

00:17.44

That science will have a number of surprising, shocking revolutions. That we will see that our place here in the world is very different from what we thought it was, and the world is very different from what we thought it was. And I think in the process, we will probably be become closer and closer to be able to have a real grown-up dialogue - when science grows up - with other ways of knowing, including contemplative traditions. Thank you.

\*\*\*APPLAUSE\*\*\*

**PAUL GAILEY**

00:18.27

Bob, would you like to respond?

**BOB THURMAN**

00:18.29

I have a couple of responses to the responses. Little bit. Not too much. You guys were really nice. But there's a couple of things. One thing a little bit mischievous, which is that one of your points, Teed, was that so-called first person

science would only deal with the subjective and could never- therefore, could never be science. Sort of.

00:19.00

But perhaps you haven't noticed in reading Buddhist texts, which I can't blame you, that a natural byproduct of meditation at a certain point what are called the five abhinyas (ph), or sometimes the six abhinyas (ph), which is a kind also super-knowing or different, you know, like unusual or extraordinary type of knowing,-

00:19.25

-include the knowledge of others' minds. Include a number of things, but particularly knowledge of others' minds. Now, that may be incredible to us, contrary to our conventional ideas, but in a way, otherwise how does one, you know, assess how throughout the thousands of years of the Buddhist tradition teachers have assessed their students' states of achievement, you know, in meditation.

00:19.56

It isn't only by their fruits you shall know them. There is that, of course, their behavior, but also there is the idea that when you achieve a certain kind of clarity and focus, you can then know the minds of others. It'll naturally come.

00:20.09

In fact, it's even taught in Buddhism that in many Buddhist texts - Abhidharma and stuff - that you should avoid that knowledge before you attain a deeper knowledge about the nature of suffering and of release from suffering because it will become a distraction, you know. Now, we know that mammals can empathize with their infants to a very- biologically, just naturally where they more or less know the inner state of the infant in regards to essential things, like hunger and so forth.

00:20.35

And lovers, we hear in poetry that lovers and maybe we've had a momentary experience ourselves of empathy. And so why would it, in principle, not be possible that you could train an observer

through contemplative training to have a different perception.

00:20.53

And this relates again to being more imaginative about the future of science. I think in the line of what you were saying. I mean, a scientist today is- or anyone who comes to this school, it's sort of assumed they come in with an IQ. They have a SAT score then they pump in a bunch of information, they learn some axioms, formulas, they read this and that book and they become capable of gabbing about deconstruction or about reconstruction or whatever.

00:21.19

And then they're supposed to be very highly educated, write some papers. But their basic cognitive structure has not changed. They're still whatever they came in with. They kind of grow up, they get beaten up a little bit, but they're the same. And we don't have any way of training or addressing directly their cognitive state.

00:21.37

We don't train them in yoga, we don't train them in meditation, we don't train them to develop stability of mind. We assume that someone who's learning French or Sanskrit is going to develop concentration to memorize many grammatical paradigms. Professor Tubb would take (unintell) if they did not know bhavaami, bhavasi, bhavati, et cetera. Lots of paradigms.

00:21.56

So, they go through different things, but still- and so in that maybe develop more concentration, but there's no direct change of mind as instructed. Ok. But why wouldn't that be possible in the future? Like you have to train someone to use a microscope, or a telescope, or interpret data from a computer readout of an electron accelerator or whatever. That all takes a lot of training.

00:22.18

Then mathematics is an elaborate- algebra, you know. This kind of thing. Tremendous amount of

training. Why shouldn't there be- I think what Alan and others are talking about in first person science is not just sitting and listening to people babble about what they had for breakfast or how it feels in their stomach. It's developing more highly trained people who can understand their own mental states and who even conceivably could understand the mental states of others, which could be collectively judged.

00:22.45

Not just by the implanting of external machines, but by developing higher degrees of empathy and insight. So that's one point. That's one point. Just to think more broadly about what science could be in regard to how to verify things in another way. Second point you made which also was very good - I'm glad you brought up - is the idea of science as an artifact.

00:23.06

A community, sort of the Kuhnian thing, you know. Community of agreement, different layers of convention, historical in a context and so on.

