

Chapter 1 : New Experiment Seems To Confirm The B-Theory Of Time

The B-theory of time is the name given to one of two positions regarding philosophy of time. B-theorists argue that the flow of time is an illusion, that the past, present and future are equally real, and that time is tenseless.

Since the beginning of the universe marks the beginning of all physical entities its also the beginning of space and time or space-time itself. As the cause of all physical entities, the cause of the universe itself can not be a physical entity. Since this cause cannot be a physical entity, it is argued, that it has to have a bunch of properties that correspond to the traditional understanding of god. A formalized version of the KCA reads as follows: Everything that begins to exist has a cause 2. The universe began to exist 3. Therefore the universe has a cause. It is then argued that a cause of the universe has to have the following properties: Timelessness, spacelessness, immateriality, transcendence, personality and unfathomable power. Surely the argument is logically valid, which means that if its premises are true the conclusion logically follows. The A-Theory of time holds that the past just as the future does not exist; the only ontological commitment it has is the commitment to the existence of the present moment. Craig concedes this point by stating: On a B-Theory of time, the universe does not in fact come into being or become actual at the Big Bang; it just exists tenselessly as a four-dimensional space-time block that is finitely extended in the earlier than direction. If time is tenseless, then the universe never really comes into being, and, therefore, the quest for a cause of its coming into being is misconceived. The philosophical clash between these two different views of time circles around the correct interpretation of the theory of relativity as it was put forward by Albert Einstein. There are three different interpretations of the theory of relativity, two of which favour The B-Theory of time Einsteinian and Minkowskian and one favoring the A-Theory of Time Neo - Lorentzian The ideas behind these interpretations are the following: Einsteinian and Minkowskian abandon absolute simultaneity and a preferred reference frame while the Neo-Lorentzian Interpretation seeks to restore it. So if the Einsteinian or Minkowskian are correct one would be forced to give up presentism. Still, if the Neo-Lorentzian Interpretation could be shown to be true this would not constitute a falsification of the B-Theory of time, since even if perfect simultaneity were true, this would not mean that the past does not exist nor that the future does not exist. The paper by Balashov and Janssen argues for the Minkowskian Interpretation of the theory of relativity because of its explanatory rigor, which, as they claim, exceeds the Neo-Lorentzian interpretation because "the universality of the behavior of the rod i. Length contraction is part of the normal spatiotemporal behavior of systems in Minkowski space-time. We just presented such an argument in the case of the space-time interpretation versus the neo-Lorentzian interpretation. To answer the first point one only need to take a further look at the paper I mentioned: Second, the notion of cosmic time originates, not from the nomological framework of GR, but from the contingent boundary conditions imposed on it. Finally, before one obtains such a notion, one still starts with the four-dimensional space-time manifold, whose essential role is hard to square with the ontological requirements of presentism. Therefore the authors conclude: Since arguments from authority constitute the groundwork for arguments for the resurrection of Jesus in any debate format Dr. Craig participates in, one may as well reference the majority of opinions from experts in this field as an argument for a specific conclusion. To answer the second point: The claim to be made here is that there can, in principal, be no intuition that points to neither the A- nor the B-Theory of time. This is because both Theories predict the exact same intuitions. One may take a closer look at this: Let us first take a look at the exact situation: Person A exists at a certain point in time T. At any point of time this is the only knowledge about time that person A can have. But this tells A nothing about the nature of time. The only intuitions A can have is his memory, his present awareness and his anticipation, none of which are excluded on an eternalist point of view. Therefore dynamic theories of time do not have an explanatory advantage and nor are tenseless theories of time falsified or rendered implausible by intuition. Since the Minkowskian-Interpretation has greater explanatory rigor than the Neo-Lorentzian Interpretation, we are on good grounds favoring it over the Neo-Lorentzian Interpretation. Still, even if the Neo-Lorentzian Interpretation could be shown to be true, this would not constitute a successful argument for presentism. From this it follows that we are justified in rejecting the Kalam-Argument

due to the fact that it is based on a Theory of Time that is not supported by the available evidence. But even if we had no available evidence supporting one theory of time over the other, we would still be left with an equal probability distribution concerning the two theories, so that the Kalam, even in this case, has a fifty percent chance of being valid. Given all this, it is obvious that the Kalam-Argument can not successfully advance the case for theism.

Chapter 2 : Time (Stanford Encyclopedia of Philosophy)

These philosophers accept the view (sometimes called "The B Theory") that the B series is all there is to time. According to The B Theory, there are no genuine.

