness of a thing, its existence, and its ultimate identity or whatness, its essence, cannot be collapsed into the relation of efficient cause and effect. It may be that Intelligent Design will turn out to be a better theory of origins than Neo-Darwinian evolution, but if ontological dependence and chronological dependence are not identical, then irreducible complexity will in the end have amounted to an insight from within biology of a truth that holds *irrespective* of whether ID succeeds as a theory of origins. So there is nothing in the idea I am proposing that rules out descent with modification. There is nothing in this idea that rules out episodes in nature conforming to the description of natural selection. There is nothing in this idea that requires us to deny irreducible complexity. So there is nothing in this idea that prevents biology from carrying on *as* biology, and yet the idea does not amount to a facile theistic evolutionism or a false concordism between theology and science. For it does retain a certain primacy of theology and philosophy over other fields of inquiry, precisely in order to free biology to be biology. It therefore seems, ironically enough, that the truth of ID *and/or* Darwinian biology depends not on their resistance to, but rather their embrace of, a proper metaphysical foundation. This means that Intelligent Design's best hope for inaugurating a new biological paradigm consists not in insisting on its own naturalistic character, but in showing how nature itself defies our naturalistic understanding.

Behe's PowerPoint Presentation - http://www.crossroadsnyc.com/files/IntelligentDesign_1_.ppt

Msgr. Albacete: After listening to both presentations, and so aware of the cultural context that has brought us here to listen to these two, can we find a way, a path that will help us to critically assess in an intelligent way everything that has been said to us? It has to be, I speak for myself, something that is very powerful. Again, these questions are not just interesting academic questions. Increasingly we realize, sooner than one thinks, these questions become the central question of one's life. Is there a way in which we can verify, perhaps initially in a tentative way, but with ever-growing certitude, what is being proposed to us—to find our way as non-experts through this maze?

I love the remarks of Dr. Behe when told that he can only pursue the evidence up to a point and should give up. I liked what you said, that you were determined to pursue the evidence, wherever it takes you, without any kind of prior principle. What is at stake here is freedom—freedom from cultural dominance. How do we follow the free path of evidence in an intelligent way?

What is happening, listening to both presentations, confirms that today's debate has as its origin a debate between ideology and freedom--an ideology that sustains power by explaining everything versus freedom as an opening to newness, to novelty, to the unconditional. The biggest challenge to ideology is the human person because the human person, in a healthy state, will not accept to be bound only by the conditional. The human person will insist on reaching out to the unconditional. This is the nature of the debate, I believe, listening to both, and I would love to continue the question that you ask each other, that you continue to explore it.

What is at stake is ideology. And that can only be fought against by reason. The debate today does not either affirm scientific reason or belief in God, but the alternatives are: reject reason or belief in God. The reality of a transcendent God makes reason possible, and this principle of rejection proposes to reason is what the expression of Niche's will to atheism. But in the end, even Niche is afraid of drama.

In the scriptures, at one point, talking about Moses and the prophets and the richness of interpretations found in the Hebrew scriptures, Jesus says, translated literally, "I am the drama of Moses." Is there a point from which we can interpret all of this? Is there a method and what is its point of departure? The method I believe is the human person because, again, it is the reality of the human person that breaks through ideology because of its openness to the absolutely unconditional. The method is fidelity to how the human person reacts to the impact with reality. This would bring together all the dimensions of this dispute. And indeed there is only one word that explains fully, adequately, what happens when this impact takes place, and that is *wonder, amazement*. Is Christ a consequence or part of that wonder? Is the perception of reality as a cosmos precisely an intelligent design? The primacy of the Logos, the primacy of reason, to use a word Pope Benedict the XVI keeps insisting as a key to understanding how to respond to the present challenges. The primacy of being. Wonder grasps Logos. But this begins an adventure, an adventure in which reality becomes an event, not just nature to be studied according to scientific disciplines, though that is an expression of wonder, and at the service of wonder. But the human reality is the wonder that discovers reality as an event and faithfully pursues that fact, that evidence as far as it goes making sure of one thing, the mystery remains always a mystery. A reduction of the mystery to something found along the way or to an explanatory idea is ideology. Only the fidelity to the mystery as mystery keeps us from falling into the ideology error. After that, something happens, another event takes place at the end of the road, but that is different. Through it, reality reveals itself as love.