And, of course, Buddhism tends to be thought of as, you know, a couple of yogis and a few lamas and a rinpoche or two wandering to the West, you know, and like setting up a little meditation center or something and whatever happened in Asia, we don't know.

00:23.27

But actually, thousands of years, big universities, tens of thousands, hundreds of thousands of students, faculties, literatures, self-exploding hypotheses, such as Professor Tubb introduced us to, and all evaluating of different people and all sorts of things. So you have a growing community, which has left a huge literature. Enormous literature. Like ten or a hundred libraries of Alexandria.

00:23.53

So again, first person science means maybe taking into account that whole literature. In the case of people always say this thing about how Wundt or whatever is name was, you know, disgraced introspectionism, something before Freud. But

that's just one German guy, like he's probably cold in Leipzig with no central heating and whatever. People have bad digestion. He ate too much zarkzama (ph), whatever.

00:24.16

The point is there's thousands of years of reports of subjective states in institutions, in communities of convention and why shouldn't that be something given parity and intellectual respect and parity and studied in a similar way. So, therefore, we have also- So we have the meeting- My point in saying that Buddhism is as much a science - or more a science even, than religion - and therefore should interact with Western science the same way it interacts with Western religion in interreligious dialogue - there should be interscientific dialogue.

00:24.48

Rather than that the Buddhists are just new subjects for our Western scientific measurements and so forth. That's just my point. So that the Dalai Lama, for example, his interest and

fascination in science is not just his personal idiosyncrasy. It's actually a natural thing about the encounter of the civilizations, you could say.

**TEED ROCKWELL**

00:25.06 Can I respond to you?

**BOB THURMAN**

00:25.08 Oh yeah. Well, I had one more point, but-

**TEED ROCKWELL**

00:25.11 Ok. I'll take the whole thing.

**BOB THURMAN**

00:25.12 Well, no, the other one is not for you. So you respond to those two things, sure.

**TEED ROCKWELL**

00:25.17 Yeah, I only wrote this over a two week period, so I'm not real attached to being, you know, any of the points in this. But the- I mean, one of

the points I was trying to make that the kind of reports you're talking - the texts - should be considered one of these cases where Buddhism has similarities to science.

00:25.34

That this idea that we can create something called a first person science, particularly as Chalmers has defined it, is forlorn. And so I was thinking, yes, we do need to rely on the texts. Now, this other idea of yours about, you know, we could conceivably develop some sort of perception of other people's states. If you look at the, you know, the traditional Western idea of how we become aware of other people's states it, you know, was mostly articulated by Hume.

00:26.01

Where, you know, I've got this sort of sensation and then there's this vibra- you know, or a feeling and then, you know, I vibrate in a certain way and you vibrate another way and so, you know, I've got a feeling in my head and it travels across the room, makes a copy in your

head. You know, I don't feel very happy with that description of what's going on.

00:26.18

And I, you know, feel very strongly that the idea that, you know, knowledge consists of, you know, and our perception consists of making a copy of the outside world in our head is seriously mistaken. And I think, you know, given that there are causal connections between my feelings and your feelings, I don't think there's any reason to assume that we're having two different feelings.

00:26.40

I think that if you say if they're hooked up that way, I'm very sympathetic to the idea that we're just- It's not that I'm having a copy of your feeling. You and I are having the same feeling. And I have no problem with that idea at all, but I would guess that an awful lot of other people probably would.

**BOB THURMAN**

00:26.54

Oh, of course they would. Yeah. But the main thing is that people who live in their discursive mind and inner monologue, verbalizing all the time and feel that's it, resist being trained. And I know myself, resist the training of like learning how to deal with their own inner voices in a different way. Which is what meditation does and systematic contemplative training therefore, is something that I think the future will hold for a lot of those people. Without a doubt.

**TEED ROCKWELL**

00:27.21

Oh yeah. And for developing any kind of knowing how skills. I mean, particularly when you were talking about, you know, being able to develop mathematical skills - I think there's far too little of that in pedagogy. We just say oh, certain people have math ability, others don't, you know. And, you know, and some of the knowledge of something like the Buddhist introspective techniques would, I think, increase

our abilities to teach people to know how to learn science.

00:27.43

And that that's something I think we could learn from contemplative traditions.