Fatalism A good deal of work in the philosophy of time has been produced by people worried about Fatalism, which can be understood as the thesis that whatever will happen in the future is already unavoidable where to say that an event is unavoidable is to say that no human is able to prevent it from occurring. Here is a typical argument for Fatalism. The main objections to arguments like this have been to premises 2 and 4. The rationale for premise 2 is that it appears to be a fundamental principle of semantics, sometimes referred to as The Principle of Bivalence. The rationale for premise 4 is the claim that no one is able to make a true prediction turn out false. A proper discussion of Fatalism would include a lengthy consideration of premise 4 , and that would take us beyond the scope of this article. For our purposes it is important to note that many writers have been motivated by this kind of argument to deny Bivalence. According to this line, there are many propositions " namely, propositions about matters that are both future and contingent " that are neither true nor false right now. Take, for example, the proposition that you will have lunch tomorrow. On this view, that proposition either has no truth value right now, or else has the value indeterminate. Thus, the Open Future response to arguments for Fatalism entails the following semantical thesis. The Tensed View of Semantics: Propositions have truth values at times rather than just having truth values simpliciter. It is possible for a proposition to have different truth values at different times. The Tensed View of Semantics can be contrasted with the following semantical view. The Tenseless View of Semantics: Propositions have truth values simpliciter rather than having truth values at times. It is not possible for a proposition to have different truth values at different times. Other views that have at least sometimes been associated with the Open Future response to Fatalism include Taking Tense Seriously and The Growing Universe Theory, which will be discussed below. Suggestions for Further Reading: Aristotle, De Interpretatione, Ch. Reductionism and Platonism with Respect to Time What if one day things everywhere ground to a halt? What if birds froze in mid-flight, people froze in mid-sentence, and planets and subatomic particles alike froze in mid-orbit? What if all change, throughout the entire universe, completely ceased for a period of, say, one year? Is such a thing possible? The question of whether there could be time without change has traditionally been thought to be closely tied to the question of whether time exists independently of the events that occur in time. For, the thinking goes, if there could be a period of time without change, then it follows that time could exist without any events to fill it; but if, on the other hand, there could not be a period of time without change, then it must be that time exists only if there are some events to fill it. Aristotle and others including, especially, Leibniz have argued that time does not exist independently of the events that occur in time. On this view, time is like an empty container into which things and events may be placed; but it is a container that exists independently of what if anything is placed in it. Why would someone endorse the reductionist view about time? Historically, two main arguments have played the biggest roles in convincing people. The other main argument for Reductionism is epistemological: What about Platonism with Respect to Time " why would someone endorse that view? One reason is that the empty container metaphor has a lot of intuitive appeal. This is no doubt true of both the temporal and spatial versions of Platonism. And another reason is that some people do not find the main arguments against Platonism with Respect to Time compelling. For example, it has been suggested by Sydney Shoemaker that there are possible circumstances in which it would make perfect sense to posit periods of empty time, and even to claim to know just how long those periods are. Consider a small, spatially finite possible world that is divided into three zones, A, B, and C. In Zone A, there is a complete freeze " a cessation of all change " for one hour every 2 years. These local freezes in Zone A are preceded by a short period in which every object in A takes on a reddish glow observable to the occupants of all three zones , while at the same time a temporary force field develops at the boundary of Zone A, preventing anything from entering or exiting that zone during the freeze. While the freeze in Zone A is taking place, Zone A appears to those in Zones B and C to be pitch black, since no light can enter or exit the frozen zone; but as

soon as the local freeze in Zone A is over, the people in the other two zones can again see everything in Zone A, and can in fact see those things resuming their normal behaviors without missing a beat. To those who remain in Zone A for the freeze, it appears that the reddish glowing and the development of the force field are immediately followed, not by any cessation of change, but, instead, by a large number of sudden and discontinuous changes in the other two zones. Meanwhile, In Zone B there is a similar freeze for one hour every 3 years, and in Zone C there is a freeze for one hour every 5 years. Whenever a global freeze occurs, of course, no one is able to see any frozen objects or blacked-out zones, since everyone and everything is frozen at the same time. For they could theorize that in Zone A there is a local freeze every two years, except for the 30th year, when there is no freeze; and similarly for the other zones. But such a theory would involve freezing functions that are more complicated than those that entail a global freeze every 30 years. What is this thought experiment supposed to show? What the thought experiment does seem to show, however, is that it is possible for rational beings to have at least some evidence for the existence of periods of empty time in their world. For we can describe the possible world of the thought experiment in a neutral way that specifies how things in the world appear to its denizens, without specifying whether the real freeze functions for Zones A, B, and C are the simpler ones described above that entail a global freeze every 30 years or the more complicated ones that do not have that entailment. And a possible world that appears this way to its inhabitants is surely a world in which those inhabitants have some reason to take seriously the possibility that there are periods of empty time in their world, that they know when those periods occur, and even that they know exactly how long the periods of empty time last. Reductionism with Respect to Time and Platonism with Respect to Time have spatial analogues, and the views about time have traditionally been taken to stand or fall with their spatial counterparts. Indeed, although there is considerable controversy over the degree to which time is similar to the dimensions of space, the Reductionism vs. Platonism dispute is widely thought to be one area in which the two dimensions are perfectly analogous. For it does not appear that there will be anything like a spatial analogue of that argument. But a line has a shape. What shape should we give to the line that represents time? This is a question about the topology, or structure, of time. One natural way to answer our question is to say that time should be represented by a single, straight, non-branching, continuous line that extends without end in each of its two directions. But for each of the features attributed to time in the standard topology, two interesting questions arise: Questions about the topology of time appear to be closely connected to the issue of Platonism versus Reductionism with Respect to Time. Consider the question of whether time should be represented by a line without a beginning. Aristotle has argued roughly that time cannot have a beginning on the grounds that in order for time to have a beginning, there must be a first moment of time, but that in order to count as a moment of time, that allegedly first moment would have to come between an earlier period of time and a later period of time, which is inconsistent with its being the first moment of time. Aristotle argues in the same way that time cannot have an end. It is also worth asking whether time must be represented by a single line. Likewise we can ask whether time could correspond to a branching line, or to a closed loop, or to a discontinuous line. And we can also wonder whether one of the two directions of time is in some way privileged, in a way that makes time itself asymmetrical. On the beginning and end of time: On the linearity of time: III; Swinburne , On the direction of time: Price , ; Savitt ; and Sklar And finally, on all of these topics: McTaggart argued that there is in fact no such thing as time, and that the appearance of a temporal order to the world is a mere appearance. Other philosophers before and since including, especially, F. Bradley have argued for the same conclusion. McTaggart begins his argument by distinguishing two ways in which positions in time can be ordered. First, he says, positions in time can be ordered according to their possession of properties like being two days future, being one day future, being present, being one day past, etc. For the items that make up the B series namely, moments of time are the same items that make up the A series, and the order of the items in the B series is the same as the order of the items in the A series; but there is nothing more to a series than some specific items in a particular order. In any case, McTaggart argues that the B series alone does not constitute a proper time series. McTaggart also argues that the A series is inherently contradictory. For he says the different A properties are incompatible with one another. No time can be both future and past, for example. Nevertheless, he insists, each time in the A series must possess all of the different

