Subjective Physics*

In process

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Abstract

Do:- finish it ...

keywords abc

PACS Do:- include ...

Contents

*Dedicated to seminal insights of Heisenberg, Bohm and Finkelstein.

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1 Synopsis

We introduced subjectivity into science before its inception. Our own way of perceiving nature excludes objectivity from discussion. Physics is subjective; effected more by *how* we perceive nature than *what*. Objectivity focuses on ultimate reality; nature as it is, regardless of how we know it. Subjectivity deviates from reality to actuality. We had the wrong approach first. It was infected by our way of thinking. It led to theories that we criticize today and call them *classical*. Gradually, in view to more elaborate experience, we advanced our epistemology and way of thinking. We certainly change subjectivity. It may not be assimilated in that we deviated from objectivity to subjectivity. We changed our attitude towards perceiving nature, and deviated from dogmatic usage towards pragmatic usage. Classical physics was subjective too; our attitude towards physics was dogmatic, pertaining to absolutistic and existential reality. We renounced dogmatics, not subjectivity.

2 Pitfalls and Blind Alleys

Any serious scholar of physics learns mechanistic theories before entering into quantum regime. One develops background in classical theories to enter into post classical ones, as I did; a pedagogical protocol. More one stands on mechanistic grounds, more he deviates from quantum theory. Feynman found it safe to say that no one really understands quantum theory. A theory requires firm footing; most come with mechanistic one. Our background, that enables us profess it, deviates us from assimilating quantum theory. How one interprets quantum theory is mere pedagogical issue. A naive approach is needed.

Quantum theory is not extension of mechanistic theories in planckian domain. Any interpretation of mechanistic hodge-podge quantum theories would be misinterpretation, a pitfall.

3 Theorization

Physics is perception of nature. A theory is model of perception. There are two modes of theorizing perception:

Active. Episteme is affected by process of perception, where essence comes second.

Passive. Episteme is unaffected by process of perception, where essence prevails.

Former is termed subjective physics, later objective. The preference varies from theorist-to-theorist. I tend to prefer active theorization.

4 Methodologies

DO: `... Heuristic!`

4.1 History Theoretic Methodology

DO: `... Heuristic!`

4.2 Diagnostics

DO: `... Heuristic!`

4.3 Heuristics

DO: ... Heuristic!

5 The Mechanistic Quest

The goal is to reduce all *qualitative* changes to a coherent and definite set of *quantitative* changes; the quest of Cartesian thesis. The system-under-study that entails mechanistic description is supposed to be in *mechanistic order*.

DO: ... Heuristic!

5.1 Pre Mechanistic Theories

Non mechanistic theories persisted long before Descartes.

DO: ... Heuristic!

5.2 Post Mechanistic Theories

Mechanistic order is broken in planckian domain. In the interregnum (1900-1925) some physicists tended to believe that quantum theory would be an extension of mechanistic theories in planckian domain. They seem to have professed working theories in planckian domain, that seem paradoxical from mechanistic perspective, and endured to cure anomalies that break mechanistic order; they took passive strategy.

Heisenberg came across with a non mechanistic theory in planckian domain; active strategy. Some still endure to retain mechanistic order, which was broken in that domain, and recede to mechanistic theories. They tend to transcend quantum theory from pragmatic valley to dogmatic, and physics from subjective to objective.

DO: ... Heuristic!

6 Dogmatics *vs* Pragmatics

DO: ... Heuristic!

7 Anthropocentrism *vs* Rationalism

A decimal system is more suitable for us because we have ten fingers in hand. Our counting is affected by our tools, here fingers. Computers follow decimal system because their tool is binary, based on "Yes" or "No" alternatives; computers have two fingers. Physics may be tool invariant, least affected by who theorizes, a human or a computer. The problem persists beyond choice of numeric system.

DO: ... Heuristic!

8 Phenomenological Theories

DO: ... Heuristic!

8.1 The Phenomenological Lower Bound of Action

Planck propounded the notion of quantum-of-action while finitizing divergent heat capacity of the oven. Quantization is a bi-product of finitization. Further finitizations could lead to further phenomenological theories like quantum ones.

DO: ... Heuristic!

9 Fundamental Theories

There are no fundamental theories; the idea of fundamental notions emerges from prevalent subliminal anthropocentric experience. A fundamental notion emerges from anthropometric phenomena. A notion perceivable in numerous anthropometric phenomena is erroneously termed fundamental.

DO: ... Heuristic!

10 Simplectic Theories and Their Quantification

Simplicial theory is one that works for individual system. Quantification is a process that transcends theory work for their collections. Classical statistical mechanics is quantification of classical mechanics; a *direct process* of quantification.

Present day quantum theories follow the converse path. They work for several photons in Malusian type experiments, or double slit experiments, but remain paradoxical for individual photon. Present day quantum theories are quantification of simplicial quantum theory, that remains unknown. The interpretational quest is search for dequantification of persisting quantum theories; a *converse process*.

A direct process entails quantification algorithm; resulting quantified theory retains logics and semantics. The *converse process* seems to violate both logics and semantics in planckian domain, when followed mechanistic path. The lump of quantum theories evolve from hodge-podge mechanistic formulations in planckian domain. The process is syntactic, where logics and semantics work externally. An interpretation is required for these syntactic formulation externally. Mechanistic strategy does not work in planckian domain.

The quest remains to find a simplectic non-mechanistic theory in planckian domain, quantum or not.

DO: ... Heuristic!

11 Evolutionary Aspects of Physical Theories

Physical theories evolve as long as physical theorist evolves. The quest may be darwinian; for survival, not salvation. Divergent and singular theories do not survive in planckian domain. Replacement is darwinian, thus inevitable.

DO: ... Heuristic!

12 Mathematics: From Tool to Language

DO: ... Heuristic!

12.1 The Algebrification Quest

DO: ... Heuristic!

13 Chronic Evolution Models

Some theories allow systems to evolve in time. The clock remains that of perceiver.

13.1 Monochronic Models

DO: ... Heuristic!

13.2 Polychronic Models

DO: ... Heuristic!