

## What (Time) Is Now?

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### ABSTRACT

He drove a taxi. *Now* he drives a truck. So, must he be driving the truck right *now*? Must he, as long as he's working as a truck driver, keep driving his truck all day and all night? What do we speak of, when we speak of "now"? In this talk, some popular conceptions in the philosophy of time will be put under critical scrutiny: (1) The present (the "now") is an instant, a time point with no length; (2) the "content" of the present is always an event, a happening, which constitutes a segment of a larger process; (3) what (time) is now, is determined by the passage of time (itself). The following points will be defended respectively: (1) The present may be a time period. "Now" is not an indivisible time-atom in the substantial sense. (2) What is now can be an event, a process, or a state. "Driving a truck now" – in the sense of being a truck driver – is neither an event nor something happening to him. (3) "Now", among other temporal concepts, is not a name for any *thing*, but schemata under which we understand ways things being themselves. There are variety of ways of being, and accordingly there are multiple aspects of now-ness.

### KEYWORDS

Metaphysics of Time; Now (the Present); Instant; Process; State; Event; Ludwig Wittgenstein

What do we speak of, when we speak of "now"? In different contexts, "the present", "at this moment" (at this instant, at this point of time), "in this moment" (in this instant), "at this time of day/year" (in this time of day/year), "today", "these days", "nowadays", "contemporary", etc. – all of these can be possibly, and rightly, reformulated as "now". So, for me the starting point is, how to understand "now" in these real contexts.

## 1 Time Point vs. Time Period

It won't take much discernment to see that "now", in *real-life, non-theoretical* contexts, can not only be taken to mean an instant, a time point, but also a time period. – "Nowadays", "these days", "at this time of day", or even "in this moment", can (and sometimes must) be understood as a time period.

However, the mainstream theories in philosophy of time tend to represent "now" or "the present" merely as an instant, a time point with no length, or a temporal slice with no thickness. E.g., it is the "spotlight" in the Moving Spotlight Theory, the "top surface" in the Growing Block Theory and a "temporal slice" in the Presentism and the Four-Dimensionalism. But, is "now" only meant to be a

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length-less time point? By comparison with the multifarious usage of the word “now” in real life, I’d rather doubt it. “Now” (or “the present”) is not a technical, theoretical term, such as “absolute zero”, “black hole” or “the Big Bang”. If we mistake its meaning, the source of error is not so much the ignorance of some philosophical theories as the misguidance of them.

So, contrary to the mainstream theories, what I am advocating is a multi-aspect understanding of nowness. “Now” has more than one face. It can be a time period as well as a time point.

To such an understanding, the first objection might be: The distinction between “time point” and “time period” is too vague to be taken seriously. That is to say, in a sufficiently coarse-grained model of time, *every* time period can be taken as a time point, and vice versa, in a sufficiently fine-grained model of time, *every* time point can be taken as a time period as well. Call it “**All-Too-Vague**” rebuttal.

My response would be: There *is* a significant distinction, namely, a *logical* distinction, between the “time-point” understanding and the “time-period” understanding of nowness. For instance, an event that happens now can be:

(1) Now you reach the top.

or can be:

(2) Now she is writing a letter.

Event (2) is a process, while Event (1) is not.

Event (1) is an *instantaneous* (or momentary) event. It is *punctual* in the sense that it happens at a time point; and it’s *perfective* in the sense that it ought to be treated as a complete action with no internal temporal structure or temporal length. If we say, “Now you *reach* the top”, what we mean is: Now you’ve *reached* the top. “Reaching-the-top” is the same thing as “having-reached-the-top”. – *Once it happens, it happened*. It is an essential feature of the instantaneous events.

On the contrary, “writing-a-letter” is definitely not the same as “having-written-a-letter”. In the case of Event (2), we cannot say: Once it happens, it happened. It happens in a time period, as a process. As long as one hasn’t finished her letter, she *is still* being writing it, *not having* written it. Writing-a-letter, expressed in the present progressive, has an essentially *linear* and *imperfective* aspect. It takes time to be accomplished, no matter how soon.

No doubt, we can also say that

(3) Now you *are reaching* the top.

But by saying that what we actually mean is

(4) Now you *are going to reach* the top.

Which means that that event *will* happen in the near future, though *has not* happened yet (=does not happen right now). Compare this with

(5) Now she *is writing* the letter.

which surely does not mean that

(6) Now she *is going to write* the letter.

It may take hours for you to reach the hilltop, much longer than for him to write the letter. But it doesn’t mean that the “reaching” of the summit has been going on for those hours. It is an *upcoming* event, which *has not happened*. When you’re “reaching” the top, what you’re doing is climbing, not the “reaching” *per se*. But when you’re writing the letter, the event that *is happening* now is you writing the letter. Or what else could it be?

