Well, in any case, we are going to be focusing this week on Whitehead's process philosophy and process theology, because of the two process philosophers that Staub discusses in the same chapter: Bergson and Whitehead. I have chosen to focus on Whitehead simply because of his very powerful influence in the development of process theology and we’ll see the beginnings of it in Whitehead and later on I’ll make some comments about further aspects of it, but Whitehead is without doubt of these the most influential in the second half of the 20th century.

You haven’t started reading Whitehead, I suppose. That means you haven’t started reading even Staub’s chapter in which he introduces Whitehead. OK. He started as a mathematician in Cambridge. He later became a philosopher of science at the University of London and at the age of 63, when he was thinking of retirement, he became a professor of philosophy at Harvard for I think it was about 15 years and when he finally retired he kept on living there in the shadow of Harvard yard. An open house to students and faculty and some conversations with Whitehead from that point on were recorded until he died I think at the age 88. He was born in 1859, I think it was.

Whitehead’s process philosophy
I. Influences on his thought:
   1. Hegel’s evolutionary idealism via F.H. Bradley
   2. Modern science
   3. Alexandrian fathers
II. Whitehead’s metaphysics:
   1. Category of the ultimate
   2. Events
   3. Gradualism
   4. Concrescence
   5. God

Let me start by saying something about influences that shaped his thinking, and the first is Hegel’s philosophy and what I called Hegel’s evolutionary idealism. You figure the idealism in Hegel alright. Evolutionary, yes, because of his emphasis on historical development. A number of the 19th century idealists and their successors that we were talking about the week before break can be thought of as evolutionary idealists. Yes, they buy into the theory of evolution, natural selection if you like, or various other forms of the theory of evolution, but they’re not philosophical naturalists, metaphysical naturalists. They are idealists so that evolutionary theory is compatible with naturalism compatible with idealism, according to these people. And their point is that while the underlying reality is of the nature of spirit, absolute spirit in the case of Hegel, there are various degrees to which that immaterial free creative spirit is being fully manifested in the phenomena of nature around human existence and human history. So that the evolutionary process, biological evolution, cultural evolution, the overall evolutionary process is understood in terms of the dialectical unfolding of the absolute, you see, to a point where that freedom of spirit becomes self-conscious, rather than just implicit, but unconscious. So the self-conscious expression of free creative spirit in culture is the zenith to which the evolutionary process moves.

Now that kind of evolutionary thought was in an idealist context and so consciousness is the key, the basic model. “What is this unfolding self-consciousness?”, that’s a key. And obviously unfolding self-consciousness is not substance. Hegel doesn’t think of spirit as an unchanging substance, but as creative process. It’s not substance, but process. And so you have a change in the basic notion of reality from the changelessness of some basic stuff, be it Thales’ water or whatever, or Descartes’ thinking thing, whatever, from the unchanging substance to some sort of dialectical process, which has as in Hegel its overall logos structure but no one changing substance. It’s the structure of the process that’s unchanging not the stuff that’s changing. So that in Hegel translates in Whitehead into his notion of process and like Hegel he does a phenomenology, a phenomenology of the process, that is to say of phenomenology of consciousness, a descriptive account of what the process is like, of the structure of events which make up the process. And the process is not some kind of mechanistic thing, as in 18th-century science, but the model is more organic than mechanistic, more like a growth process than a machine, like. And the ingredients are not at atomistic in the sense of having no essential relationships to anything else. But the ingredients are rather relationships then isolated atoms. So an entity is a relational unit rather than anything else. Well, that’s what you get in the evolutionary idealism and all of these translate into Whitehead, except the idealism.