**BOB THURMAN**

00:27.46

Ok good. Then the third thing I just wanted to say about Gary's thing about memorizing aphorisms in the Buddhist educational tradition. The universities of India and Tibet, at least that I know about particularly, a little bit less in East Asia, perhaps. But in those traditions, the memorizing of texts is, of course, really critical.

00:28.06

So in my thing about encouraging Chris to defy authority, I wasn't saying that there isn't a lot of aphorisms and things that are learned. But, because that's that paradoxical point. You know, Georges, perhaps, you know, experience or what they translate as perception - pratyaksa, what is

called pratyaksa - in epistemology even the sort of the most seemingly high tech element of Buddhist thought, the logic epistemology thing - the direct experience, which is unarticulable verbally, is the more real one.

00:28.38

And it is cognition, you know. It is not non-cognition because it's indeterminate - for the Buddhists. The Naiy\_yika, that's their complaint about it. Is that if you can't articulate it, then you don't have it. Do you know what I mean? But from the Buddhist point of view, direct experience is the one that's in contact with actual reality, so you're being more real and more efficient causally when you can't say what you're doing than when you later go and live in your interpretation and try to describe it.

00:29.05

And therefore, that means that in their logic and epistemology, there's an a priori disclaimer of the possibility of an absolute dogmatic description of any sort of logical operation. And

therefore, that doesn't shut down the philosophers in trying to describe these things, but that opens the door for infinite more and more sophisticated discussions of language and logic and this and that.

00:29.26

All knowing that the real thing is to get back to direct experience of reality and to try to disassociate the fact that most of us live in our heads and we can't distinguish between my concept paper, words on paper, et cetera and something amazing of looking at this, which is like- which only a poet would know. Holding this crazy thing.

00:29.46

Like, Tignat Han (ph), he would see here all the forests, you know, of North America and like, some sawmills and some trucks and some weirdo capitalists and-

**TEED ROCKWELL**

00:29.56

Infinity in a grain of sand, eternity in an hour.

**BOB THURMAN**

00:29.58                   Exactly, exactly. So, anyway, I just wanted to put that in that there is a lot of this thing, but then they all do tend to be self-transcending in the tradition, just as Gary said.

**TEED ROCKWELL**

00:30.09                   Well, one of the things I was gonna put in that I left out of this draft is that in many ways, I think you have to see the artifact of science as defined by the function it's supposed to perform. And I think that the function that the artifact is supposed to perform is to enable us to achieve a certain kind of wisdom.

00:30.26                   Now, do you have to make a difference between the artifact and, you know, the state of mind that the artifact is designed to create. That was really largely what I was trying to say.

**BOB THURMAN**

00:30.35                   And maybe the encounter, therefore, with the Buddhist scientific tradition and the Western one could help the Western one overcome a certain pre-imposed self-limitation that we can't know certain things and we only can just explore this thing or measure that thing.

**TEED ROCKWELL**

00:30.49                   That the artifact is all that there is.

**BOB THURMAN**

00:30.51                   That could be challenged. Yeah, exactly. That could be challenged. By the encounter.

**TEED ROCKWELL**

00:30.55                   Do you want to say something?

**PAUL GAILEY**

00:31.01                   We could take just a moment here if there are any of the other panelists from other panels here on the front row who would like to make a comment.

We could do that before we take some of the other questions. Got some row-front mikes.

**BOB THURMAN**

00:31.14 Take off your coat, Georges, and grab a mike.

**QUESTIONER**

00:31.23 This is a question to Piet, actually. I really like the idea of the three levels of discourse and the idea that at this third level one can really engage into a fruitful dialogue that you, you know, kind of envisioned. So I was wondering whether you could elaborate a bit more on what would it entail and how- to be more specific, how would it differ from the Husserlian method of simply bracketing off theories and just looking at the phenomenology? If you could elaborate a bit more.

00:32.00 Because, I mean, it's very appealing to me because one of the things that I'm personally concerned in this kind of interdisciplinary

dialogue is that given the fact that when it comes to discussions of reality, you know, unavoidably and implicitly most of us somehow assume the dominance of scientific language and scientific paradigm.

00:32.24

So, there is a danger that you know, that certain Buddhists insights and understanding and framework could be reduced into, you know, a kind of a scientific framework and scientific discourse. And I'm personally very, you know, wary of that kind of danger. So, this third level of discourse that you, you know, discussion that you envisioned seems to hold something quite interesting. So if you could elaborate a bit more.