There could be a further objection. As follows: When we speak of “now”, there’s always a distinction between the *strict* present and the *specious* present – a distinction introduced by William James. The strict present is a time point without duration, whereas the specious present, the present we human beings are capable of experiencing, is always a time period, a brief duration, and what it refers to is actually a recent past. *It all happened too fast*. It always takes time for us, no matter how soon, to perceive what is happening “now”. So, although the specious present that we can possibly experience is a time period, the present in the strict, metaphysical sense is a time point. Call it “**All-Too-**

**Fast” rebuttal.**

Here’s my response to this objection. Let us think of the following story: There was a duel at dawn between John and Jones. John shot Jones. But Jones did not pass away immediately. He lingered on until dusk of that day, and then died of his bullet-wound. Certain background conditions are satisfied which makes it right to say not just that John caused Jones’ death but that he killed him. Question: When exactly did John kill Jones?

It is the famous “shooting-killing-and-dying” problem in the philosophy of action. On the one hand, at noon on that fatal day Jones was still alive. So, it seems false to say that John killed Jones at dawn. On the other hand, it is also wrong to say that John killed Jones at dusk, the same time when he died. Later in that day John might did variety of things but killing Jones. Apparently, the problem consists in that *it all happened too slow* (i.e. Jones’ *lingering on*), rather than that *it all happened too fast*.

How do we solve the problem? The key point here is to see that killing someone is similar to reaching the top, not to writing a letter. Once A kills B, A killed B. Once it happens, it happened. If we say that you’re *killing* someone, we mean that you’re *going to* kill him. The same goes for B’s *dying*. If he dies, then at exactly the same time point, he *died*. “He is dying” means just “He is going to die”. Living is a process. Dying is not. It is *the end of living process*. Therefore, it can only be understood as a time point. So is A’s killing B as well. E.g., we can say “A kept beating B until he killed B”. – Here, we take B’s dying, which itself happened at a time point, as the consequence, and the natural end, of the acting process performed by A against B, namely, his keeping beating B. The both sides, i.e., A’s fatal action against B and B’s death as the consequence and natural end of that action, constitute the central meaning of A’s killing B. That is why, to the question “When did A kill B?”, the possible answer can only be *a time point*, not a time period. And this temporal characterization of killing is a logical, or if you like, *metaphysical* one, no matter how the killing be *physically* executed.

Roughly speaking, it is *on that fatal day* that John killed Jones. That’s *roughly when* the killing happened. The problem arises when we being asked *when exactly?* – The answer cannot be “at dawn”, for that’s the moment when John’s fatal action comes to the end, not Jone’s life; it cannot be “at dusk” either, for that’s when Jone’s life come to the end, not John’s action. But no matter what and how it physically happened on that fatal day, the answer cannot be “the whole day”. That answer is logically, or metaphysically, precluded. Why? Because whenever a killing happens, it happens at a time point. “On that day”, “at dawn”, “at dusk” – these are all answers given by a certain time point, whereas “the whole day” is not. The latter denotes a time period, not a time point.

I think, there are lessons to be learned from the above case. First, “time point” (or “instant”) is a logical, mathematical, metaphysical concept, which cannot be fully reduced into a *physical* one. If we are to tell whether a second, a minute, a day or an era is to be appropriately taken as a time point in a given context, the last thing we need to take into consideration is its *physical* temporal length. “On that fatal day” is a *rough* answer to the question “When John killed Jones?”, but it is nevertheless a *right* answer, not a *specious* answer.

Second, the reason why a day – or an era, if you like – can be appropriately taken as a time point, is certainly not that “it all happened too fast” and we could therefore experience nothing but that day or that era as the “specious present”. Rather, the reason consists in *what sorts of things* happen at that time point in question. The time Jones *lingered on* is a time period, because someone’s *lingering on* is a process; whereas the time Jones was killed is a time point, because someone’s *killing* someone can only happen at an instant. All of it is determined in the metaphysical sense, not in the physical sense.

Two more examples:

(7) Thomas caught a cold last week. Now he recovered. – When?

(8) Peter has been living in Beijing for 3 years. Now he has learnt Chinese. – When?

In answering those questions, we have the very same trouble as in the “shooting-killing-and-dying” case. And as far as I can see, the problems here are not that “all is happening too fast” and that we are therefore incapable of observing things in fine enough details, but rather that different kinds of things come with different “*time scales*”, so to speak, of their own. Only by reference to those time scales can we understand things, and describe them, properly.

Here comes the third rebuttal. One might complain: Everything you’ve been talking about is based on a confusion between what we should say and what things really are. The former belongs to folk psychology or, at best, linguistic philosophy, the latter to metaphysics in the strict sense. You seem too eager to describe the reality in a romantic manner, while the true nature of things, including their “time scales”, are out there in the world, not inside our minds. As we know, the one and only way we understand the natural world itself is natural science. Call it “**All-Too-Romantic**” rebuttal.

I do resent being labeled a linguistic idealist or an anti-scientist. But to be frankly, I don’t like such kind of scientism either, if it somehow constitutes the starting point of that rebuttal. To me, it is wrong from the very beginning to suppose that the more we observe things at a more physical – often more microscopic – level, the more clearly the true nature of things will emerge to us. On the contrary, only on a sufficiently macroscopic scale can we, for instance, see the shape of the clouds clearly. As Wittgenstein once said:

The classifications of philosophers and psychologists: they classify clouds by their shape.<sup>1</sup>

We certainly can see the cloud as aggregation of water molecules, but doubtlessly with some loss. Similarly, it doesn’t make sense to talk about Peter’s mastery of the Chinese language on the femto-second (one quadrillionth of a second) timescale. The motion of physical particles that make up our bodies and our surroundings at the microscopic level is one thing, our mastery of a foreign language is another. They are *not the same thing*, in the literal sense. It is highly probable that the so-called “mastery of a language” would not play any role in the fundamental physics, nor the shape of the clouds, which only means that not everything that exists exists at the level of fundamental physics.