You see, Whitehead says he’s going to translate this over, transfer it over into a naturalistic metaphysic and so he is going to be not an evolutionary idealist, but an evolutionary naturalist. At least that’s what he declares whether towards the end of his life when the God concept begins to figure larger in his thought, whether that changes is another question, but at least his intent in developing the meta-
physics was an evolutionary naturalism. Actually the Hegelian thinker who most influenced him was F.H. Bradley [9:46] and those of you characters who skipped out on the last day of class will forever be impoverished, because that’s when we talked about F.H. Bradley, who Whitehead explicitly cites rather than Hegel. And in the Bradley material that you have in the Gardner\textsuperscript{2}\footnote{As on the previous page, I have not been able to ascertain the spelling of the name of the compiler of the anthology.} anthology you will notice that Bradley speaks of appearances and qualities and the substance-quality distinction and that sort of thing, as being sheer abstraction not concrete reality by themselves, and Whitehead agrees. So that essentially the stuff you have from Bradley in the anthology about the world of appearances, being abstraction not concrete reality, Whitehead would agree with. The thing he disagrees with in idealism, the thing he disagrees with is Bradley’s idealism. But otherwise he took it over. Bradley maintains that empiricism of the classic sort, that came from John Locke, empiricism is guilty of all sorts of faulty abstractions: the primary-secondary quality distinction, well even Bradley showed that was an abstraction and not true even of actual experience; the substance-quality distinction, well, I think Berkeley showed that was an abstraction because how do you know what substance there isn’t only all you know is the something I know not what, is an abstraction; the space-time distinction, well, certainly in terms of modern physics it becomes an abstraction; representational knowledge, ideas that represents something else, abstraction, you see. So all the way through, he sees the abstraction that there is. And when Bradley talks of there being degrees of reality in the world of appearances, varying degrees of reality in the world of appearances, that’s precisely the language that Whitehead likes, you see. Varying degrees\footnote{See at the very end of this lecture.} of appearance and we’ll pick up on that when we get down here and see his gradualism\textsuperscript{3}. There are various degrees to which what is the basic nature of things is explicit in the hierarchy of being.

Now, in that evolutionary idealism of the 19th century however there is one other note, which isn’t as perhaps explicit in Hegel, although we’ve mentioned it, we often tend to single it out, and that is the romanticism of the 19th century [13:17]. I’m not sure but Whitehead got this so much from Hegel as he did from Wordsworth. His daughter wrote that there was a time in his life when he read Wordsworth as if it were the Bible, read Wordsworth as if it were the Bible. She became the wife of I think it was an Episcopalian clergyman, so presumably she knew whereof she spoke, you see. But the Wordsworth themes run all the way through it. You’ll pick them up in a chapter called ‘The romantic reaction’ in Science and the modern world, in which there is as much poetry of philosophy, including Wordsworth’s poetry, you see. Because he’s seeing the philosophical con-

tent of the romanticist reaction against the mechanistic science and the rationalism of the Enlightenment, you see. And, all right, that’s part of nineteenth-century idealism, but where Whitehead gets it from becomes pretty explicit. And I found verbal identities between Whitehead’s poems and some of the language in, did I say Whitehead’s poems? Wordsworth’s poems and some of the language in Whitehead’s Process and reality, which is his long technical tome on metaphysics, you see. It’s fascinating stuff. So if you want to read Whitehead extensively, I suggest you read Wordsworth’s poems at the same time. It’s very interesting. Alright that’s the first influence.

The second influence is from modern science. [15:30] After all he was first a mathematician and scientist. He cooperated with Bertrand Russell, and I think it was 1903, in a work which really introduced symbolic logic into the 20th century, a work called ‘Tractatus’ that Bertram Russell, no, no, it’s not the ‘Tractatus’ says what led me about, the Principia mathematica, the Principia mathematica. I have a prompter over here you see, to help me. The principia mathematica, ‘principles of mathematics’ in which Russell and Whitehead, both of whom were teaching at Cambridge at the time, co-operated on the volume, essentially showing that mathematics is reducible to formal logic and therefore introducing mathematical symbolism in the formal logic so as to eliminate the ambiguity of variables and make possible make possible the formalized deductive systems that logicians like. So he was first a mathematician, who like other mathematicians of the time, was very interested in logic and therefore in philosophy of science.