A properties. Since a time that is future will be present and past, and so on. Rather, the objection goes, we must say that t was future at some moment of past time and will be past at some moment of future time. Thus, according to McTaggart, we never resolve the original contradiction inherent in the A series, but, instead, merely generate an infinite regress of more and more contradictions. Since, according to McTaggart, the supposition that there is an A series leads to contradiction, and since he says there can be no time without an A series, McTaggart concludes that time itself, including both the A series and the B series, is unreal. Philosophers like McTaggart who claim that time is unreal are aware of the seemingly paradoxical nature of their claim. They generally take the line that all appearances suggesting that there is a temporal order to things are somehow illusory. That is, some philosophers have been persuaded by McTaggart that the A series is not real, even though they have not gone so far as to deny the reality of time itself. According to The B Theory, there are no genuine, unanalyzable A properties, and all talk that appears to be about A properties is really reducible to talk about B relations. For example, when we say that the year has the property of being past, all we really mean is that it is earlier than the time at which we are speaking. On this view, there is no sense in which it is true to say that time really passes, and any appearance to the contrary is merely a result of the way we humans happen to perceive the world. According to The A Theory, the passage of time is a very real and inexorable feature of the world, and not merely some mind-dependent phenomenon. For example, some discussions frame the issue in terms of a question about the reality of tense roughly, the irreducible possession by times, events, and things of genuine A properties, with A Theorists characterized as those who affirm the reality of tense and B Theorists characterized as those who deny the reality of tense. That is, she will deny that it is true of any time, t , that t is past, present, and future. The thesis can be put this way. Thus, according to the A Theorist, there is no contradiction in the A series "i. The first of these is an argument from the special theory of relativity in physics.

Chapter 3 : The B-theory of Time: My Debate with a Physicist – Free Thinking Ministries

time' or a 'B-theory of time', depending upon their attitudes to these properties and relations. On the face of it, there are two radically different views one could take about.

In the first mode, events are ordered as future, present, and past. Futurity and pastness allow of degrees, while the present does not. When we speak of time in this way, we are speaking in terms of a series of positions which run from the remote past through the recent past to the present, and from the present through the near future all the way to the remote future. The essential characteristic of this descriptive modality is that one must think of the series of temporal positions as being in continual transformation, in the sense that an event is first part of the future, then part of the present, and then past. Moreover, the assertions made according to this modality correspond to the temporal perspective of the person who utters them. This is the A series of temporal events. Although originally McTaggart defined tenses as relational qualities, i. Ingthorsson notes, this is probably because later philosophers have independently inferred that this is how McTaggart must have understood tense merely because tenses are normally expressed in ordinary English by non-relational singular predicates "is past", "is present" and "is future". An important difference between the two series is that while events continuously change their position in the A series, their position in the B series does not. If an event ever is earlier than some events and later than the rest, it is always earlier than and later than those very events. Furthermore, while events acquire their A series determinations through a relation to something outside of time, their B series determinations hold between the events that constitutes the B series. This is the B series, and the philosophy which says all truths about time can be reduced to B series statements is the B-theory of time. The logic and the linguistic expression of the two series are radically different. The A series is tensed and the B series is tenseless. For example, the assertion "today it is raining" is a tensed assertion because it depends on the temporal perspective – "the present" – of the person who utters it, while the assertion "It rained on 4 November" is tenseless because it does not so depend. From the point of view of their truth-values, the two propositions are identical both true or both false if the first assertion is made on 4 November. The non-temporal relation of precedence between two events, say "E precedes F", does not change over time excluding from this discussion the issue of the relativity of temporal order of causally disconnected events in the theory of relativity. On the other hand, the character of being "past, present or future" of the events "E" or "F" does change with time. In the image of McTaggart the passage of time consists in the fact that terms ever further in the future pass into the present. If we assume the first point of view, we speak as if the B series slides along a fixed A series. If we assume the second point of view, we speak as if the A series slides along a fixed B series. The debate between A-theorists and B-theorists is a continuation of a metaphysical dispute reaching back to the ancient Greek philosophers Heraclitus and Parmenides. Parmenides thought that reality is timeless and unchanging. Heraclitus, in contrast, believed that the world is a process of ceaseless change, flux and decay. Reality for Heraclitus is dynamic and ephemeral. Indeed, the world is so fleeting, according to Heraclitus, that it is impossible to step twice into the same river. The metaphysical issues that continue to divide A-theorists and B-theorists concern the reality of the past, the reality of the future, and the ontological status of the present. Ideas that assume no objective present, like the B-theory, include eternalism and four-dimensionalism.

Chapter 4 : Time | Internet Encyclopedia of Philosophy

Brian Greene explains that the B-Theory of Time is the correct view of time according to Einstein's Special Theory of Relativity.