## 2 Process vs. State

Another dominant, and also dubious, conception of “now” is that the “content” of the present is always an event, a happening, which constitutes a segment of a larger process.

Again, let us consider the following cases first (cited from Zeno Vendler).

(9) Now he’s thinking about Jones.

(10) Now he thinks that Jones is a rascal.

It is obviously two kinds of “thinking” here. As Vendler noted:

The first sentence can be used to describe what one is doing; the second cannot. ... If it is true that he was thinking about Jones for half an hour, then it must be true that he was thinking about Jones during all parts of that period. But even if it is true that he thought that Jones was a rascal for a year, that does not necessarily mean that he was thinking about Jones, the rascal, for any minute of that time.<sup>2</sup>

Vendler classified “thinking” in the first sense as a *process* and in the second sense as a *state*. Here’s another pair of examples:

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1 Ludwig Wittgenstein, *Zettel*, Blackwell, 1981, § 462.

2 Zeno Vendler, “Verbs and Times”, in *Linguistics in Philosophy*, Cornell University Press, 1974, pp. 110-111.

(11) Now he is driving a truck from Beijing to Shanghai.

(12) He drove a taxi. Now he drives a truck (now he is a truck driver).

"Driving a truck" in the former case is a process, in the latter case a state. He may have been driving a truck for 10 years, but it doesn't mean that he has been driving the truck all day and all night through these years. If it were misunderstood in such a way, there should be a confusion between process and state in that misunderstanding.

In the previous section, we've been talking about two kinds of events, either happening at an instant, or happening in a process. Both are events, happening at or in some time. Thinking that someone is a rascal, however, is neither an *event* nor *happens* at or in some time. It is a *fact*, though not an *event*. That thought may come to him from time to time. If it is the case, then the *coming* of the thought to him is surely a mental event. But the *thought* as such is not an event.

Regardless of finer distinction between process and state, they both have *persistence* in character. The things, which exist either in a process or in a state, *persist through* time in or for some period. In this respect, they both differ from the things only existing at an instant.

On the other hand, there are still variety of differences in the ways how a process or a state persists. I would propose that a process persists by "*perduring*" through time, while a state by "*enduring*". So, in my understanding of this concept-pair – *perdurance* and *endurance*, the difference between them consists in that a perduring process (rather than the entities existing in a process) has temporal parts, which an enduring state doesn't have.<sup>3</sup> As people say, a process can be carried out, completed or delayed; it can unfold and spread out in several steps. While a state can be remained, maintained, stayed in. A process is always a process of changing. It persists, as long as something belonging to it is yet to happen. The changings stop, the process stops. Or, it might as well be said, the only thing that is unchanging, with regard to a process, is the changing itself. A state, on the contrary, persists as long as nothing changes and nothing (new) happens. So not surprisingly, state always carries the connotation of stillness and being, and process the connotation of motion and becoming. People try to remain in the best state, and slow the aging process.

To some extent, *state* and *instant* share some common character as well. Neither of them has temporal parts in itself. That is not so easy to see in the case of state as in the case of instant. So back to the "truck driver" example: What is noticeable is that while "driving a truck" in the *processive* sense is to be analyzed into a series of steps – e.g., starting the engine, crossing the roads, reaching the destination, "driving a truck" in the *static* sense is not so. His working as a truck driver, as a state, presents itself "as a whole" and persists by its continuous self-repetition day by day, year by year.

It might be rebutted, that we actually live in a world full of changing ("everything flows"), so "the persistence(endurance) of a state" is merely an appearance, not the reality in itself. Well, what I would argue is, how, in real life, to distinguish appearance from reality then? He pretends, e.g., to his wife that he still works as a truck driver, which is merely an appearance, while in reality, his vocational status has changed – he has lost his job. So, *if* in the first place, there should be no truth at all when it comes to the question of "persistence" of any state, which means it would make no sense to distinguish between his still-working-as-a-truck-driver or being-out-of-work, what would the "real truth" look like? Non-stopping motions of a large mass of physical particles? That he works as a truck driver, is admittedly merely an appearance; but what you're saying is that that he is now out of work, is no more than an appearance either? Is there no hint of unease, when you assert something like that? Or, in your "reality", there be no such things as being-unease, because it is also to be understood as a state?

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<sup>3</sup> The distinction between perdurance and endurance is borrowed from the debate about "temporal parts", especially under the topic of "personal identity", but with some significant revisions. Rather than talking about the things (in a process or in a state) *perdure* or *endure*, I'd prefer to say that a process *perdures* and a state *endures*: the former has temporal parts and the latter has not.

