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ULTIMATE ANALYSIS.WPD

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PRELUDE

`A day in the life' of a rigorous paradigmist:-
1)Observational data ---> Inference ---> New Paradigm
2)New Paradigm ---> Deductions therefrom
3)Experiments and/or further observations to confirm the validity of the deductions.
(Failure to do so requires either discarding the paradigm, or amending it, within the limits, set by the original data. (Arbitrary `Bandaid patching' to be eschewed at all costs.)
4)Withhold announcing/publishing deductions as though they are authentic findings, despite the temptations of inherent kudos, associated thereto.

e.g.1) Black holes and/or their alleged horizon
e.g.2) Wormholes
e.g.3) Dark Matter
e.g.4) Dark Energy
e.g.5) Gravity Waves
e.g.6) Extra Spatial Dimensions (Curled up yet)
e.g.7) Quarks, especially their increased number, since first deduced

ULTIMATE ANALYSIS

This is an analysis of those three schools of thought and endeavour, which formulate and develop theories and paradigms, and one of its purposes is to highlight source(s) of dissonance, whether cognitive or unknown, with the specific ability for the assessment of any particular mathematical, semi-mathematical or pseudo-mathematical model, whether it be in Cosmology, Particle Physics, Dynamics or any other field of scientific endeavour.

e.g. 1) Assorted String Theories, which attempt to produce the Grand Theory of Everything, (G.T.E.), which should be a Grand Unified Theory (G.U.T.)
e.g. 2) The Reciprocal System of Theory, which is a competing paradigm to that of Einstein et al., and which provides satisfactory alternative interpretations to both astronomical and experimental observations.
Essentially where you read Analysis, Analyst & Analytical you may assume it encompasses any row of three items in TABLE 1 below.

ALTERNATIVE WORDS OR PHRASES TO SUBSTITUTE IN TEXT FOR A SCIENCE		
DISCIPLINE	**PRACTITIONER**	**PERTAINING TO:**
ANALYSIS	ANALYST	ANALYTICAL
THEORETICAL PHYSICS	THEORETICAL PHYSICIST	THEORETICAL (PHYSICS)
PHILOSOPHY OF SCIENCE	PHILOSOPHER OF SCIENCE	PHILOSOPHICAL (SCIENCE)
ALGEBRA	ALGEBRAIST	ALGEBRAIC
SCIENCE	SCIENTIST	SCIENTIFIC
COSMOLOGY	COSMOLOGIST	COSMOLOGICAL

TABLE 1

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1) **THE PRACTICAL SCHOOL**

Where pragmatism, realism, functionality and/or experience are the order of the day and no imagination is necessary.
The science is treated as a mental tool, by the means of which one applies rules, and there is a concomitant ease of operation.

INADEQUACIES

As a consequence of the above conditions, it is found to have limited powers, both within and without certain fields of endeavour, where it can be found, in some cases, to be useless.
A rule used successfully in some cases cannot be used in all cases.
The science can fail to produce a discovery in another field of science, when there was strong reason to believe it should have done so.
e.g. Quantum Theory and the two Theories of Relativity, all seemingly correct, providing valid results and predictions, yet they are all mutually incompatible, in that they cannot be simultaneously subsumed under one umbrella-like Unified Theory, despite their individual capabilities.

2) **THE PHILOLOGICAL SCHOOL**

Where the predominant thesis, supposition and/or assertion is based on the structural, syntactical and semantic analysis of the language, in which the scientific discipline is couched.

Hence it is looked upon as a language, that should produce symmetry of expression and symmetry of equations and formulae.

INADEQUACIES

As a consequence, anomalies appear, such as exceptions, which break the symmetry of the syntactic, thereby disturbing the erstwhile simplicity of the notation.
This accentuates a feeling of helplessness in the analyst for this approach, when he attempts to write some equations or formulae, since great care is necessary, thereby highlighting the non-universality of the symbolism.