I would like to ask our speakers a question each. First, Professor Behe, you say your proposal, Intelligent Design, is the only one faithful to this human act of following the evidence no matter where it leads you, you want to follow the evidence. You are the free person and you're following the evidence. Can scientific evidence really ever reach the notion of a creator? That is, as Prof. Hanby indicates, beyond the creation itself, that is to say that it's not the first point of a cause and effect?

Behe: I could take science and come to a conclusion of a creator ex-nihilo, but nonetheless, I think science can make some conclusions about the creation. For example, (this is getting away from Intelligent Design) scientists used to think that the universe was eternal, and then, in the 1920s and 30s, evidence came about galaxies rushing away from each other, and this led to the notion of the Big Bang Theory, the notion of the beginning of the universe. And so a question that St. Thomas Aquinas thought was open, whether the universe had a beginning or not, science came up with an answer for him. And science can also say whether they think the advent of nature are chance arrangements or not. As methods for calculating, methods for fascination, and it's perfectly legitimate to decide to do so. And so I certainly think science has limits, and it doesn't reach the

ultimate question, but it can say something about the creation. As a matter of fact, science had to say something about the creation, and it's not going to say much at all.

Hanby: While I do agree that science can say something about the creation, I also agree that it's beyond the capacity of science to demonstrate creation. I do think, though, that it's important to distinguish the creationist question which ultimately is a question of being from the question of being this or that--being a single primordial stub which somehow exploded into the myriad forms which we now call the universe versus non-existence at all. And part of what I would be concerned about with statements like: *Science can explain that the universe had a beginning* is that one has to be very careful about the ways in which statements like that can in some ways predetermine the way possibly metaphysical concept which I would argue are prior to the question of the efficient causes that made the universe into the form it is, that it doesn't predetermine those questions or exclude them. I think in a certain sense, to a certain extent to which scientists' self-understanding precludes the possibility of these questions, it prevents those kinds of questions from being entertained as real. But the science doesn't recognize its own enterprise as dependent upon being fundamental bad science.

Albacete: Prof. Behe is on to something, as measured by the reaction against him. He's touched a raw nerve. How raw is that nerve?

Hanby: Too raw, I think. That question could be interpreted in any number of senses, whether it's a political question or a scientific question, but at the end of the day....

Albacete: Not as politics. The political expression of it would be an expressionism. Indeed, there is something very fundamental at the very beginning of everything else that is at stake here and the political concerns are expressions of that. I think it goes beyond politics.

Hanby: I agree with you that Intelligent Design is on to something, but I think it is unclear what it is on to. That is part of what I tried to suggest, that precisely because it shares the presuppositions with Darwinism, at the end of the day, let's say by some miracle, that Professor Behe and his friends were to win, we wouldn't have gained that much and we wouldn't have proceeded to the fundamental questions, we wouldn't have gotten past the idea or called into question the idea that the human person is a machine reducible to his component parts. And if he is not simply a machine reducible to his component parts, what else is he? How do you account for that within the current paradigm of scientific theory? So we wouldn't have gotten beyond that point. To my mind that's a dangerous point at which to be. I don't also understand how we could sustain an account of the wonder that you mentioned. Part of my supposition here, and it's something that I didn't say in my paper, but I think is right, is that it is not simply that both ID and Darwinism predetermine the way we then can think about God or contain implicit suppositions about God. It's that they have constant recourse to what they deny in principle. I don't know how, for instance, on an a mechanistic understanding of reality that our experience of the world as intelligible in a way that doesn't seem to be immediately reducible to mechanism to ever finally at the end to be regarded as more than artifer.

Behe: I have absolutely no difficulty in thinking that organisms are not only machines, but certainly parts of them can be studied in mechanistic terms.