

Finding Ideality

Science for Maths!

***(How the Search for Concrete Truths
became the Search for Formal Truth)***

When arguing the pros and cons of certain assumptions or principles in Science, it may seem to the uninitiated that the philosophers are avidly contemplating their own navels, rather than addressing the really important issues of understanding the World.

But, the inevitable consequences of error in things that constitute the very bases of Science refute that very dramatically!

Facilius per partes in cognitionem totius adducimur: Seneca

We are more easily led part by part to an understanding of the whole!

Let us take the universally accepted idea of **Plurality** – wherein analysis is considered not only possible in understanding any particular **Whole**, but indeed absolutely essential! The basis for this is the belief that every Whole is composed of a finite number of **separable Parts**, which, if isolated perfectly one-by-one will display, in turn, all relevant properties that can be involved in whatever that Part contributes towards the consequent Whole.

What emerges from subscription to that principle are legion and can be very misleading indeed.

For example, **if** the principle can be legitimately used for any particular given Whole, it implies that, with appropriate analytical methods, any revealed Part could itself be further divided in the same way into **its** own forming components.

Thereafter, in turn, and level below level, each Part, considered as a Whole, can itself be subjected to the very same sort of analysis, so that families of these Parts are revealed at every subsequent level.

Thus far, this methodology becomes, formally, an infinite progression, and would never end, so a separate assumption – that there must ultimately exist indivisible and final units, whose discovery will terminate the search.

NOTE: It is important to be fully aware of the **losses** incurred at every single analytical process, caused by the assumption of the total separability of the individual Parts at a particular level from any same level interrelationships. For with each analysis any “lateral” defining associations are jettisoned in order to reveal, pure and clear, a separated naked association, caused only from below.

So, even at a single level (i.e. NOT chasing downwards via a reductionist path), each and every Part has been stripped of all its lateral and top-down links, both to it, and by it in the real-world Whole.

Indeed, all top-down determinations are not even recognised, whereas these can be vital too.

Now, the consequent principle of Reductionism has never been carried through continuously from start to finish (it is just assumed to be doable).

Short sequences have been carried through (“at all levels” we are assured), and hence we can legitimately **assume a Continuity**, and fill in all the gaps as likely to be **just the same**.

The trouble is that the opposite Synthesis Process lets us down constantly.

For having analysed, we should, by mere addition or juxtaposition of the constituent Parts, be able to reverse the process and reconstitute any Whole from its full set of Parts.

We only rarely can do this, and our strategy has been to extensively control situations to allow a single synthetic steps to be arranged one-by-one.

In any reasonably complex manufacture of this sort, therefore, we have to construct an appropriate, severely limited and maintained set-ups for each and every synthesis, and hence we have no choice but to construct **factories**, or even series of factories, to achieve our (quite modest) goals.

The Oil Refinery is an apt metaphor!

Indeed, it is clear to all that **Plurality** is certainly *not* the “Way of the World” And we have to go to great lengths to achieve our objectives based upon it as the banker assumption. But, that is not to say that such a simplification of Reality has not been extremely useful for millennia: it certainly has. But, it does allow progress by a simplification that both *reveals*, but also *hides*!

Its opposite – **Holism**, is much closer to the real nature of Reality – with literally everything affecting everything else, and hence any process of analysis will always affect what is being investigated, as well as revealing many important, contributing features.

Parts are NOT separable as Plurality assumes!

Parts are the products of full holistic situations, and depend crucially upon that context. While what we get by analysis – particularly when based upon experiment, is NOT the same as that “component” *in situ*, and as part of an integrated mutually affecting and *developing* real-world context.

What we achieve by analysis is to drastically simplify, not as we think by *revealing the essential*, but actually by *eliminating the currently non-dominant*. The process is both brilliant and flawed at the same time. We notice (often only momentarily) some possible “Part”, and then we both strongly simplify and also constrain a situation in as many factors as possible, until that “Part” is *made* clearly evident!

We then *extract* it by multiple measurements (not to mention multiple modifications to the increasingly constrained Domain, and the range of possibilities within it).

What we achieve by this methodology is clearly a coherent data set with some evident relation between the variables that we allow and measure.

We DO indeed extract a valid relation, but it is NOT that which we have aimed for. It is another, *related but transformed* Form. We have processed Reality **not** to reveal one of its essences, but to isolate ideal Forms, which are indeed the result of other constituent contributions beneath it, but NOT all that was within its original context.

Reductionism is really a one-way process revealing a sequence of purified Forms. It is a remarkably apt way NOT of understanding Reality-as-is, but of revealing in their most purified way the Forms taken by extremely isolated bits of Reality. It is perfect for delivering such Forms in their most basic states, and useful ONLY when the same rigorous and constrained Domains are reconstructed for use!

But we have to ask, “What are the consequences of such a methodology?”

We are fully aware of the technological ones, for we use them all the time in production.

But, what about the **conceptual** consequences?

Surprisingly, this methodology is not ideal for Science – the attempt to understand Reality, but it is absolutely **perfect** for Mathematics – the attempt to know and understand all possible Forms in their purest cases.

Plurality has delivered a constant stream of such Forms, and Mathematics knows just what to do with them.

Now, I am aware that at this point literally millions of scientists will be bouncing up and down in boiling anger at such assertions, but that doesn’t stop them from being true!

Science has painted itself into a corner by its pluralist methodology, and more and more often finds itself in untenable corners from which it cannot extract itself.