3) **THE THEORETICAL SCHOOL**

Where musing, reflection, speculation, hypothesis, conjecture, inspiration, deliberation, premises, deduction, induction, prediction, supposition, revelation, circumspection, axioms, propositions, theorems, inference, assumption, interpolation, extrapolation, precepts, principles, conclusions, maxims, laws and rules are the order of the day.
There is clarity of thought, which, in itself, allows the theorems to be formulated and analysed.

INADEQUACIES

There is often a clouded issue, effecting clarity of thought.
Anomalies appear, which are dissonances, cognitive or unknown. There seems to be an irreconcilable contradiction, thereby threatening one's belief in, and reliance on, either.
e.g. Two Theories of Relativity, (General & Special), and Quantum Mechanics cannot be united as one, even with Super-String Theory.
There can be a tried and true Rule, that always works, but cannot be proven nor fully understood.
When a theorem is so esoteric in its presentation, that it does not lead to intuitive predictions by induction nor in any other way can one look beyond it.

ANALYSIS (OR ANY OTHER MATHEMATICAL SCIENCE)		
PRACTICAL	**PHILOLOGICAL**	**THEORETICAL**

Instrument	Language	Contemplation
Ease of operation	Symmetry of Expression	Clarity of Thought
Rule	Equation or Formula	Theorem
IMPERFECTIONS		
Limited Power	Anomaly may be presented	Clarity of Contemplation obscured occasionally
Occasional limited application of rule within a given field	An occasional exception disturbs simplicity of Notation or symmetry of Syntax	Occasional appearance of Contradiction from reasoning, or complexity which puts strains on validity
Non-ability to use it in another field on some occasions	Non-universality of Symbolism sometimes apparent	Occasional inability to prove and/or understand Rule, despite its applicability or usefulness
		Sometimes induction cannot lead to intuition nor can there be extrapolation

TABLE 2

No scientist, cosmologist, philosopher of science, analyst, nor theoretical physicist belongs exclusively to any one of these three schools, so as to be only Practical, Philological or Theoretical.

Language and Thought interact, while Theory and Practice help and improve each other.

No one can be so merely practical that he eschews the beauty of the language, in which his rules are expressed, and does not care to know the reasoning, which deduces or induces them.

No one can be so simply philological an analyst, that he divorces his mind completely from entities and existents, and that he will not at some time leave the ethereal domain and ponder on the meaning of his expressions and how to apply them.
No one can be so purely theoretical or so exclusively devoted to thoughts and to the contemplation of theorems in Analysis, as not to feel an interest in its notation and language, its symmetrical system of signs and the logical forms of their combinations. Nor will he fail to prize those practical aids, and especially those methods of research, which the discoveries and contemplations of Analysis have given to other sciences.

Summarily, without the intention of polarising analysts, but to distinguish them one from another, it is, perhaps, correct to say that every analyst and each analysis has a leaning towards one or other of these schools, according to the individual partiality of the practitioner, thereby marking the work with the stamp of the individual, according to the particular admixture of schools to which he subscribes.

These prefatory remarks are important to prepare and aid the reader, that he may perceive more easily and distinctly what the design of a particular paper is and to what the author aspires, or at least wants, to accomplish.

e.g. 1) String Theories from the first one to the Heterotic String subsume:-
a) extra spatial dimensions,
and
b) an assortment of wormholes and/or black holes
theoretically, despite there being no hope of there being a practical experiment and/or observation to confirm unequivocally these speculations, in that there may well be alternative interpretations to that, which is observed.
N.B. One can observe many instances of authors and lecturers deeming certain existents to be clearly defined, and hence they accept them as valid, when, in fact, because so many people of like mind write and/or speak of them repeatedly, they are falsely deeming their actual existence. If you say it often enough and others do likewise, then is becomes common knowledge, that it is true.

e.g.1)Black Holes and Wormholes are theoretical existents, which, despite their general acceptance, are merely the product of one paradigm, backed up by some ingenuous deductions of certain astronomical observations. The same observations can be explained differently by another paradigm, and therefore there is no valid proof of their actual existence.

e.g. 2) Most papers on the **Reciprocal System of Theory**, (RST), are Theoretical, in the sense already explained, as distinguished from what is Practical, on the one hand and what is Philological on the other.
However, RST, which is a Unified Theory, has enabled:-

1)Accurate predictions of galactic existents with high energy and dense mass. (These were published in 1959, and later discovered and named as Pulsars and Quasars.)