I guess that the key point is this: Whenever an instant event comes up or a state persists, there are always some physical events happening as simultaneous occurrence as well. (For the reason of realism, here I set aside Shoemaker's thought experiment of "the frozen universe".) So, we can say something like:

(13) When he got to realize the he's in trouble (instant), numerous nerve impulses cross the synapses is occurring in his brain (process).

(14) While he kept working as a truck driver (state), many things changed in the world (process).

That is to say, an instant event, a persisting state and a changing process can be *simultaneous*. But it certainly doesn't mean that they are inevitably to be interpreted as *homogeneous*. As a matter of fact, the different "time scales" that they kept with themselves already guaranteed that it cannot be so. In other words, we can, and ought to, view the world from multiple perspectives and accordingly grasp the different time schemata of different things in the world.

At this point, we may find out the source beneath the above-mentioned, popular and yet dubious conception of time. – It's physicalist reductionism. Physicalism, as a metaphysical standpoint, understands the whole universe as a process of physical changings and the present as an indivisible instant. For, from the physical perspective, the events occurring at each instant are both homogeneous – in the sense that they are all physical, and heterogeneous – but also in the sense that they are all physical, for in physical understanding of the world, the events occurring at each instant are raw data which should be always differentiated from events happening at any other instants, no matter what and how they are. In this sense, only change is unchangeable in the process of time. Everything, as soon as they happen, they happened. In this giant and unique physical process, each "now" is endlessly refreshed by the next "now".

It is the last thing I'd say that such a physical world-picture were insignificant or useless. What I am against is taking it as the one and only perspective that is needed to reveal the whole and final truth. In other words, it is the metaphysical standpoint of physicalist reductionism that I won't stand with. And I do think that there is a big difference between physical science and physicalism.

### 3 What is Now?

Here we come to the final question: What is now? And what time is now? I think the answer lies in the pair of concepts: changing and unchanging, or, the same and the different. As far as we can meaningfully speak of a *time unit*, i.e., a process with its own beginning and end (a meal, a drive, a year), a state in which the *relevant* phenomena remain the same (staying still, keeping healthy, loving someone, believing something), or an instant with no internal structure (reaching the end, finding something, blinking), then we can also meaningfully divide the "now" from the past and the future.

In *this* sense, i.e., as far as we regard "now" as a *time unit*, we can also view it uniformly as a *time point* from a sufficiently macroscopic dimension. Exactly in this sense, we can speak of "the world situation *today*", "home healthcare *now*" (a journal's name) or "the *contemporary* philosophy".

### Discussion

**Audience:** Thank you very much for the talk. I did have something I want to push back on a little bit, which was the All-Too-Romantic response. So it seemed like you presented it as one point, which is sort of linked together, but I think are actually two sort of conjoined responses, You were saying, that necessarily a sort of scientism flows from deferring to knowledge about the physical world in order to determine what sorts of events are, and what the features are, and what the time styles of the minds are. But I don't think that those two things flow from one another. Like for instance, rejecting

folk psychology as having a kind of authoritative view for understanding — for instance, what a thought is, and when a thought begins and ends, and how we might be able to figure out, you know, sort of the now of a thought. I don't think that saying folk psychology might not be completely correct about that, or shouldn't be deferred to on that point. Necessarily means you're doing scientism, right? You could just be doing an incomplete or a wrong philosophy, or there's some missing scientific knowledge that, you know, an accurate theory needs. If you're a medieval alchemist, you probably think that a chemical reaction began, you know, three days ago when you started meditating on the the minerals or something like that. Then if you're a modern chemist, your time span for when the reaction happens could be a couple of seconds I'm pushing back on that response a little bit, if that makes sense.

**Chang Liu:** Thank you for your question. I am a big fan of science myself. The reason why I specifically mentioned the “**All-Too-Romantic**” Rebuttal is this: It is not only a possible objection to, but also a probable misapprehension of my standpoint. There is no doubt, at least for me, that without science we'd never get a chance to achieve comprehensive understanding of “what time is”. My question is only: In what way should we work with science? - Should metaphysics be replaced with, or swallowed up by, physics? Is the scientific style of thinking the one and only way that we need to solve all the problems about time? If it is such sort of attitude that is called scientism, that is the “scientism” that I criticized.

Back to the example of alchemist. I totally agree with you in that case. Right, in order to figure out when exactly a chemical reaction began, what we need is surely scientific investigation, not metaphysical speculation. But on the other hand, when it comes to another sort of questions, e.g., why it is possible for Achilles to take over the tortoise, or whether any motion is logically possible at all, then no scientific measurement, no matter how precise, will be of any use to solution of the problem, and what is required would be philosophical re-examinations. *That* will be our philosophers' responsibility. And the buck stops here. As far as I see it, the clarification of such key concepts as process, instant, state, time period and time point will do much help to solve those big old problems in philosophy of time. Even if, according to one's judgment, any problems that are unanswerable by science be incapable of making any sense either, that judgment *itself* is a philosophical one in nature.