Modern Philosophy Much of the modern philosophical debate on time was triggered by work by J. McTaggart In the 20th Century, the philosophical debate on the nature of time continued unabated, given new impetus by the work of the British idealist philosopher J. McTaggart, particularly his paper, *The Unreality of Time*. But, all other moments, past and future, also either were or will be the present time at some point or other, so how can this contradiction be reconciled? The argument behind this is that tensed terminology can be adequately replaced with tenseless terminology, e. The tensed theory of time the A-theory , on the other hand, denies that such an argument is valid, and argues that our language has tensed verbs for a good reason, because the past, present and future are very different in quality. The A-theory therefore denies that the past, present and future are equally real, and maintains that the future is not fixed and determinate like the past. A-theorists believe that our ordinary everyday impression of the world as tensed reflects the world as it really is: Thus, according to presentism, only present objects and present experiences can be said to truly exist, and things come into existence and then drop out of existence. Therefore, past events or entities, like the Battle of Waterloo or Alexander the Great, literally do not exist for presentists, and, because the future is indeterminate or merely potential, it cannot be said to exist either. Eternalism, on the other hand, holds that such past events DO exist, even if we cannot immediately experience them, and that future events that we have not yet experienced also exist in a very real way. There is also a variation of eternalism, sometimes known as the growing block universe theory of time or the growing block view, in which more and more of the world comes into being with the passage of time hence, the block universe is said to be growing , so that the past and present clearly do exist, but the future is not yet part of this universe and therefore does not exist. This in some ways gels with our intuitive impression that the past which is fixed, and can be accessed through remembering and physical records is very different in nature from the future which is variable, uncertain and cannot be accessed or consulted. Endurantism and Perdurantism A similar but separate dichotomy exists with regard to the persistence of objects through time. Endurantism is the more mainstream or conventional view, asserting that, when an object continues to exist through time, it exists completely at different times, with each instance of its existence fundamentally separate from the other previous and future instances. An endurantist would tend to agree with Heraclitus, even though our common sense tells us that the river at one time and the river at another time are in fact the same river, and nothing about it has essentially changed. A perdurantist, on the other hand, would argue that it is possible to step into the same river twice by stepping into two different temporal parts of it. Typically, presentists are also endurantists, and eternalists are perdurantists, although this is not necessarily the case. New Philosophical Ideas from Modern Physics The Many Worlds Theory of parallel universes is one of several philosophical approaches to time prompted by new ideas in modern physics The concept of alternative universes and the many-worlds interpretation of quantum mechanics see the section on Quantum Time , which is gaining increasing attention in the world of modern physics, adds a whole new dimension to the discussion of the nature of time. In the disconnected time streams in a potentially infinite number of parallel universes, some could be linear and others circular; time could continuously branch and bifurcate, or different time streams could even merge and fuse into one; the laws of causality and succession could break down or just not apply; etc, etc. Barbour argues that, in order to reconcile general relativity with quantum mechanics, either time does not exist, or else it is not fundamental in nature. The possibility that time might have more than one dimension has occasionally been discussed both in physics and in modern analytic philosophy. Imaginary time is a concept derived from quantum mechanics. Stephen Hawking introduced the concept in his book *A Brief History of Time* as a way of avoiding the idea of a singularity at the beginning of the universe, where time suddenly starts and all the laws of physics break down. Hawking proposed that space and imaginary time together are finite in extent but with no boundary in a similar way as the two-dimensional surface of a sphere has no boundary. Imaginary time is not imaginary in the sense that it is unreal or made-up,

but it is admittedly rather difficult to visualize. The beginning of the universe would then be a single point, analogous to the North Pole of the Earth, but not a singularity.

Mellor's theory of time includes the doctrines that (a) objectively, time does not embody tense or temporal properties other than those contained in the B-series, (b) particular objects are endurers, and (c) objectively, time does not flow.

In no way does evolution require the A-Theory of Time to be true. Do you really think that Tenseless Time entails that time and change are not real? This is bad philosophy and worst cosmology. So, Charles, do you think things actually happen in a static state? What do you mean: Of course things happen and of course Time is real. Time is just our approximation of how things are affected by the macroscopic effects of the 2nd Law of Thermodynamics, namely how clocks biological and mechanical are affected by the movement from lower entropy states to higher entropy states. Here is a nice Wiki Article about Time as it relates to physics: Charles commented on the missing comment and I posted the video again below. My last post is missing. Here it is again: I do not argue that the Neo-Lorentzian view is true, Charles, I argue that the B-theory cannot account for any genuine process like [Darwinian] evolution or the process of rationality leading to knowledge. Other world-renowned physicists agree. Take George Ellis, for example. He offers a model of the block universe which rests on the A-theory. However, if the A-theory is true on any model, then God exists. If an interpretation of scientific data is logically incoherent, then that interpretation is false. So what is the difference between the Neo-Lorentzian view of time and the Einsteinian view of time? I can give you a quick summary: Both state that time is experienced relatively depending on your reference frame, however, Neo-Lorentzian relativity makes an extra ad-hoc assumption that there is an arbitrary, undetectable, privileged frame of reference which plays no role in the physical predictions of Special Relativity. Therefore, until this can be demonstrated this sort of assumption should be rejected. Accepting it because it is required to keep your First Cause Argument for a god afloat is not a very tenable justification for relying on a view that all of modern cosmology rejects. What Charles does not understand is that I am not necessarily arguing for the Neo-Lorentzian view of time. What I am doing is demonstrating exactly WHY his model based on the B-theory of time is logically untenable. You are missing the point. Read my three articles too. There is no way I can justify using my time to read the other 2. This was a serious argument he made and then posted online in a sourced article for the world to see. As far as his Special Pleading rebuttal, he relies on the notion that the universe likely has a beginning which is supported by modern cosmology and thus cannot be past-eternal. This is a poor rebuttal for 2 reasons. By the end of our conversation, Charles will see that these are, in fact, the only two options to choose from. Arvind Borde, Allan Guth, and Alexander Vilenkin, constructed a theorem the BGV theorem of which reaches the conclusion "nature had an absolute beginning. No matter what model one holds, none of them can be extrapolated into past infinity unless one postulates eternalism" but that raises bigger problems. Vilenkin makes this point even stronger: With the proof now in place, cosmologists can no longer hide behind the possibility of a past-eternal universe. There is no escape: Tim, now you defending the A-Theory of Time without supporting a Neo-Lorentzian view of relativity is seemingly impossible. The only way to do this seems to deny Special Relativity altogether. George Ellis, in no place I see, rejects Special Relativity. He seems to be in support Possibilism or the Growing Block Universe. This means he is in support of the A-Theory of Time. Some of the leading cosmologists and theoretical physicists in the world will tell you that. I suggest reading the work of Foitini Markoupolo and George Ellis. In Albert Einstein developed his special theory of relativity which assumed that 3-dimensional objects endured through dynamic time what is now thought of as the A-theory of time. He presented it in a geometrical way no longer thinking of objects as 3-dimensional enduring through dynamic time, but rather, thinking of objects as 4-dimensional with the added dimension of physical time the space-time block assumes what is now referred to as the B-theory of time. This model of reality is not empirically observable, but rather, a metaphysical assumption of what reality is like [in an ontological sense]. This is similar to a frozen fish tank. Nothing is objectively moving or happening. Everything is static on this model. However, it runs into some major logical and scientific problems as well. Moreover, the B-theory of time is inconsistent with how we all live and perceive reality. This is why B-theory advocates will tell you as Sean Carroll does that there is no free will on