And during his stay at the University of London, where he was teaching philosophy of science, he published three works in theoretical physics, well at least where theoretical physics borders into the philosophy of science. [17:15] So all right he was very much into this. What in modern science influences philosophy? One, undoubtedly, is developmental biology, both at the macro-level evolutionary theory and the micro-level genetics. Developmental biology; he doesn’t say as much about it as he does about physics. He was closer to physics and you’ll find that in Science in the modern world he talks about the philosophical significance of three modern developments in physics. First of all, electromagnetic field theory, electromagnetic field theory, whereby we think in terms of force fields rather than in terms simply of bodies with gravitational pull. Force fields. Second, quantum physics, where the basic unit, if you like units of energy rather than solid pellets of [18:44] matter. And third, Einstein’s relativity theory including space-time relativity, general theory of relativity, \( E = mc^2 \) \footnote{} squared. Relativity theory. The professor, who taught the Whitehead course I was taught in graduate school, said that there were only two people who really understood relativity theory. One was Einstein, the other was Whitehead. Now, whether there has been any improvement on that in the last
200 years or whatever it was, I don’t know but at least he seems to – oh, you’re awake, okay - but at least he seems to understand relativity theory and he weaves it into his metaphysics. Remarkably. Now, notice what’s happened. Here he is a naturalist rather than an idealist. Here he is interested in modern physics. He’s going therefore, as a naturalist interested in modern science, going to be a scientific realist taking science as telling us in a provisional way about reality. The idealist had a phenomenalist view of science. Whitehead has a realistic view of science. Yet, both of them seem to have the same aims, purposes, namely preserving a romanticized view of life, nature. And as we will see later, insisting that there is no ultimate separation between fact and value. The world of nature is value-laden. Now the idealist wanted to say that and therefore rejected the scientific account in reality. Whitehead wants to say [21:06] that, but he accepts the scientific account of reality. How come? Well, because of the change in modern science, he maintains that developmental biology and energetic physics, relativity theory, enable us to say that the physical facts of mundane existence are loaded with value, meaning, purpose. He’s coming back to a teleological interpretation of the scientific universe. So he is going to be a philosophical naturalist, who’s going to find moral and aesthetic value inherent in things. [22:08] Yeah, he talks a lot about science in his writings. He takes it that philosophy has a two-fold function with regards to science. One is to critique each scientific abstraction, there’s that word abstraction again. The abstractions which take some theoretical notion like quality for being ultimate reality. A mistaken abstraction. To critique those abstractions is part of the function of philosophy and he [22:53] critiques mechanistic science and you’ll find that’s the major function of the first six chapters of the book you’re reading. But then the second function is to engage in what he calls flights of speculative imagination, based on modern science. In other words to extrapolate from science into a speculative metaphysical scheme and he likens those [23:31] flights of speculative imagination to what plane travel was like in the nineteen-twenties, if you can imagine that, namely you’d soar aloft above the crowd, the clouds, the crowds too, but the clouds in this heady sort of world of speculative imagination up above the clouds and periodically to get your bearings in the world of fact, you drop down below the clouds and find where you are. I suppose today if he were right he would say radar checks, something like that of sort. But in other words flights of philosophical speculation, metaphysical speculation, but always taking off from and returning to the facts of science and ordinary experience, concrete experience. Because he's realistic about those.

So, if you like, he has two sorts of empirical points of reference: science, concrete [24:58] experience. Not the abstractions of an empiricist like Locke, but the sort of experience that we can describe introspectively, self-consciousness is the window of reality, self-conscious introspection [25:18]. So you’ll find that in the light of that he is always denouncing certain [25:30] fallacies, the fallacy of misplaced concreteness, oops, oh, I can’t even spell. Alright, the fallacy of misplaced concreteness and the fallacy of simple location [26:09]. Well, if concrete is the opposite of abstract you can tell what the fallacy of misplaced concreteness is: assigning concreteness to sheer abstraction, so the fallacy of misplaced concreteness is the fallacy of taking abstractions to be real. Assuming that what are really intellectual abstractions, theoretical abstractions have concrete existence, not so? The fallacy of misplaced concreteness. And he’s always accusing mechanistic science of that. Then the other is the fallacy of simple location of assuming that there are fixed points in a uniform space, uniform time of a Newtonian sort. Simple location. So all you have to do is to call out the coordinates and you could locate the thing. Failing to see the motion is in both place and time, and the spatial coordinates change varying with [27:26] the time, relative of spatial relationship to time and consequently [27:36] the notion of a simple location such as we use in geography just is an abstraction that may be useful at some levels, but quite useless at others. So accordingly with the influence of modern science.