**Audience:** I guess I share your basic position and I like your way of talking as well. My question is really a way of thinking along with you and try to think a little bit further if it's possible. So if I understand you correctly, basically you want to argue for a kind of pluralistic metaphysic of time where when we speak of, for example, contemporary philosophy, and when we read the time from a watch, we're speaking of analogies, sort of the same justification. They're both literally “now”, only “now” perhaps on different levels, right? Then the question is, I guess, how to negotiate between these different levels up to now. And one of the interesting ideas you put forward, is when you are responding to the reductionist physicalism, rebuttal, you say that what really happens here is that these different stage of processes, they're simultaneous, right? So you appeal to the idea of simultaneity. What I was wondering is how you would unpack the idea, whether when you try to unpack the idea of simultaneity, you would then again appeal to the idea of instants, for example, saying they happen at the same instant, and whether that would bring us back more or less to the starting point of the problem. I just want to ask you to clarify the idea of simultaneity with which you negotiate between these different levels.

**Chang Liu:** Simultaneity is a fascinating topic. Let us consider, in how many different ways we may speak of “what is now”:

Now it's 10 o'clock sharp.  
 Now she's fully recovered.  
 Now she works as a teacher.

Suppose that all three statements are true. Does it mean that what is stated by those sentences must be *simultaneous with* each other? Well, before answering the question, please ask yourself first, whether it even makes any sense to say:

"\*Now it's 10 o'clock sharp, *at the same time* she's fully recovered",  
 or  
 "\*Now she's fully recovered, *at the same time* she works as a teacher",  
 or  
 "\*Now she works as a teacher, *at the same time* it's 10 o'clock sharp"?

Certainly not. To put it figuratively, each of those that may count as the content of "now" has a "time scale" (a "logical clock") in itself, in light of which, only, can we meaningfully determine what kinds of things it *can be simultaneous with*. Here what is to be determined, is the possibility of simultaneity in the *logical* sense, which precedes the *physical* determination of simultaneity, e.g., by using an atomic clock or whatever.<sup>4</sup>

**Audience:** You mentioned that processes perdure whereas states endure, but I was wondering whether this is the most basic way we talk about endurance. Because fundamentally we use them to talk about entities, whether they perdure or endure. And so we can say that a such and such entity have a state at T, or it is undergoing the process, which endures T. So in this way, the processes and states are only derivative. While on the other hand, fundamentally, we are actually caring about the presence of entities. So how would you apply this kind of distinction to now?

**Chang Liu:** Thank you so much for giving me the opportunity to explain in more detail my thought on the issue of *perdurance* and *endurance*. Yes, as we know, this pair of terms were initially introduced to deal with the so-called "temporal parts of entities". Putting aside the debates between perdurantists and endurantist, I think that at least one thing is clear at least in the first place: There is an essential difference between what an *object* (e.g. a basketball court) is and what a *process* (e.g. a basketball game) is. The latter is to be divided into *temporal parts*. E.g. a basketball game has its first half and second half. The former might be divided into *spatial parts* (though not just any kinds of them). E.g. a basketball court has its front court and back court. *Not the other way around*. A basketball game is a process of happening, or an event in the broad sense, though not an object. A basketball court, on the contrary, is an object, an entity, though not a process, an event. There is no analogy between them in any significant sense. A person's growing old, as a *process*, does have its *temporal parts*, though the person as such does not. All of us are, admittedly, *in* an aging process, what surely does not mean that we *are* an aging process. As far as I can see, it is just a logical mistake to talk about "temporal parts" of an object (such as a basketball court), instead of temporal parts a process (such as a basketball game). Accordingly, "perdurance" is an appropriate term for the description of a process rather than an entity.

So far so good. The difficulty lies elsewhere. If being asked, whether the person we are now be the same person as we were when we were, say, 5 years old, I guess we would probably answer, in one sense, with a big yes (which would delight the endurantists), while in another sense, with a big no (which seems to be a cheerful news for the perdurantists). There is no simple answer here. In other words, although it makes no sense to speak of "perdurance" of a person, an entity, it is not

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<sup>4</sup> I myself did not see this point clearly, until I reconsidered Sebastian Sunday's criticism to my talk, for which I am deeply grateful.



true either that we could always meaningfully talk about “endurance” of an entity in any given cases.

The answer, which is more likely to be true, is rather: *An object endures, so long as the state it is in endures*. E.g., it is much safer to say that I am the same one that I was (“I am still me”) in the respect, and to the extent, that I still have the same name or the same characters, or that my feelings for you haven’t changed, or that I’ve regained my lost glory, etc.. – In a word, so long as the *state* (in a surely very broad sense, which is defined by Zeno Vendler in his “Verbs and Times”) that I am in stays the same, it is right to say that I am still the same me, and, accordingly, that I endure.

That is why I deliberately revised the “original” use of the terms “perdurance” and “endurance” in my talk. That is, instead of talking about perdurance or endurance of an entity, I’d rather like to speak of *perdurance of a process* and *endurance of a state*. And I believe it is a better – more accurate and more correct – way to apply those terms.