**PIET HUT**

00:32.58

No, that's really a challenge, but I brought it on myself by starting to talk about it, so I'll try to follow up on the challenge. Let's see what I can say in just a few words. So, we can look at

the pillar as a solid object. We can look at it as consciousness, in the sense that the pillar is given in our experience and what we experience is, by definition, the experience of the pillar.

00:33.24

That's not so difficult and that is what Husserl tried to do, which is (unintell). And he pointed out that most of his students didn't get it and he told his students you have to do it for a few months and then something else will happen. But they all went out and wrote about it, in a more intellectual way, most of them.

00:33.43

But, you can really work with that for a few months and you really get the sense of the difference between the thing - seeing a pillar as solid and seeing a pillar as experience of consciousness. But, to see a pillar as presence, as being, to really focus on the presence of everything, it is something which artists have a much better way to talk about.

00:34.09

I mean, seeing the world in a grain of sand, for example. And all of us have experiences like that. And they come occasionally for often no particular reason. But the challenge is to recognize those experiences and to cultivate them. And as soon as they slip by and become memory, then once they are memories, then they are back in the normal stratum.

00:34.34

And the danger of art and poetry is also that they're being encapsulated. So art, poetry can be helpful, it can also be a hindrance by co-opting it. So, if I just- I mean, the really honest answer is, if I talk from my personal experience, I mean this is something I've been struggling with for a large section of my life.

00:34.59

And if you were to ask me three years ago, I would have tried to give you an eloquent answer because somehow three- there was a point in my life three years ago - until then I was firmly convinced that any knowledge I had, of any type -

scientific, everyday life, contemplative,  
whatever - that any knowledge I could simplify  
and give in a nutshell to anybody and then if you  
wanted to know more, I could say more.

00:35.28

If you'd never seen an airplane, you could say  
it's like a bird. Well, it doesn't flap and it's  
a little bit bigger and you can go on it, as an  
approximation. But you can always start with  
something simple. And I was sort of proud of  
that. I thought, oh, well, you know, why come  
other people don't that. That's strange, but  
somehow I don't seem to have any difficulty doing  
that.

00:35.50

But then three years ago, I realized to my great  
surprise that something went wrong in a  
completely unexpected way. It was not that I  
started to have experience which I could not  
explain. That part stayed the same. The  
surprising change was that I started to have  
really important insights for which the best

explanation sounded exactly the same as I would have said a number of years before when I didn't see it so clearly.

00:36.23

So, then I began to realize sort of like, physically on an embodied level, to my shock, that certainly I couldn't explain it because the explanation would be misunderstood. The simplest example I can think of and that is almost a caricature, but just to give a feeling, is that if somebody says, oh, it's nice weather today there is one meaning.

00:36.50

And then if that person has a terrible disease and almost dies and then sort of just makes it again and then says, oh, it's nice weather today. There's a completely different meaning for that person than first, but the words are exactly the same. So, in a way I have to say I cannot answer you. But in a way I can talk about the way I cannot answer and I can describe the way in which, collectively, we can try to add

experiments to theory and if this is going to really take off in the next ten, twenty, thirty, forty years - this dialogue between ways of knowing - there has to be an experiential part to that.

00:37.33

And theory just doesn't cut it.

**ROBERT VAN GULICK**

00:37.37

Can I say something just quick to respond to Piet? On this very point. I don't want to interrupt. Because the question came up of the relationship to Husserl and I think that's a very natural transition in the phenomenological tradition because if you think what happens next in Heidegger, coming out of German Romantic tradition, which I think connects maybe with your third mode of experience - present-ness - part of what Heidegger was saying was wrong was that he wanted to recapture a kind of primordial openness to being.

00:38.06

And, of course, Heidegger very much read Eastern texts. I mean, this was a part of his influence and so, I wonder whether or not you see any resonance between this third state that you're suggesting to us and that one which comes out of 19<sup>th</sup> century - whether it's the Sublime or the Transcendental or the Romantic - and then finds a manifestation in Heidegger's later phenomenology in rejecting the Husserlian approach and saying there needs to be this openness to being.

