

## Epilogue

### 8. Problematisation of the Philosophical approach

My original frustration was that the story of modern physics with elementary particles, quantum field theory QFT with QED and QCD, and cosmological extension was so purely told that it was almost incomprehensible why these matrix structures appear in a religious fluid of fields. It is reasonably easy to understand the mathematic field in the concept of numbers  $\mathbb{K}$ , i.e.  $\mathbb{Q}$ ,  $\mathbb{R}$ ,  $\mathbb{C}$  and vector fields as a set of  $n \in \mathbb{N}$  of these number fields as linear vector spaces  $V_n(\mathbb{K})$ , and how matrix operation multiplication works in transformations, together with the Levi-Civita symbol and the metric tensor. But what meaning it has from physics you have to guess from nothing. Over the years I found out that the problem was placed in the common religious approach to mathematics. We, humans, construct mathematic theorems and algebraic structures for operations and train ourselves to manage these. The human academic approach lifts this mathematic to the highest level of an idea endowed with meta-universal quality mastered by an external instance called deism.<sup>415</sup>

The tenacious idea from Descartes that Humans and human thoughts (cognition with no extension) exist separated from nature that possesses extension in a philosophy of meta-dualistic separated universes. These two worlds (spaces) were in the idea transcendental to each other. As this philosophy is interpreted it comprises an extra hidden exclusive instance Deus, that totally knew both worlds and as a master gatekeeper manage the information and impact interaction across this dualism. We are lucky that Baruch de Spinoza freed us from this annoying religious delusion by making the shorting idea, that the total Nature (universe) is pseudonymous with Deus (GOD). We will declare this a priori including the idea in one simple synthetic judgment:

(8.1) *Nature itself is the master, in the name of Physics.*<sup>416</sup>

The modern academic use of the word *physics* is the designation of the fundamental science about Nature and by that a name for the nature of Nature per se (itself).

In physics as a science, we academic scientists are aware, that our human thoughts about nature are different from nature itself. Immanuel Kant has the distinction: The thing as it is for us, and the thing in itself (das Ding an sich). Kant differentiated that some properties of nature have an appearance as phenomenon countenance for the intuition, and some internal properties are a priori transcendental hidden for intuition. –

What science can do is by logic building structural schemes e.g., often by mathematical tools (made by humans) that perform models of *categories* that by imperative have to agree with measurements and observation for the intuition.

The faculty of natural science, since the mid-19<sup>th</sup> century, have seen a still increasing segregation by mathematic from physics. The academic ideal for mathematics has been to simplify the axiomatic foundation theorems and promoted its structure to a divined ideal, that certainly not has any intuitive reference to the cheap nature. The goal mathematicians have, is to make the purpose as general as possible, but if the mathematic advanced structure does not have its foundation in nature in an intuitive way the result is just a ghost. Humans as instances in nature have agile minds that are capable to generate ghosts, gods, and fantastic dreams also in mathematics.

– Wanted: Find a mathematic ideal that can explain the concept of *direction* in nature?

The classical geometric concept of drawings is the first foundation in Nature to mathematics.

<sup>415</sup> Many people crave this instance as an eternal meta-person called GOD to create and manage the Universe including mathematics.

<sup>416</sup> This a priori idea is a synthetic judgment for the conceptual ideal foundation of natural science. The formulation “*in the name of Physics*” is used as an ironic distance to the Christian religious formulation “In the name of GOD”.