**Audience:** Thanks, Professor Liu, this is a wonderful talk. My question is just: is it possible that maybe “now” in metaphysics, we reserve that term now, strictly refers to temporal slice? For example, for B-theories, or A-theories, maybe Four-dimensionalism, Point-Block view, or Moving-Spotlight-View, we use “now” to refer to a temporal slice, which is an important concept for those positions in metaphysics. But in our common language, we use “now” more vaguely. For example, maybe in our common language, we use “now” to refer maybe to a temporal interval, or maybe a temporal point, as you argued in your presentation. My point is that, for example, new B-theories, they usually trace now, past, and the future as indexicals, such as you, I, and we, which really depend on the context to determine the reference. So I think in metaphysics, everyone will agree that, in daily language, “now” could refer to different, well, temporal intervals, even instantaneous time points. It’s just because “now” is an indexical, just like I, you, and we, so it depends on context. If that’s possible, then that might imply that your presentation is just a confusion between metaphysics and the linguistic analysis. Because, and I think it has nothing to do with metaphysics.

**Chang Liu:** Thanks for your question. You’re right: There *is* considerable disagreement between mainstream theories and my thought over a variety of issues in metaphysics of time. In any case, the traditional debates between A-Theories and B-Theories are not my primary concern here. And I think we both know that I definitely can’t agree with some of your comments, e.g., that the distinction between “now” as a time point and “now” a time period merely consists in our “vague” use of common language, and that my presentation is just “a confusion between metaphysics and the linguistic analysis”. In my response to the “**All-Too-Vague**” rebuttal and “**All-Too-Romantic**” rebuttal, I’ve specifically explained my reasons for rejecting such misunderstandings, which I am not to repeat here.

I can’t see why the indexical strategy can circumvent the doubts I’ve raised. Perhaps an analogy could hopefully make clear where the difference lies. Suppose that a person can perfectly understand the use of the word “you” as an indexical, but fails to grasp that “you” can be used to refer to either a *singular* person or *plural* persons. Such a kind of misconception has more in common with the target I am here aiming at. In other words, my concern is not about *which* (time point) is now, but about *what* is now, in the first place. E.g.: Is “now” to be correctly characterized as a time point or a temporal slice? In what sense, yes, and in what sense, no?

The further question is, whether such a misconception, which was initially exposed in the misuse of the words (such as “you” or “now”), really “*has nothing to do with*” the metaphysics (regarding to the questions like “what you are” or “what is now”). I’d rather doubt it. To say the least, I can’t see why someone could possibly have an impeccable *metaphysical* notion of time on the one hand, and, on the other hand, constantly uses the *words* like “now”, “when”, “at the same time”, etc. in

the totally wrong way. *If* the metaphysics of *X* had nothing to do with the correct use of the related words, how *can* you possibly know that you do have your metaphysical knowledge of *X*? How can you be certain that's not an illusion? Or, like people say, "God only knows"?

Allow me to quote an example from J. L. Austin. He asks: What are we doing when we define an elephant? Is it a definition of the *word*, or is it a definition of the *animal*? The answer is: Both. There is no significant difference to be discovered here. It's the same the other way around: The misconceptions of the animal elephant inevitably manifest themselves in the misuse of the word "elephant".

A very general remark on metaphysics. I don't know, in metaphysics what a sound argument *must* be like, but I think, we all know what it *can't* be. For one, we can't *pretend God*. That is, we can't fool ourselves into believing we're capable of seeing things *through God's eye*. We are human beings. If we deserve a thing called metaphysics (not theology), it must be something that we human can reasonably understand without the dubious assumption of "God's eye". Second, we can't *pretend physicians* either. The reason is simple: If you love physics so much, why not just go straight to do physics, instead of pretending to do metaphysics?

**Audience:** Thank you for a really interesting talk, Professor Liu Chang. Since my major is philosophy of time, and I'm not into physics, I really enjoyed your talk. I'll kind of throw out a question, although I have some comments, Firstly, I think, regarding the debate between A theorist and new B theorist, which you mentioned, in ancient days, A theorist and B theorist discussed whether the tense expressions can be translated into tenseless expressions. Whether the word "now" can be translated to dates. And also, new B theorist is a bit different. They tried to translate the tense sentences in terms of truth conditions, not the expressions. That's the difference between the strategy, old B theorist and new B theorist strategy. And the point of the debate between new B theorist and A theorist is that, whether the tense expression can be translated into... whether the meaning of "now", these indexed expressions can be translated without mentioning indexical expressions, such as "now", or "I", or "here", these indexical expression is not relevant to the description of reality. I think that's a lesson which the philosophy of time learned from the debate between A theory and new B theory. So while they disagree whether the sentence, which includes "now", or "here", or "I", in indexical expression, can be translated without mentioning to indexical expression, I think almost everyone in the philosophy of time now agree that whether these indexical expression can be translated without mentioning the indexical expression is not relevant to metaphysics. Because every philosopher of time accepts that indexical expressions have a special role. As you said, indexical expressions have some untranslatable meanings. For example, "the meeting starts from now" is completely different from "the meeting starts from seven o'clock", because it doesn't include the information that it is now seven o'clock. That's the point. But this doesn't matter to metaphysics. This is some lesson from the debate between A theory and new B theory.