**PIET HUT**

00:38.34

Thank you. This started off as a very interesting no-self, or at least no-other experience, because we were all wondering who was talking because with this sound system it was not clear where it came from. But, yes, Heidegger and Husserl form a very, very interesting juxtaposition because their method of presentation is so different.

00:38.57

Husserl started off as a mathematician, actually as an astronomer first then became a

mathematician and then a philosopher. And Heidegger started off in a more theologic-like way. And they used that approach. Husserl only wanted to say what he could argue from basics. And Heidegger was happy to just jump in and give his deepest feeling about this crossed-out being, et cetera.

00:39.26

So, I do think that Heidegger had a real intuition of what I was trying to talk about. When I read it, it sort of like jumps out of the pages. That is clear. But it is like an island. It's like a little opening in the clouds - you don't know how he gets to it. He makes parallels with all kinds of previous tradition, but he doesn't tell you how he gets to it.

00:39.47

Husserl tells you a little bit more. And if you read Husserl's Briefwechsel, his letters, then he says a lot more. Then he tells his friends and his family and his students what he doesn't want to write in official literature. And he tells

them that there are all kinds of intuitions he has.

00:40.08

He cannot yet connect with his basic premises, but I'm convinced that from reading the letters that he had a similar sense as what Heidegger had. And I think that Heidegger got a lot from him, as well as from the Eastern sources. He was just much more of a public speaker and he was willing to just throw it out there.

00:40.32

But, science as opposed to art, science is a multi-generational enterprise. And each generation adds a little bit and it's very slow, but then it can be integrated and people can continue. In that sense, Husserl was a scientist and Heidegger definitely was not. And I think the Husserlian tradition in some way or other is just waiting to be taken up again and then slowly carried forward.

**PAUL GAILEY**

00:41.02 Alan?

**ALAN WALLACE**

00:41.04 Piet, as far as I know, I think you're the only physicist on the panels, so the iron is hot. Oh, you are of course Paul, but you haven't been speaking as a panelist. But either one of you, but since Piet - either one, actually.

00:41.16 We've heard this term, physical. Physical being used very nonchalantly, actually, all day. As if we actually know what it means. And my impression is that a lot of psychologists, perhaps and neuroscientists when they're reusing the term, they're using it exactly as if we're still living in 1879 when the scientific study of the mind ostensibly began.

00:41.37 That is the physical is constituted by particles and fields and their properties. But as you know, from 1887, the whole mechanical explanation of fields fell away. And then from the advent of

quantum mechanics, now we have things like probability waves, which may be collapsing. If they do collapse, there's no physical mechanism for the collapse of the probability wave from a purely informational state to an actual physical reality.

00:42.04

Since 1915, we have space-time actually influencing configurations of mass-energy. And then if we move ahead to M-theory, now we have what is 11 dimensions, most of which nobody ever perceives (unintell) as there's no empirical evidence whatsoever.

00:42.21

There may be one day, but we don't know. So in this whole bandwidth, it looks like we have kind of a physicalism of a gaps. You know, analogous to the god of the gaps. The theists - if you don't understand it, well, god did it. And it looks like we're in a similar situation now. If we don't know what mental states really are, well of course they must be physical.

00:42.38

We don't know which one. We haven't even identified the neural correlates of consciousness, but of course it must be physical. So, as a physicist - either one of you, maybe you can team up here - what do you mean by physical? What constitutes physical as opposed to non-physical?

**PIET HUT**

00:42.53

Well, I can give two completely different answers. And let me give the card-carrying physicist to answer first and then I'll hide my card. The card-carrying answer is yes, this is really fascinating and indeed, the fact that you can speak on the mike that happens through electromagnetic waves, the wireless transmission, and electromagnetic waves are waves which don't have a medium in which they are waving.

00:43.26

The ether is tossed out as an unnecessary assumption. We don't know what the wave- where

the waves occurring in, but they are occurring and we know the properties of the waves. So, all of physics has gone from ontology to epistemology, if you want.

00:43.31

Elementary particles are described by their properties and no physicist wonders about what they really are beyond their properties. It's all described in terms of what happens. In that sense, physics has become phenomenology, too. The notion of phenomenology is a very interesting one and it's changing in many ways.