their model. The future is already set along with the entire 4-D space block. On this model, nothing really happens just illusions of happenings. The advocate of the A-theory holds that the properties of past, present, and future are objective. That is to say, what happened in is really a past event, and is no longer occurring. What is happening now is really happening right now, and what will happen tomorrow has not yet occurred. This seems to be prima facie justified and intuitively obvious. However, to avoid the final conclusion of the Kalam, one must logically refute one of the two premises. The B-theory of time holds that any point in time, or tense designation, is purely a subjective statement from an individual [based on their illusion]. For people in , is now, but for people in , is now. Temporal becoming is nothing but a subjective illusion if the B-theory of time is correct. For the atheists who see the B-Theory as their escape route from the Kalam and God , they unwittingly open themselves up to some major evolutionary problems. For example, on the B-theory, there is no genuine evolution. It seems the only way the committed atheist could object to an ultimate or absolute A-theory of time is to affirm that the space-time block exists necessarily and eternally with no beginning. Evolution, then, loses all explanatory power as to why advanced primates exist. We can summarize this argument in the following logical syllogism: If evolutionary biology is true, then change must have occurred insofar as there has been a genuine development of species. If B-theory is true, then all species are equally old or ageless as the static block itself. Therefore, if B-theory is true, then no development of species has genuinely occurred. Therefore, if B-theory is true, then evolutionary biology cannot explain the complexity of developed species. Therefore, if an atheist wants to appeal to the B-theory to reject the theistic implications of the Kalam, they must deny evolution. I am very open to the possibility that God created via evolution this would not be a problem for an omniscient and omnipotent being , but atheists must appeal to evolution as a means to explain complex primates without a need for God. On the other hand, if the atheist holds to evolution as an explanation of primate complexity today, they must accept the Kalam or at least not object to it by appealing to the B-theory. Pick your poison so-to-speak , but either way, God is the inference to the best explanation [a Reasonable Faith]. Therefore, affirming the B-theory of time just to resist the theistic implications of the Kalam is not a good idea. Libertarian Free Will LFW is illusory if the static theory of time is true; therefore, rationality and knowledge is illusory, too. They are all equally real. In the same way that there is no authentic process of biological evolution change over time on the B-theory, there would also be no genuine reasoning, which requires dynamic time to engage in the process of rationality. If the eternal block universe and the B-theory of time is true, then everything is set or frozen eternally in the block of space-time. It is a different slice of the worm that ate breakfast yesterday. In fact, if the B-theory of time is true, you have no control or choice as to what you are going to do or think tomorrow or next year. It is already set in stone and eternally frozen in space-time. In the same way that an innocent defendant in front of the judge is a different slice than the guilty slice that robbed the bank, the slice of the frozen worm deriving a conclusion is different than the one considering competing hypotheses and deliberating between them. Therefore, just as the process of evolution is illusory on the B-theory, so too would be the process of rationality which requires not only dynamic time, but also libertarian free will to choose the best explanation. It seems that continuity of first-person identity is a necessary condition of LFW. We can demonstrate this with the following deductive syllogism based off of my Freethinking Argument Against Naturalism: Imagine that everything in the aquarium is in a fixed position and is as old or ageless as the aquarium itself. It does not seem that we have any choice or control over the position we happen to be eternally frozen in. To help visualize, imagine going down a twisting and turning water slide at the swimming pool. The shape of the slide causally determines my movement. If the slide veers to the right, it is impossible for me to turn to the left even if I want to. In conclusion, allow me to reiterate what I established earlier. It is not a good idea to affirm the B-theory of time just to resist the theistic implications of the Kalam Cosmological Argument. You cannot conclude a model of reality which destroys the very method you used to reach your conclusion. This is the epitome of self-refutation and appealing to the B-theory of time and the eternal block universe commits this exact logical fallacy. As I always say, any argument based on a logical fallacy is no argument at all. To answer this he has one of three options at his disposal: Accept IIT and thus quantum idealist based Berkeleyanism.

Chapter 6 : The Kalam, Evolution, & The B-Theory of Time – Free Thinking Ministries

This is the B series, and the philosophy which says all truths about time can be reduced to B series statements is the B-theory of time. The logic and the linguistic expression of the two series are radically different.

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Chapter 7 : B-Theories of Time - Bibliography - PhilPapers

If one could show that the static, or B-theory of time, was reality, the Kalam would seemingly lose its force (unless the B-theory "block" of space-time came into existence - this would be a B-theory block floating on a stream of dynamic A-time).