Now the third one may surprise you [28:03]: the Alexandrian church fathers. And you might say what is a philosophical naturalist doing trafficking with the Alexandrian church fathers? And he’s trying in fact to buy their logos structuring. That’s what he’s doing shopping there, he wants to buy the logos structure. He’s very much impressed by Platonism, particularly the middle Platonism, not so much just Plato, but the middle Platonism, which developed the logos concept in talking about the ordered structure of nature. Now in order to get the point of this, you have to back up a little bit. To begin with, just as a Hegelian would want to say that all of subsequent philosophy is a series of footnotes to Hegel, Whitehead in one place says that the whole history of philosophy is a series of footnotes to Plato and you begin to see that the thing he appreciates about Hegel is, Hegel is, the view of the processes of nature being basically of the nature of spirit, creative but with a logos structure to those processes, a dialectical logos structure. But that’s only one thing to help understand this. The other is that he grew up in a parsonage. His father was an Episcopalian clergyman of evangelical persuasion in the southeast English town of Ramsgate, 20 miles from my home so that as a kid we used to ride our bicycles over to Ramsgate fairly often and I think I know the church, though I have not been back to check on it, where it was. The .. Whitehead then grew up in this home. When he went off to [30:47] Cambridge as an undergraduate for a while he was reading theology avidly and then decided that wasn’t for him. He couldn’t buy it, sold all his theology books, turned his attention to mathematics, along with Bertrand Russell, so that they were under graduates together. Later however, in one of his later works that was pub-
lished in the nineteen-thirties, a work called *Adventures of Ideas*, it’s very plain that he has a new interest in theology and particularly in Origin and the Christian Platonists of Alexandria, Origin, Clement, that tradition, the middle Platonism there. And what appears to [31:46] him is the logos conception and the idea that in the emanations from God, the [31:58] good, and you remember they weren’t clear about ex nihil creation, in the [32:04] emanations from God, the good, that logos structure transfers to every finite [32:13] manifestation, as in the Stoics, for whom there was the logos socratikos, the [32:23] semantic logic, eh, logos in every particular. And it’s that way of [32:33] accounting for the orderedness of nature, the goodness of nature, God said it was [32:44] good [32:47], the theme of Platonism is that being is good, not necessarily becoming, [32:51] being is good [32:55], and it’s this which seems to appeal particularly as a way for finding a [33:02] basis for value in a world of fact, the logos structure. Ok, so those three [33:12] influences let me pause there and get your feedback, questions, clarification [33:22]. Does that get you back in tune after spring break, tuned in [33:35]? OK, clear enough on those? [33:41] All right, there we are. All right, then, our next task is to ask ourselves what is this metaphysical scheme that he develops in flights of speculative imagination on the basis of concrete experience and the basis of modern science? Well, since we’ve said that he is a naturalist rather than an idealist, that he’s profoundly influenced by those 19th century idealists and particularly the romanticism themes, how is he going to describe what is ultimate? He doesn’t say the ultimate reality as if the ultimate reality is one reality and there are [34:53] many others as well. You see, that would be a theists language: the ultimate reality is God for all sorts of other lesser realities. That’s not Whitehead’s language. The ultimate reality for Whitehead is something that pulses through everything, is it? And the ultimate reality for him is, wouldn’t you know it, creativity. You say, that’s not a thing, it’s a property. But you’re right it’s not a thing, His is not a substance metaphysic to have the ultimate as a thing. Creativity a property? No, not exactly, it’s a process. [35:57] It’s the process of the emergence of novelty, and that’s what ultimate in all of [reality]. Creativity, novelty. And now be careful, there’s creativity even when he developed his conception of God much more fully than at the beginning. This creativity is not God, it’s not God. Well to one who’s read Bradley that’s no surprise, because for Bradley, the absolute is not God, either. God is simply the highest manifestation of the absolute, and for Whitehead God is simply the highest manifestation of creativity. Now immediately you begin to see why Whitehead’s God is attractive to people in our Christian tradition. If God is the highest manifestation of creativity, well, it sounds like he could be seen as creator. [37:33] But all right. But how are you going to describe the process of creativity? Well, obviously, the thing to do is to start with describing some creative event rather than describing creativity in toto. And just as for these idealists what they’re doing is looking through the lens of self-consciousness of the largest screens of reality, so Whitehead then tries to look at some creative event that we know by immediate experience introspectively. The simplest thing with which to start, and it seems to be the paradigm case for him all the way along, is the experience of sense perception, the experience of sense perception. Notice that’s precisely where Hegel begins his phenomenology of mind: subjective spirit, sensation, and perception. And in as much as he is describing this experience of sense perception