**Chang Liu:** Thanks a lot for your comment. Some of the points I've clarified in answering the previous question. Although I take "nowness" as the subject of my talk, that in no way means that I would assume A-theory is true. Frankly speaking, neither A-theory nor B-theory is my cup of tea. Both of them envisage time simply in the "process" model and, accordingly, "now" in the "time point" model. Neither can I agree with.

In your comment you gave us an excellent example, so we can start with that.

The meeting starts at seven.

The meeting starts now.

Let us say that now, as a matter of fact, is seven o'clock sharp, then both of the statements are true. Let us further assume that ten minutes goes by, and it is ten after seven *now*. Accordingly, what we *now* should say is:

The meeting started at seven.

The meeting started ten minutes ago.

As far as I get it, it seems to be the main idea of the indexical strategy. A statement with the former form is always meant to be true, no matter what time it is *now*. Now *can* be seven o'clock, and *can* be ten after seven as well. There's no big deal here.

So, consider the following case:

The meeting starts now. (Instant)

She is driving home now. (Process)

[Indexical Strategy] The meeting starts, when she is driving home.

So far so good. But how about another example:

The meeting starts now. (Instant)

She is a truck driver now. (State)

[Indexical Strategy] The meeting starts, when she is a truck driver. (?)

Don't you feel some weirdness seeming to start here? Isn't it tempting to ask: *What time* are you talking about when you talk about "now"? Why it is a sensible paraphrase in the former case ("The meeting starts, when she is driving home"), while not in the latter case ("The meeting starts, when she is a truck driver")? Please don't be so hasty to take it for granted that "now" can be nothing but a time point and all we need is to pick out the right one that this particular "now" refers to. For that is exactly what we're here arguing about.

**Audience:** So about the third premise, which you argue against, what time is now is determined by the passage of time itself, right? This is the third premise which you argue against in this presentation. So I think this is a very metaphysical question because it involves the passage of time, temporal passage, right? This premise assumes A theory. It assumes that temporal passage is real. Then, usually when a metaphysician discusses whether temporal passage is real or not, whether time passes or not, usually they give us some metaphysical, logical argument or argument from physics. So argument from logical paradox is Macintyre's paradox, or the rate of passage argument. Roughly speaking, temporal passage involves logical contradiction. And therefore, there can't be temporal passage. And the second one is the argument from our best scientific physics. Spacial relativity theory doesn't put any special present in the theory. And therefore, we should put it special present. And temporal passage requires special present. Therefore, we shouldn't believe in temporal passage. My question is that neither argument appears in your presentation in this talk. I'm wondering how you argue against this premise in this presentation. What is the argument against this third premise.

**Chang Liu:** I agree with you on this point: "Temporal passage" is a paradoxical notion, at least a very misleading one - but for a rather different reason. Admittedly, it's a *metaphorical* notion. So, for me a reasonable question is: In what sense, and to what extent, is such a metaphor to be taken seriously? The word "passage" has its secondary meaning here. In its primary meaning, a *thing* (in a very broad sense, of course) that *exists in time* (e.g., a car, a person, an event, a day, etc.) can be said to pass, or pass by, or pass away, etc. But, *time itself is not a thing; nor does time exist in time*. In that view, the question "Does time *really* flow?" doesn't seem to be a quite sensible one in the first place. At least, it is highly misleading.

Time is not any sort of entities that can literally "pass", "flow" or "go by". Of course, that is by no means to say the notion of time is meaningless or plays no role in understanding of the reality. Rather, it is a *purely formal* one. Or better yet, we use a wide variety of temporal concepts to understand *how* a thing exist, i.e., in what kinds of ways it can be or cannot be, can change or can remain the same, can survive or cease to exist, etc. So, to me, the only sensible way to investigate "*being of time*" is to investigate "*beings-in-time*" first. Call it "**Materialization Principle**".

Let's go into some details about it.

(1) The past is earlier than the present, and the present is earlier than the future.

(2) The things of the past are earlier than the things of the present, and the things of the present are earlier than the things of the future.

We can "materialize" the former style of statement into the latter. In the same way, we can "materialize" (3) into (4):

(3) Time is passing.

(4) What is in the future is becoming what is now, and what is now is becoming what is in the past.

Whether (3) is true depends on whether (4) is true. So, in order to fully materialize this question, we need to further ask: What kind of things are we talking about, when we talk about "the things of the present" ("what is now"), "the things of the past" ("what is in the past"), etc.? And the critical point is: There is no simple answer here. There are *kinds* of things which are capable of being "what is now": an event, a process, a state, and so on. E.g.: Now she is a truck driver.