References and Further Reading 1. Introduction The word "time" has several meanings. It can mean the duration between events, as when we say the trip from home to work took too much time because of all the traffic. It can mean, instead, the temporal location of an event, as when we say he arrived at the time they specified. It also can mean the temporal structure of events, as when we speak of investigating time rather than space. This article uses the word in all these senses. Philosophers of time would like to resolve as many issues as they can from the list of philosophical issues mentioned in the opening summary. Some issues are intimately related to others so that it is reasonable to expect a resolution of one to have deep implications for another. For example, there is an important subset of related philosophical issues about time that cause many philosophers of time to divide into two broad camps, the A-camp and the B-camp, because they are on the opposite sides of most of those issues. Persons are considered members of the A-camp if they accept a majority of the above claims. Members of the B-camp reject most of the claims of the A-camp and accept the majority of the following claims. This article provides an introduction to the philosophical controversy between the A and B camps, as well as an introduction to other issues about time, for example the philosophical issue of the controversy about how to properly understand the relationship between the manifest image of time and the scientific image of time. This is the relationship between time as it is ordinarily and informally understood and time as it is understood within fundamental physical science, namely physics. The manifest image is a collection of commonsense beliefs, and it is an important part of our implicit model of the world. It is not precisely definable, and experts disagree about whether this or that is part of the image, but it contains the following beliefs about time. The world was not created five minutes ago. Every event has a unique duration which can be assigned a measure such as its lasting so many seconds. Unlike space, time has a direction. Time is continuous; it is analog and not digital. Given any two events, they have some objective order such as one happening before the other, or their being simultaneous. Time flows like a river, and we directly experience the flow. Past events are real in the way that future events are not. Time is independent of the presence or motion of matter. The future is "open" and does not exist. No event could occur both earlier and later than itself. The earlier items on this list are common to both images, but the later items are not features of the scientific image because they conflict with science or are ignored by science. The terms manifest image and scientific image were coined by Wilfrid Sellars in *Why would someone reject a feature of the manifest image in favor of the scientific image?* We accept that the table is mostly empty space because i the fundamental scientific theory of wooden materials, namely physics, implies the table is mostly empty space, and ii this scientific hypothesis can be shown to account for our experiences that led us to our conviction that the table is wholly a solid substance without empty space, and iii the scientific theory can account for other facts that the commonsense view cannot. Proponents of the manifest image very often complain that their opponent does not succeed with step ii. For example, the physicist Arthur Eddington says, "[T]he process by which the external world of physics is transformed into a world of familiar acquaintance in human consciousness is outside the scope of physics. The answer to this question has been and continues to be controversial in the literature on the philosophy of time. Prior gave one answer when he said that the theory of relativity is not about real time. Other philosophers of time disagree and say that any feature of the manifest image that conflicts with current science is an illusion. Craig Callender views the relationship of the two images differently: In some very loose and coarse-grained sense, manifest time might be called an illusion without any harm done. How Is Time Related to Mind? Physical time is public time, the time that clocks are designed to measure. It is also indicated by signs of our aging. Psychological time is different from both physical time and biological time. Psychological time is private time. It is also called "subjective time" and "phenomenological time," and it is best understood not as a kind of time but rather as awareness of physical

time. There is no experimental evidence that the character of physical time is affected in any way by the presence or absence of mental awareness or the presence or absence of any biological phenomenon. For that reason, physical time is often called "objective time. Physical time is more fundamental than psychological time for helping us understand our shared experiences in the world, and so it is more useful for doing physical science; but psychological time is vitally important for understanding many mental experiences, as is biological time for understanding biological phenomena. We notice time by seeing a leaf fall. But if we close our eyes, we still can encounter time just by imagining the leaf falling. What all these encounters with time have in common is that we are having more experiences and accumulating more memories of those experiences. The leading explanation of why psychological time exists is the accumulation of memories. With the notable exception of Husserl, most philosophers say our ability to imagine other times is a necessary ingredient in our having any consciousness at all. We make use of our ability to imagine other times when we experience a difference between our present perceptions and our present memories of past perceptions. Somehow the difference between the two gets interpreted by us as evidence that the world we are experiencing is changing through time with some events succeeding other events. Locke said our train of ideas produces our idea that events succeed each other in time, but he offered no details on how this train does the producing. When we are younger, we lay down richer memories because everything is new. When we are older, the memories we lay down are much less rich because we have "seen it all before. Do things seem to move more slowly when we are terrified? Because memories of the terrifying event are "laid down so much more densely," or richly, Eagleman says, it seems to you, upon your remembering, that your terrifying event lasted longer than it really did as measured by a clock. For these events, remembered psychological time is stretched compared to physical time. A major problem is to explain the origin and character of our temporal experiences. Philosophers and cognitive scientists continue to investigate, but so far there is no consensus on either how we experience temporal phenomena or how we are conscious that we do. A pessimistic physicist, Julian Barbour, says, "I do not believe that science However, surely the fact that we know that we know about time is specific to our cerebral cortex. A rat does not know that it knows. It has competence without comprehension. A cerebral cortex is required for this comprehension. Philosophers also want to know which aspects of time we have direct experience of, and which we have only indirect experience of. For example, is our direct experience only of the momentary present, the instantaneous present, as Aristotle, Thomas Reid, and Alexius Meinong believed, or instead do we have direct experience of the "specious present," a present that lasts a short stretch of physical time? Among those accepting the notion of a specious present, the best estimate of its duration in physical time is 80 milliseconds for human beings, although neuroscientists do not yet know why it is not two milliseconds or one hour. There is continuing controversy about whether the individual specious presents can overlap each other and about how the individual specious presents combine to form our unified stream of consciousness. Neuroscientists have come to agree that the brain does take an active role in building a mental scenario of what is taking place beyond the brain. As one piece of suggestive evidence, notice that if you look at yourself in the mirror and glance at your left eyeball, then at your right eyeball, and then back to the left, you can never see your own eyes move. Your brain always constructs a continuous story of non-moving eyes. We all live in the past" in the sense that our belief about what is happening occurs later than when it really happened according to a clock. This is because our brain takes time to reconstruct a story of what is happening based on the information coming in from our different sense organs. The story-building must wait those milliseconds until the brain acquires all the information from all the sense organs. In the early days of television broadcasting, engineers worried about the problem of keeping audio and video signals synchronized. Then they accidentally discovered that they had around a tenth-of-a-second of "wiggle room. Eagleman, The light from the bounce of a basketball arrives into our eyes before the sound arrives into our ears, but then the brain builds a story in which the vision and sound of the bounce happen simultaneously. This sort of subjective synchronizing of vision and sound works for the bouncing ball so long as the ball is less than feet away. Any farther and we begin to notice that the sound arrives more slowly. For more on these topics, see Eagleman, The "time dilation effect" in psychology occurs when events involving an object coming toward you last longer in psychological time than an event with the