introspectively, what he’s going to give us is a phenomenological description of sense perception, phenomenological method, like in Hegel [39:27]. Phenomenological method. So what does he do then in describing sense-perception? Well he distinguishes in the perceptual experience three modes; perception in the mode of: ok, the first is perception in the mode of causal efficacy, the second is perception in the mode of presentational immediacy, the third is perception in the mode of symbolic reference. Now as he develops this, as he does in a number of places, as he develops this, it’s always in contrast to John Locke’s theory of perception. Now, as John Locke describes sense-perception, what comes first? Causal efficacy or ideas? In the phenomenology of it, in the consciousness of what comes first? Ideas, that’s the beginning place in the consciousness of it, it’s ideas. And for Whitehead, that’s utterly mistaken and it’s false. He calls it a fallacy of the primacy of presentational immediacy. He loves labelling things fallacies. Seems to be in vogue in the nineteen tens and twenties. The fallacy of giving primacy the presentational immediacy. You can tell what presentational immediacy is. The idea that’s immediately presented to the consciousness, the cognitive. The presentational immediacy is the cognitive content, the idea. [42:04] OK, whereas causal efficacy, obviously, if we’re conscious of that it’s affective, rather than cognitive consciousness. And the awareness of that is less vivid in sense perception, I mean in visual perception than it is for instance in auditory things, where there’s a loud noise and then you decipher what it is later, or in the sense of touch where the recognition comes more slowly. But his point is that if we consider the perceiver to be the entire psychosomatic unity, the entire human organism, then from a phenomenological standpoint in terms of consciousness of, the initial thing is the causal efficacy there is some effect, causal, that is felt. And misled by the clarities of sense perception, Locke thought otherwise, but even in visual perception if the light is sufficiently bright, it’s felt first, the dazzling light. So, the primacy in the mode of causal efficacy. Now notice what that does.
You see, in John Locke the idea came first, then the question. what caused it and you [44:04] have to have a cause-effect argument of a purely intellectual sort, from what, from the idea, which is thought, not felt, but thought, to what caused us to think the idea. That is to say, the idea is representation, hopefully it’s a copy, and what it is out there that causes it, we don’t know, we have to infer. Is there a cause? We don’t know, for sure. Whereas. And this therefore means that our knowledge of reality is always indirect, it has to be logically inferred. But for Whitehead, if the causal efficacy is the thing, causal efficacy, you see, in that experience of causal efficacy there is a direct knowledge of the cause affecting me. Like if Ryan would stand up and I would sock him on the jaw, he would have a direct awareness of the cause affecting him. [45:38] So what we have then is some on this basis what we have on is on this basis, a direct knowledge of the existence of a real object, that’s how he can be a realist. You know, contrary to David Hume that we only know constant conjunctions, he’s arguing that we do experience causal connections. Hume is wrong. Hume stumbled over the pre-, the fallacy of the primacy of presentational immediacy. With a big label like that you think he could have caught it. But no, he was so locked into the Lockean mode of thought. This awareness of causal efficacy has nothing to do with constant conjunctions. How many times does Ryan have to be hit on the chin before he’s aware? You see. One, pretty surely will do it. The immediacy of it. Presentational immediacy then follows. [47:15] An idea comes to mind. Now there’s no guarantee that the idea is correct. You know the way it is, in the morning, you are awakened by a bell ringing near you, grab the alarm clock and say hello, you’ve got the wrong idea but you got an idea. Now, so the presentational immediacy provides you with a hypothetical idea. No guarantees. And what you do is to take that idea and refer it to the cause of the stimulus. Notice that the idea is not a representation, a copy. It’s a symbol [48:16]. Where did he get that language? Straight from Bradley. Bradley in his criticism of traditional empiricism said ideas are not copies or representations. They are symbols that we use in thinking about things. So we take the idea and [using it, using it] use it as a symbol in referring to. So we have an indirect knowledge of the essence of an object. The essence is what it is. The existence is that it is. So you had a direct awareness that something is an indirect awareness of what it is. Now notice what’s involved, something else that’s involved in this threefold business. What is it in these three which is the cause of the perceptual experience? What are the causes, what are the factors that create this experience of perception. [49:56] Well, first there are objective data, objective givens that affect the present state of consciousness. So, if you like my daydreaming, is disturbed by these causal givens, causal [50:26] stimuli, objective data, the causally affect. Second, as the ideas develop, these are what he calls eternal possibilities [50:45]. What is this? It’s the phone ringing at this hour in the night! Yes, it’s a possibility. You may be wrong, if it’s the alarm clock. But the ideas are simply possibilities that come to mind. And the world is teeming with all sorts of possibilities, objective, logical possibilities that you think