00:44.00

So, already as a card-carrying physicist I would say, yes, you're absolutely right and Bob also started off with that. And everything is utterly dissolved. In quantum mechanics things in a sense, don't really exist until they are measured.

00:44.18

John Wheeler talked about the game of 20 Questions. It's by measuring something that

something comes out and there is not a unique answer before you see it. So, all of that is true. But let me become- let me give a second answer, which is much more radical. And the much more radical answer is, well, the previous story was a story within the first of the three stages.

00:44.43

The stage in which we look at nature, which is already remarkably dissolvable under quantum mechanics and everything. But, that means that we have already started and taken place, taken our stage on a particular stage, our place on a particular stage.

00:45.03

And if you watch a movie or if you, if you would be able to analyze something in a dream or whatever. But let's take a movie. If you watch a movie and if you want to talk about whether light comes from in the movie, then every light in the movie comes either from the sun or a lamp or whatever.

00:45.24

But, both the dark and the light places in the movie are really projected by the projector. So if we now talk about where the light comes from in a certain scene in the movie, it depends, I mean, what you mean. And the second answer would be to step out of the movie and to talk about the projector. And that is not something which is normally done in physics of today.

00:45.47

I think it will be done in physics a few hundred years from now, but because it has to be continuous and multi-generational, I think this will be at least a few hundred years, if not quite a bit later.

**PAUL GAILEY**

00:46.00

Add just a little comment and just turn around from Piet's very nice description on the three levels and the third level in which we're merely in a state of being and not projecting onto that some concept. If we start from that position,

that's a very honest position, which is I think is particularly nice about it.

00:46.25

Because these are the things we can certainly say is what our perception is. Beyond that, we move into other systems of thought that we draw from in making our statements. But if we start with Piet's third position then we can come backwards at the problem of physics. And ask what it is particular from that state, if we assume that that's our starting point, how we come back from that to something like physics.

00:46.54

And one of the qualities, I think, that you would say is that we have a certain ease of agreement. So there's a relative ease with which we can repeat experiments and so forth and so we have a certain easiness of getting to agreement.

00:47.12

Now, we could argue that that agreement is merely an illusionary agreement. That it's merely a decision. But then we also have to add the fact,

as Piet said, that over periods of time we can carry forth certain knowledge that has a certain repeatability.

00:47.32

So, I think there is a path towards understanding what physical means. I don't know that I have the answer to it, but I think we could with some of what Piet said tonight, like help in that direction.

**PIET HUT**

00:47.47

Can I add one more short thing and then I'll give it up to the rest? I think one of the fundamental problems is that if you start consciously or unconsciously with the normal way the world is given, then what does it mean to be, to get wisdom, to be enlightened, to see through, to get more understanding?

00:48.10

Take this example of a movie. If you look at the movie, the movie is a two-dimensional play of light from the projector with a certain meaning,

a certain story and if you watch the movie, you fall into the movie and it becomes three dimensional and real.

00:48.25

And that is how we enjoy the movie. And if somebody would be watching and would for some reason not know it would be a movie and if you then have to point out that it is a movie, then they will ask you well, what does it mean that everything is light? They have these three dimensional buildings and all these solid things and you say it is all light.

00:48.48

So, they would think that the three dimensional objects they think they see on the screen can be dissolved in light. But actually, it is the two dimensional patterns which are given by light, which are interpreted as three dimensional things and which are then mistaken. So if somebody tells you, you have to see through it. Don't start with the world as it is given and try to sort of dissolve everything in light.

00:49.15

And the pillar becomes light and everything. That is the wrong attitude since you have already jumped too far. You have to go back to a more, earlier rudimentary way before you can talk about how you can have a different types of insight. Well, this requires much more than a few minutes, but maybe in a future meeting.

**PAUL GALEY**

00:49.36

We have another comment.

**QUESTIONER**

00:49.38

Yes, I normally speak from the standpoint of the three H's - Husserl, Heidegger and Hegel, but I'd like to play the devil's advocate for a moment. I have not heard anything about the status of mathematical entities. We've talked a great deal about the experiential component and various phenomenological matters, but after all, the West began with Pythagoras's claim that the world is made of number.