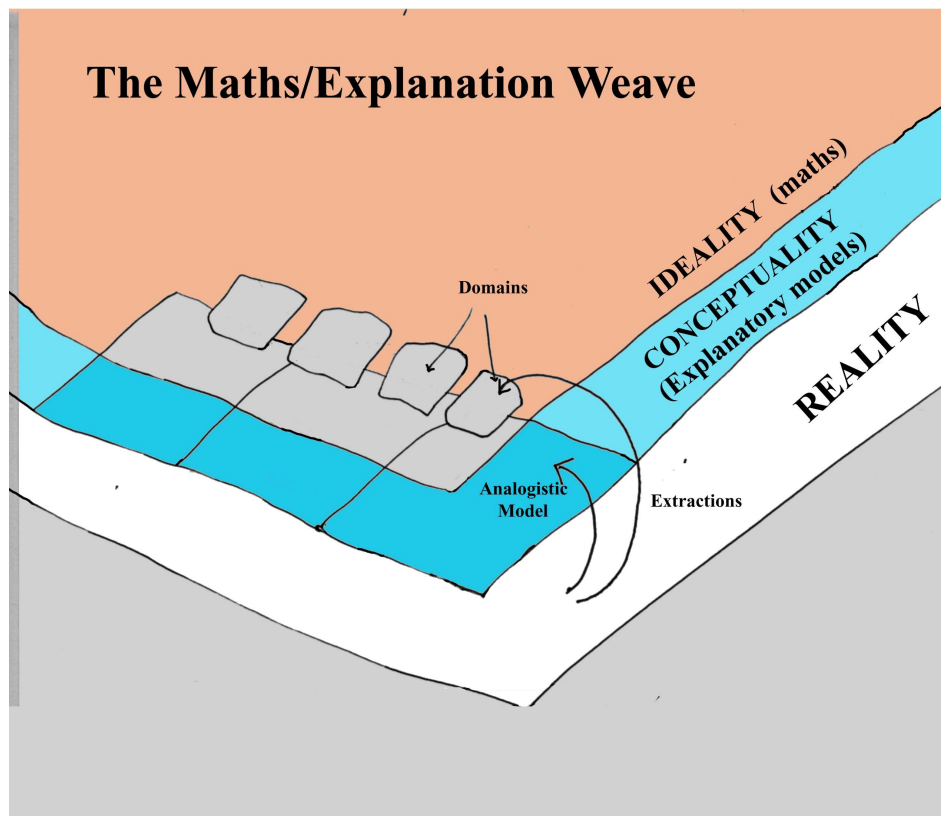
The Defeat at Solvay

Now, this position will, of course, be opposed by all who consider themselves to be scientists. They “know” that they are not merely prospectors, who unearth the required crucial gems for mathematicians to polish and manipulate to essential excellence.

Felix, qui potuit rerum cognoscere causas: Virgil

Happy is the one who can learn the causes of things

“We are scientists!”, they will insist, and certainly for centuries this was indeed a legitimate claim. They definitely meant to reveal the nature of concrete Reality, and not merely the recurrent Forms that exist as common patterns within it. And, the duality implicit in their position did not stop them making the most significant of gains. The implications of their methodology and principles (such as Plurality) were always offset by a solid materialist basis: every extracted law was always accompanied by an **essential qualitative narrative**, which not only explained that law, but was in fact its real basis.



It wasn't the equation or Law that constituted their Science, but their developing Understanding of the Reality they were investigating!

Remember, an equation is just a general, symbolic **description** of a Form, and never an **explanation** of why it pertains!

It would be a total waste of time asking a mathematician to explain some phenomenon in the natural World. He would just pull out the “relevant” equation, and, if you went so far as to ask him what various things meant in his succinct abstraction, and why this was so, you would get absolutely NOTHING!

Mathematicians are certainly *not* scientists.

So, why couldn't the *active* and *fruitful* contradiction carry on, allowing materialist explanations to continue to co-exist with idealist formal abstractions of Form? Well, it was fine if you marshalled your disciplines and their practitioners into their own “specialisms”, and had different groups for the various stages between discovery, equation extraction, and implementation for productive use.

But **if** you stuck fast to your purpose of understanding Reality and particularly in areas such as The Birth of the Universe, The Origin of Life, and even the Life Histories and Development of Stars, **then** the unholy marriage began to be increasingly undermined, and contradictions were being unearthed on all sides. Increasingly, the piecemeal, explanatory theories hovering above their respective areas of concrete Reality, and the isolated Domain based Laws were finally and self-evidently insufficient.

The questions that should have been answerable if Plurality were true, were constantly overstepping the boundaries imposed by such principles, and the confidence ebbed away to such an extent, that at **Solvay** in 1927 the traditional scientists were totally defeated by the mathematicians. These latter were professed scientists, who saw the resolution of these difficulties in the total abandonment of qualitative explanation, and their position was thereafter dubbed as being that of the followers of The Copenhagen Interpretation of Quantum Theory, and explanatory theory was abandoned forever.

Now, the sole legitimate Source became the **Equations** as the Essential Truths of Reality, and their study got more and more like Mathematics. They were studying the World of Pure Form alone, which meant they had turned their backs on Reality for **Ideality**.

Thereafter, a new speculative, maths-based “theory” was the only allowable adjunct to essential and eternal equations.

Science had been mugged with its own prized weapons, and was now **owned** by the undisputed masters of those “powerful” implements.

Addendum:

The diagram included in this paper was the first in a series developed in 2007 when researching the Processes and Productions of Abstraction. I only put in the initial illustration here, as the full sequence (or even the final one in that series) would certainly divert this piece from its current purpose. But the whole series is available and contained in their own relevant papers available from the author.

(1,750 words)