Now I start the fourth part. This is the last part.

In this fourth part, I explain that the idea of the new grammar for the quantum mechanics shown in the second part is not restricted to the quantum mechanics but applicable to general quantum theories.

For that purpose, I explain how the new grammar to be replaced with the existing grammar of the quantum field theory for a real scalar field is when we apply the idea of the new grammar shown in the second part.

The trial production of the new grammar and the new equation for a real scalar field can be accomplished in quite the same way as one for the system with one degree of freedom described before.

In this case, especially, it is the plausibility of the new grammar that the domain of definition of a coordinate of a history is \( \{ \phi : \mathbb{R}^4 \rightarrow \mathbb{R} \} \) from the relativistic standpoint.

It is also plausible that \( \int \delta \phi (x) \) in the equation are four-dimensions-like.

In contrast with this, the Hamiltonian is represented using \( \int 3x \).

\( \phi (\Box, \Box, \Box, \Box - \epsilon) \) is a mapping from \( \mathbb{R}^4 \) to \( \mathbb{R} \) and is defined by \( \phi (\Box, \Box, \Box, \Box - \epsilon) (x,y,z,t) = \phi (x,y,z,t - \epsilon) \).

By expanding \( \Phi \) into a power series, it follows that a coordinate \( \Phi \) of a history by the new grammar is equivalent to a mapping from \( \{0\} \cup \mathbb{R}^4 \cup \mathbb{R}^4 \times \mathbb{R}^4 \cup \mathbb{R}^4 \times \mathbb{R}^4 \times \mathbb{R}^4 \cup \cdots \) to \( \mathbb{C} \).

Therefore we can think that a quantum history in terms of the new grammar is a classical field on the spacetime the set of whose coordinates is \( \{0\} \cup \mathbb{R}^4 \cup \mathbb{R}^4 \times \mathbb{R}^4 \cup \mathbb{R}^4 \times \mathbb{R}^4 \times \mathbb{R}^4 \cup \cdots \).

I named the spacetime in this meaning the power series spacetime.

We can expect that it is possible to make the quantum theory of the gravitational field by imitating the way of construction of the classical general relativity by introducing some structure such as the phase in the power series spacetime.

To take the existence of Fermi field into account, we have only to use the Grassmann variable technique.

So much for the fourth part of my presentation.

Please let me add a few more comments. I know that all scholars who have much influence on the tide of the physics in the world always must make influence of what they heard on the tide of the physics in the world when they have heard some important thing.

I also know that all persons who can contact such scholars must let such scholars know what they heard when they should do so.

What the persons who have heard my presentation should do depend only on how important they feel my presentation, and there is no room for their free will.

There are people who say that my new grammar is not worth regarding because it is not necessary.

However, neither the Dirac’s monopole hypothesis nor the Einstein’s unification conception is necessary and these were esteemed since before they yielded significant results.

In the science, any proposal must not be evaluated by who stated it but be evaluated by its content.

Please feel honestly how the content of my presentation is.

Thank you for listening to me.

Please do not hesitate to contact me during the breaks between the sessions.