She's a truck driver now. No doubt, it's a correct example of *what* can possibly be now; though I doubt, whether such a kind of example was really kept in their mind when the philosophers took all "the things of the present" to be one single type of beings, namely, an *instantaneous event* that *happens* right now. Her being a truck driver, however, is more of an occupational *status* she *is in* than an instantaneous event happening to her. One manifest difference, among others, lies here: As the clock goes from one second to the next second, "what is now" in this case, i.e., that she *is* a truck driver *now*, *does not* become the past accordingly in any significant sense. Not at all. Literally no one could possibly *be* a truck driver just for one second. The rotation of the watch hands is one thing, her being a truck driver is another. The former is a physical process, which consists of a continuous change in the positions of the watch hands. If you say that at this moment you see the watch hands being in *such* positions now, that is the "specious" present that many philosophers love to talk about. While the latter is neither a physical process nor a temporal slice, a "specious present", cut from a physical process. As I specifically clarified in the response to the "**All-Too-Fast**" rebuttal, there are considerable *logical distinctions* between the different cases of "what is now". So, the question is: If in some sense we can meaningfully say that "time is passing" in the "watch-hands" case, does it make any sense to talk about that in the "truck-driver" case? Or, would it be more appropriate to say: What is now is still what is now, it doesn't become the past? So, accordingly: Time is *not* passing in any relevant sense?

Please note, I'm not here with B-theorist. Or A-theorist. Again, neither A-theory nor B-theory is my preference. What I'm willing to emphasize is this: *Only by way of "what is now (or what is in the past, or in the future)" can we sensibly grasp what is "now" (or "the past", or "the future")*, which is the basis on which we can begin to talk about the so-called "temporal passage" meaningfully. And the closer we examine "what is now", the clearer it becomes to us that the "nowness" has more than just one face. Again, please don't say that *we all know* the present, "strictly speaking", is momentary, and the other conceptions of the present are merely "experiential" and "specious". For, *how do you know that* in the first place? To me, that is not so much a shared knowledge as an unexamined prejudice, which probably stems from a curious confusion between physics and metaphysics.

**Audience:** I have a related question about this last slide. It seems to me to be something I cannot agree. I mean, if you talk about the difference between the common sense usage of "now" and that in contemporary philosophy, we have a fundamental meaning about now, just as the theory you are arguing against. What is the essence of the significant point is another question. When we say "now", it has a very clear and exact meaning or usage. But for the other thing you are trying to argue, the

macroscopic dimension, we can say it's not the original meaning of "now". And also, if we interpret the world situation today, the full meaning is not something we talk about now. Might other dimensions you mentioned be like a metaphoric meaning on the original meaning? If this strategy is workable, maybe finally there is not so much division between your view and the view you are arguing against.

**Chang Liu:** Thanks for your remark! I agree with you on several points. For one, it is also my opinion that the word "now" has "a very clear and exact meaning" in our natural usage of language. Although I do differ with many philosophers on many issues in metaphysics of time, I don't think the divergence can simply be explained by the "ambiguity" or "equivocality" of the words. "Now" is not an equivocal word, at least not in any relevant sense that concerns us here. Rather, it is the *things* of the present ("what is now" in a very broad sense) that differ with each other in considerable ways. An ongoing process, an instantaneous event, or a maintaining state all can be said to be "matters of the present". And they do have one thing in common: All of them can be viewed as a *time unit* differing from the past and the future, which has some single and unitary temporal features in their respective aspects. In this light, they all can be reasonably understood as "what is now" in a non-trivial sense. On the other hand, when it comes to the question like "Does the present have duration?" "Does it have temporal parts?" "Is the content of the present an event or something happening?" etc., then in different cases the answer must be given in correspondingly different ways. That's why I am opposed to any oversimplified answers to the question what is "now". It is exactly on this point where my disagreement with the dominant theories lies.

I also agree with you that in expressions like "the world situation *today*", or "home healthcare *now*", what is in question is a sort of "nowness" in a rather metaphoric or extended sense. But I don't think such an understanding of nowness can be overgeneralized. In any case, when we say "It is raining *now*" or "She is a professor *now*", the word "now" are definitely *not* used in such a metaphoric or extended sense. Of course, I can well imagine that to some theorists, wherever a given concept is understood in a sense that he's not willing to accept, that concept *must* have been used in some non-strict sense. By this logic, then, the present as a time period, or as a state, could be nothing but some kind of "specious" present. But such an "invincible logic" is precisely what we need re-examine in the first place.

**Audience:** Just a quick question. Is it possible that if you like to find a unit of time — maybe there's no such thing as a unit of time — in metaphysics of time we usually make use of spatial dimension to temporal dimension. In space, for example, I can divide this space arbitrarily. I can say this is my personal space. But there's no principle way to judge which division of space is the objective order, the right one. That's why in metaphysics of time, we should allow time to be divided arbitrarily to allow scientists or physicists to develop their own theory of physics for space. So there's no such thing as an objective unit of time.

**Chang Liu:** Right, I would agree that in the field of *physics*, division of a unit of time, or of space, is arbitrary in principle. But I can't say it is so in any given cases. *Unless*, we already uncritically equate physics with metaphysics, and physical sense with *the* real sense. In other words, unless we already embrace physicalist reductionism. But to be frank, I'm not so enthusiastic about that. As a matter of fact, once we break free from such a line of thinking, we can see appropriate examples are everywhere. There *are* objective reasons why we divide such and such as a unit of time, e.g., a competition, a round, a move, in chess. Of course, such divisions may be not so sharp by the standards of accuracy in physical science, but that does not mean they are not sharp enough by their own standards. Neither does the lack of sharpness mean the lack of objectivity.