same object being stationary. With repeated events lasting the same amount of clock time, presenting a brighter object will make that event seem to last longer. Similarly, for louder sounds. Suppose you live otherwise normally within a mine for a while, and are temporarily closed off from communicating with the world above. Neuroscientists and psychologists have investigated whether they can speed up our minds relative to a duration of physical time. If so, we might become mentally more productive, and get more high quality decision making done per fixed amount of physical time, and learn more per minute. Several avenues have been explored: These avenues definitely affect the ease with which pulses of neurotransmitters can be sent from one neuron to a neighboring neuron and thus affect our psychological time, but so far, none of these avenues has led to success productivity-wise. Do we directly experience the present? But notice how different such direct experience would have to be from our other direct experiences. We directly experience green color but can directly experience other colors. We directly experience high-pitched notes but can directly experience low-pitched notes. Can we say we directly experience the present but can directly experience the past or future? So, direct experience of the present either is non-existent, or it is a very strange sort of direct experience. Nevertheless, we probably do have some mental symbol for *nowness* in our mind that correlates with our having the concept of the present, but it does not follow from this that we directly experience the present any more than our having a concept of love implies that we directly experience love. To mention one more issue about the relationship between mind and time, if all organisms were to die, there would be events after those deaths. The stars would continue to shine, but would any of these star events be in the future? The current article accepts the more popular philosophy of mind that rejects dualism and claims that our mind is in both space and time because of appropriate functioning of our brain.

Chapter 8 : Debate Argument: If the B-Theory of time is true, then Christianity is implausible | calendrierdel

However, McTaggart, the forerunner on the philosophy of time, said that events can, under a B-theory of time, be thought of as earlier than, simultaneous with, or later than others, though each moment is equally real.

I believe that God is not a part of Time, that he is eternal and unchanging, and that therefore he knows what we consider to be past, the present, and the future equally. I believe that there are good reasons to believe this coming from 3 different fields of study: Of course, it is also true that the Son of God came down from heaven and was incarnate by the Holy Spirit and of the Virgin Mary, and was made man. On the third day In other words, he united himself to a human being who was, like us, part of the flow of time. In this sense, God is in Time, but to allow this to be truly and properly a life-giving paradox, we need to assert that it was the Eternal and Immortal who suffered and died for us. The more we anthropomorphize the divine nature, the less significant is the Incarnation. In order to address this question, we need to know two things: To some extent we can begin to explore the metaphysics of Time without discussing who God is, although eventually we must place every created thing in the context of the One who created it. This is, as far as I can tell, due to a article by the philosopher John McTaggart arguing for the Unreality of Time. McTaggart was basically a Hegelian mystic and yet, despite the later backlash against Hegel in the subsequent era of Logical Positivism, this paper has become one of the foundational articles for contemporary Analytic Philosophy! Lewis was President, whose Digest has recently become available from Lulu thanks to St. The talks were given around the time of WWII, which was a particularly interesting time for Philosophy since it was during the overlap period when both Idealism and Logical Positivism were taken seriously. Anyway, the A-theory a. However, the past was real and the future will be real, since time is really flowing from past to future. Thus, there is no objective fact about which time is really "present", any more than there is an objective fact about whether "here" is located in the USA or Australia. One of my commenters explained the difference in this way: The first is called the A-theory, or tensed time. Only the present is real; the past and future do not exist. The second is called the B-theory, tenseless time, the block view of timespace, or Minkowski or Minkowskian spacetime. All of timeâ€”past, present, and futureâ€”is complete and actual in this view. In some unperceived way, all of time is occurring now. The B-theorist would not say that all of time is literally now anymore than we would say that all places are here. The past indeed exists, but does not exist "in the present" because for an A-theorist that means "at the same time as the speaker is located. According to the A-theory view, only the Present moment is real. Saying "all times exist now" is really shorthand for "The B-theorist ascribes to the Past and Future the same type of reality which the A-theorist only ascribes to the Present. If all you have are B-theory ideas, there is no way to make the A-theory clear. If an A theorist says that the past does not yet exist, the B-theorist will translate "does not yet exist" to "exists at a moment previous to the current moment ", and if he says that the future is going to exist, she translates this to mean just that the future is in the future! When we say that a physical object is changing or flowing, this means that it changes with respect to time, that if we plotted it out on a graph, there would be a physical parameter such that the time derivative is nonzero: When we say that time itself is flowing, either we mean time goes at one second per second which is a trivial calculus tautology which says nothing, or we mean that it is flowing with respect to some other meta-time coordinate. And if that deeper time "really flows" we will need a 3rd timestream to parametrize that, and so on. Time just is the way we parametrize change. The moments of time cannot themselves change or flow in the same way that things change or flow, since there is no other timestream to parametrize their change. We can put it another way. The A-theorist maintains that the past and future do not exist. But if this is true, it is impossible to distinguish it from a radical presentism in which one maintains that only the present moment will ever exist. Suppose that right now e. The past is just a delusion of our memory, and the future is a just delusion of anticipation. None of it is real. Clearly an absurd form of skepticism. But really, the A-theory implies this. For it says that the future exists only in the future and that the past exists only in the past and that both of these are forms of nonexistence. So the future does not really exist, and neither does the past. No amount of protesting about the fact that the future is going to exist or the past having existed implies anything about it actually ever existing,