2)An alternative methodology to Einstein's to predict the precession of the Perihelion of Mercury, which Newton's Laws could not do.

3)An alternative methodology to Einstein's to predict the bending of light rays during a solar eclipse.

4)An alternative explanation of the E.P.R. Paradox, etc..

Their professed aim is to improve the science predominantly and neither the art nor the language of the analysis. The imperfections, sought to be removed, are confusions of thought, and obscurities or errors of reasoning; not difficulties of application of a scientific tool, nor failures of symmetry of expression.

The fact that confusions of thought and errors of reasoning can still pervade the most honest paper and thereby cloud a particular analysis is, no doubt, always in mind to be eschewed by the authors.

There are some areas of research, in which properties and truths are never in doubt, there are merely different ways, perhaps clearer, ingenuous, and superior, to demonstrate them. Hence in those cases there is neither ambiguity nor confusion of thought and no reasonable ground for doubting those truths.
However, in many sciences of today, scepticism is not unusual, to say the least, and intra-disciplinary factions abound, some examples being tabulated below in rows.
----------(IGNORE COLUMNS)

INTRA-DISCIPLINARY FACTIONS		
WAVE THEORY OF LIGHT	PARTICLE THEORY OF LIGHT	
QUATERNIONS	VECTORS	
UNIVERSE OF ENERGY	UNIVERSE OF MATTER	UNIVERSE OF MOTION
VORTEX THEORY	GEOCENTRIC THEORY	HELIOCENTRIC THEORY
NEWTON'S THEORY	RELATIVITY	**RECIPROCAL SYSTEM**
GRAVITY FIELD	GRAVITY WAVES	**RECIPROCAL THEORY**
DETERMINISM	INDETERMINISM	
NUCLEAR MATTER STARS		**RECIPROCAL THEORY**
MAGNETIC THEORY		**RECIPROCAL THEORY**
ELECTRICAL THEORY		**RECIPROCAL THEORY**
BOHR'S ATOM	QUANTUM THEORY	**RECIPROCAL THEORY**
SIMPLE HARMONIC MOTION		**SIMPLE VIBRATORY MOTION**
3-D UNIVERSE	4-D SPACE-TIME CONTINUUM	**RECIPROCAL THEORY**
POPPER'S THEORY	LAKATOS' THEORY	**RECIPROCAL THEORY**

TABLE 3

Sometimes the question arises, are we substituting or compromising contemplation, (speculation, theorising), and intuition, (inspiration, instinct), for a gain, only of skill or elegance?

As cited earlier, the **Reciprocal System of Theory** was formulated by Dewey Larson as a Theoretical Paradigm, predicated on:-

1)A Postulational Base, which, in the first publication was couched as `Four Postulates', but later re-analysed and reworded as `Two Preliminary Assumptions, a Definition and a Postulate'.

However, this theoretical construct had to be couched in a language, so the Philological aspect was found to be purely linguistic, being the English language, since there is no Mathematical expression in this base.

This sets it apart from Relativity, which leans heavily upon its mathematical definitions, as do most other paradigms for the Physical Universe.

2)A Syntactic, which develops this language, by logical deduction, into the assertions and theorems of the Paradigm.

Again, English is the main tool to obtain results, although Mathematics does enter into many of the findings.

This displays how the absence of Mathematics in the Postulational Base does not preclude its entry into the Syntactic, BUT it also highlights a disadvantage. A Paradigm, which includes Mathematics in its Postulational Base, is much easier to develop through its Syntactic, and has a better chance of being regarded seriously and becoming widely accepted.

This is the area where students of RST should be looking to improve its wider acceptability, since the apparent incongruity of mathematics appearing for the first time in the Syntactic will be removed thereby.

3)The Semantic, which relates this inductive theory to observations.

This, then, should give the theory the ability to predict other observations, confirming the theory, providing the theory does predict, as expected.

Obviously this is the Practical aspect of the theory, completing the admixture of the three headings in Table 2.

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