00:50.12

And I should like to know how that- something about the ontological status of number. I don't think we want to think of it as etiolated matter, subtle matter. I wonder if anyone would care to comment on the status of mathematical entities, particularly since artificial life theorists are making so much of it.

**BOB THURMAN**

00:50.44

Well, from the Buddhist perspective, a mathematical language is another conventional language system. And it's actually considered part of the outer sciences in India. You know, there are the inner sciences and the outer sciences. And therefore, mathematics is useful for engineering, construction, astronomy and this sort of thing. And therefore it's considered a very necessary language, also conventional, for the outer sciences, I think we would say, in India.

00:51.11 Right? Jodishi (ph) - it connects very much with astronomy, I think, in India, right?

**GARY TUBB**

00:51.16 It connects in a practical way with it - astronomy and architecture and things like that. But much of the intellectual place that numbers have in the West is taken up by grammar in India and things that we would think of expressing in mathematical ways, they express through complicated grammatical technicalities. So, it's a different system.

**BOB THURMAN**

00:51.41 But a higher order conventionalism would be the- both I think Buddhist and Hindu way of thinking. Well, Hindus might say that language was not conventional because it's the body of Brahma, something. Some of them. Right? The grammar, the alphabet is Devanagari, but the- but mathematics is a higher order conventionalism, I think.

00:52.02

Therefore, the mysticism of mathematics that somehow is 11 dimensions are gonna be discovered 50 years from now and then, the boys will have control of the universe to understanding the 11 dimensions would be considered delusional from the Buddhist point of view.

**GARY TUBB**

00:52.17

And from the Naiy\_yika point of view - although Steve or Georges could talk about this better - numbers are somewhat of an embarrassment as properties because the role of individual psychology in the production of numbers has to be recognized, but it's inconvenient. Isn't it?

**PIET HUT**

00:52.39

Well, I can't resist because my name starts with an H, too. Like Husserl, Hegel and Heidegger. I'm not a German philosopher - I'm neither German nor philosopher. But I'm Dutch and I do read German. And I like all three of them, to read them. But my answer would be that I think numbers appeal so

much because extracting numbers from experience is a way to get an invariant which seems to have a reality in itself, independently of the substrate where you take it from.

00:53.11

Just like phenomenology can extract phenomena independently whether she thinks as material objects or as experience or as just awareness. So I think mathematics, in a sense, it's not surprising that it was in a number of cultures part of a contemplative tradition.

**BOB THURMAN**

00:53.34

One other thing that just, in the gap here unless someone else is speaking - Susan Carey earlier brought up the idea of what she called the core knowledge that is discovered in infants by empirical experimentation as questioning the experiential, conceptual or the linguistic, non-linguistic, conceptual/perceptual dichotomy in Georges's language. Using perception for experience or (unintell).

00:54.00

And I just thought it would be amusing and intriguing maybe to the more- to you scientific and Western philosophy types that Dharmakirti himself uses the pre-linguistic knowledge of infants as a proof of the previous lives. As an evidence for previous lives and particularly, he chooses the infants going for the breast, you know.

00:54.24

That an infant knows how to do that and so these things which would be considered genetic - imprinting without language - they would have been language knowledge in previous lives. And that would go for apes and everything, since apes have been- apes were tenured professors once, in a previous life. All apes and all animals in that view.

00:54.42

So it's presented as that core knowledge thing. They get out of being- of having their thing questioned of that dichotomy by saying there was

language knowledge in previous lives. But language was misused in those lives and therefore, now they're like being experimented upon by scientists in Columbia. The poor apes at this moment. I thought that was fun. That's all. I'm sorry.

**PAUL GAILEY**

00:55.04

Any other comments? We have some wonderful questions here but I'm- my sense is that wisdom dictates we begin to end today's session. First of all, I'd like to thank everyone again. It was a long day and people showed enormous stamina today and I hope you all enjoyed it as much as I know I did.

00:55.33

I'd like to invite you back tomorrow morning. The panels will start promptly at 8:30, so if you can get here a little bit before that - 8 or 8:15 - that would be great. And so, we'll look forward to seeing you tomorrow. And one last comment - if the panelists would come up to the stage for a

brief meeting, just for a couple moments. Thanks  
very much.

\*\*\*APPLAUSE\*\*\*

\*\*\*SESSION END\*\*\*