of. And then there is a third factor that makes the perceptual experience complete. Decision. [51:43] So, you say “hello” and realize that you were wrong in your decision, but the decision you see is selecting from the eternal possibilities, the whole range of possibilities, proposed by the stimulus. you select from that and go with it. And it may turn out to be that the symbol you use in referring to the thing is one which works, maybe it doesn’t. But with experience you begin to know what is the symbol you want, what works. Now I said that perceptual experience is his paradigm event, the event of a perceptual experience. And his point is that in every experience in every event in the entire cosmic process there is first causal efficacy, real causal process. There is secondly the entertaining of possible ideas being there, presented as possibilities to the mind, ideas: I’ve got an idea. What’s an idea? It’s a possibility. What’s this that’s happening? Well, I’ve got an idea. Possibility. And there is the decision whereby in the process the lot is cast then you go with one possibility. Now you could diagram that [53:36] then in a more general way. Diagram it like this. Here is the process, to this point, okay. At this point there is some causal intrusion, okay, whereupon all sorts of eternal possibilities converge that would be suggested by such a causal intrusion. So from a range of, an indefinite number of possibilities there are some which are relevant in this particular instance. And from these a decision is made. You see, with these possibilities you could go in that direction. Possibilities 1, 2, 3, you could go in that direction, you could go in that direction, you could go in that direction, corresponding to the various internal possibilities. And choosing number two, full steam ahead in that direction. So there are always three constituent elements in every event in the cosmic process: objective, causal givens; inherent possibilities; yes, natural process is loaded with possibilities, for good, for bad, value-laden. So you’ve got the objective causal given, you’ve got the eternal possibilities, and third, you’ve got decision. Now, if you can grasp that Whitehead is easy. You see Whitehead’s basic question is: what’s the source of these eternal possibilities. Ad because I’ve already queued you in that he’s looking for a logos doctrine [56:03] what’s the source: God, the logos, who is not a creator in any sense of [‘exide’?] hello. [56:15] God isn’t a causal force. God is just the orderer, the Prov-
dence, the Logos. You see, that's why he's not a theist. Is he a deist? No, a deist [God] even creates. So he's not a theist, he's not a deist. Is he a pantheist? No, because there are other events than the Supreme event, which is god. What is he? Whitehead? He doesn't fit in the classifications. Let me pause there. You see what he's doing? You'll find that these three elements figure large in his whole metaphysical scheme. The objective data are simply other events. E, eternity all. T, time. Now it's much, but. O, eternity. In which there are li, kay. W, time, and decisions, which make this an individual perception. What makes this an individual perception of the decisions by virtue of which they that were assimilated in some way into the self, so it becomes an ingredient in the on-going individuality. So the process involves individual things causally related to other individual things, if you like individual sub-processes, causally related to other individual sub-processes, out of which there is room for all sorts of possibilities, creative possibilities, only some of which are actualized. And those summer actualize by virtue of the decisions by virtue of which they that the direction they go in the individual processes. Now, this kind of event then is the paradigm and [60:42] that's where we can understand gradualism, because while in perception it's a conscious thing and you have consciousness of all three of those things, at other degrees of reality it may not be conscious. So that there is a low-grade analogue to decision, which is not conscious, in which is nobody deciding, but it's the cut-off point, in which in the confluence of events a certain possibility is, to be sure. Example: in that beautiful weather we've had the week before last my daffodils, no my tulips, beg your pardon, my tulips bulbs in rows up the flower bed in the [61:38] back yard [61:39], were getting to be that high, literally, and my mind was filled with [61:46] possibilities for a blaze of colour in a few weeks earlier than ever before in the season. Now there are other possibilities of course that came to my mind but for they [62:00] process of the development of my tulips there were all sorts of possibilities [62:04] but then came the moment of decision: that cold snap last week, which froze my tulips so that as of now they are limb, dead, sagging to the ground. But there was a possibility all along and the decisive moment was that deep thrust, down to 10 degrees one night. Exit my spring tulips. Now you've got all the same there: you have the given process, in which there are all sorts of objective data that affect them anything. And depending on the objective data that affect them the whole range of possibilities. Now it's much more deterministic with tulips than it is with the conscious decisions that you and I make. He's not saying the decision is free on the part of the tulips, but he is saying that a week before it was indeterminate and was the confluence of events so in every event you have that nature of the process.

Hey, we went over time [63:46] I'm sorry. Okay, we'll pick up on this next time.

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