unless you secretly smuggle in the B-theory view that these modalities refer to ways of existing. One might worry, though, that the B-theory is radically foreign to our own experiences. Each moment is so slight that we hardly grasp it before the next is upon us. After all, it also feels as if my own experiences are more real than the experiences of others, and that here wherever I am is more real than there wherever I am not but these things I am happy to discount as illusions, without incorporating them into my metaphysics. Furthermore, my brain cannot really detect a single instant: Thus what I experience as now is always really a moment that has a finite amount of thickness in time. If only the a single instant existed at once, that sliver would actually be too small for any conscious experiences to fit inside of it. But if more than one instant can exist, it is simplest to say that they all exist, but that my self simply does not experience them all together in one lump. Thus I conclude that only the B view makes logical sense. Some might say that this means Time is an illusion; but I would instead say I am asserting that all of Time is real. Now if God is omniscient, then he experiences everything as it actually is. But we have seen that the idea that time "flows" and "changes" makes no sense. If the B-theory is correct, then God must experience it as being correct, that is he must himself be eternal and unchanging. But this is also what we would conclude if we instead started with the nature of God as understood by classical theism. Here, you will recall, God is conceived of as the fundamental being whose existence explains everything else. As I argued before, the fundamental reality, however we conceive of it, must be eternal: If the fundamental entities are necessary, then it stands to reason that they are also eternal, since something that exists necessarily cannot come into being, or cease to be, or indeed change in any way. They must just exist timelessly. Their influence must be present everywhere. For God to be in Time, would mean that there is a part of God which changes and develops and changes, even if it is only the part that observes "what time is it right now". But that would mean that God is actually divided into pieces, some of which the past versions of God help to explain others the future versions of God. This is inconsistent with the unity and eternity which befits the divine nature, which is fully real and cannot pass away like shifting shadows. This is why proponents of Classical Theism have generally maintained that Time, rather than being some Metaphysical Ultimate, is actually part of created reality. It exists contingently as part of the physical world, because God created it. This view was developed by Philo, St. Augustine and others, but in the next post two posts we shall see that it is also supported by modern physics: Then in the third last post posts I will argue that the view that God is eternal and unchanging is also to be found in the Bible. About Aron Wall In, I will be studying quantum gravity and black hole thermodynamics as a Lecturer at the University of Cambridge. Before that, I read Great Books at St. The views expressed on this blog are my own, and should not be attributed to any of these fine institutions.

Chapter 9 : A-Theory of time vs B-theory of time - Evidence for God from Science

A Christian I was debating on YouTube who holds to the B-theory of time actually linked me this new scientific paper that appears to show the first experimental evidence that the universe is indeed static and that time "emerges" from quantum entanglement.

June 7, In my last article I discussed and explained one of my favorite arguments for the existence of God known as, the Kalam Cosmological Argument. From the deductive conclusions of the Kalam, we can rationally infer the existence of God. Be that as it may, there is one objection to the Kalam that needs to be taken seriously. This objection, and the Kalam itself, both involve metaphysical assumptions. I always tell my atheist friends that they need to be aware of their unexamined philosophical assumptions that their scientific claims are based on. If I had a dollar for every time an atheist dismissed logic, philosophy, and metaphysics, I would be a very rich man. Therefore, it actually offers proof that science is not the only means of attaining knowledge. This statement often proclaimed by atheists today is just as self-refuting as the following sentence: Either way, the foundation of scientism is logically incoherent. It cannot be true! This is a common example of an unexamined philosophical assumption made by atheistic advocates of scientism. The well-known atheist Daniel Dennett seems to have realized the blunders of many on his side of the theistic aisle and has stated: Metaphysical Assumptions Another example of a metaphysical assumption that many hold today involves an unexamined philosophy of time. In Albert Einstein developed his special theory of relativity which assumed that 3-dimensional objects endured through dynamic time what is now thought of as the A-theory of time. He presented it in a geometrical way no longer thinking of objects as 3-dimensional enduring through dynamic time, but rather, thinking of objects as 4-dimensional with the added dimension of physical time the space-time block assumes what is now referred to as the B-theory of time. However, it runs into some major problems as well. Be that as it may, this model has become the standard method of describing relativity theory in physics textbooks today. The advocate of the A-theory holds that the properties of past, present, and future are objective. That is to say, what happened in is really a past event, and is no longer occurring. What is happening now is really happening right now, and what will happen tomorrow has not yet occurred. This seems to be prima facie justified and intuitively obvious. However, to avoid the final conclusion of the Kalam, one must logically refute one of the two premises. The B-theory of time holds that any point in time, or tense designation, is purely a subjective statement from an individual. Temporal becoming is nothing but a subjective illusion if the B-theory of time is correct. I will demonstrate something similar and show that if evolution is true, then the B-theory of time must be false. There are several philosophical objections to the B-theory, but it occurred to me that there is a scientific objection to it as well, namely that evolutionary biologists might have some strong objections against the B-theory of time. For example, on the B-theory, there is no genuine evolution. It seems the only way the committed atheist could object to an ultimate or absolute A-theory of time is to affirm that the space-time block exists necessarily and eternally with no beginning. Evolution, then, loses all explanatory power as to why advanced primates exist. We can summarize this argument in the following logical syllogism: If evolutionary biology is true, then change must have occurred insofar as there has been a genuine development of species. If B-theory is true, then all species are equally old or ageless as the static block itself. Therefore, if B-theory is true, then no development of species has genuinely occurred. Therefore, if B-theory is true, then evolutionary biology cannot explain the complexity of developed species. In conclusion, evolution makes zero sense on the B-theory, which is why an evolutionary biologist once told me that evolution seems to demand the A-theory of time. Therefore, if an atheist wants to appeal to the B-theory to reject the theistic implications of the Kalam, they must deny evolution. I am very open to the possibility that God created via evolution this would not be a problem for an omniscient and omnipotent being , but atheists must appeal to evolution as a means to explain complex primates without a need for God. On the other hand, if the atheist holds to evolution as an explanation of primate complexity today, they must accept the Kalam or at least not object to it by appealing to the B-theory. Pick your poison so-to-speak , but either way, God is the inference to the best explanation. Therefore, affirming the B-theory of

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time just to resist the theistic implications of the Kalam is not a good idea. Stay tuned and stay reasonable Phil 4: Here is my favorite Reasonable Faith podcast ever. In this RF podcast, Dr. Craig interacts with my scientific objection to the B-theory of time: