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REDEFINING PHILOSOPHY II

WHY DO DIALECTICS EMERGE? / THE TRAJECTORY OF DEVELOPMENT / MIND AND REALITY  
ESTABLISHING TRUTH / ESTABLISHING HOLISTIC DIALECTICS / RE-DEFINING PHILOSOPHY UPDATE

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Words Jim Schofield  
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**SHAPE**

## **Redefining Philosophy II**

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## From Idealism to Materialism

*Establishing*

*Holist*

*Dialectics*

by

**Jim Schofield**



Welcome to Special Issue 69 of SHAPE Journal, a continuation of the series called Redefining Philosophy. This research attempts to complete the unfinished task of Karl Marx, and redefine philosophy as both Materialist and Holist - in other words, grounded in the ever-changing and interconnected real world that surrounds us.

We cannot possibly deliver here, all that is needed in differentiating Idealist Dialectics from the Dialectical Materialism of Marx. And this is primarily because neither Marx, nor his followers within the Socialist and Communist Movements of the Working Class, have, as yet, really fully appreciated his methods, and attempted to complete the still unfinished areas he revealed - or even more crucially, extended the stance into vital areas NOT addressed in any comprehensive way by Marx.

And this has been, primarily because, he never produced a full informing and instructing definition of his Stance and Method. But also, it was mainly because neither Marx nor anyone else tackled the major Elephant-in-the-Room - the omission of a comprehensive treatment of The Sciences.

That has been begun to be tackled elsewhere, by this theorist, but it is a colossal task, and as yet is far from being a completed undertaking!

So here, the differences with Hegel, as well as with the present day crop of Hegelian "Marxists" (such as Zizek) will be undertaken here!

As a study of both the Development of our Universe from a still debateable starting point, and, subsequently, from Mankind's much more available History and Prehistory, they clearly demonstrate, that these two conceptions of Reality have simultaneously co-existed throughout that vast Development: and they have never ever fitted neatly together at all well, in any attempts to do so at any subsequent time either.

Indeed, they, in the emerging consciousness of Mankind, presented their implicit primary confounding contradictions, as presenting an ever more evident insurmountable barrier to any possible developments into something actually revealing of the causes for the emergence of significantly Wholly New!

And, in addition, the very late emergence of what later became known as Thinking, and, in particular, Rationality or Reasoning, were also strongly and damagingly coloured, and significantly limited by maintaining that contradictory pair of bases.

But we must NOT forge too-swiftly nor too-far ahead in attempting to understand this important trajectory, as it had also developed concretely, as contradictory physical processes, not only in the absence of Man, but even before the Emergence of Life itself. For, by starting exclusively with how it developed within Mankind, definitely prevents a more basic understanding of how these two interacted materialistically in the whole trajectory from the very beginnings of underlying Reality itself, to which they must also have already been intrinsic.

Now, how can, and why must, this be insisted upon?

Well, it is, first, because the initial Emergence of Thinking in Mankind was never able to deal with this contradiction: and had to attempt to square-that-circle with some "exterior, non-material agency", like a GOD, which somehow, also, had the crucial inputs, though often thwarted by Man! And, second, it turns out to be because these seemingly opposite approaches often appear to dominate, at different times, and indeed actually change each other, and into one another, thus, together, acting as the crucial engines of natural qualitative development.

Indeed, it is finally becoming clear only NOW, that the simple, initial conception of Reality, as a mere collection of forever-fixed components, obeying eternally-fixed Natural Laws - like some Lego Construction Game - is definitely just a simplifying myth that could NEVER explain the qualitatively new: and, therefore, wrongly substitutes mere Complexity for actual creative Emergence.

Now, interestingly, around the 5th century BC, two diametrically opposite conceptions of the "True Nature of Reality", one occurring in Greece, and the other in India, began, in very different ways, to attempt to systematise Human Thinking, BUT each upon one of those two opposing concepts!

The Greek philosophers ultimately alighted upon Plurality (with only fixed relational concepts as their sole basis): while, at about the same time, The Buddha,

in India, was contemplating primarily the natural Living World, and chose Holism, based upon universal interactions and constant change of literally Everything.

Now, choosing only one of either of these guaranteed that the true nature of Reality would not only NEVER be made fully available, but, in addition, each in very different ways, could only deliver moments or aspects of that Truth, YET, nevertheless, were still doomed, in the end, to lead only to ever increasing contradictions and even multiple terminal impasses - totally non negotiable within the confines of either of the two overall chosen conceptions.

The Greeks had devised formally a Pluralistic Basis, in order to generate a developable discipline, concerning only Pure Spatial Forms, and, via a legitimate new kind of New Abstraction, really only applicable in that context, had succeeded in producing Mankind's First-Ever Rationally-Developable Discipline - Mathematics!

But, they were so energised, by the undoubted efficacy of the new Discipline, that they extended its means to all Reasoning, and in particular to the Sciences. And that was wholly illegitimate!

Now, very quickly indeed, Zeno of Elea had, in his Paradoxes that addressed various applications to Movement, proved that such a rationality frequently led to contradiction. Yet, he was generally ignored for over 2,300 years, until the idealist German Philosopher Hegel confirmed Zeno's work and extended it to all Dichotomous Pairs of contradictory concepts, and in all such circumstances finding ways of correcting those errors and legitimately transcending those impasses.

He called his methods Dialectics. But, he was an idealist, so his means were to do with "Errors in Human Thinking" only, so, their assumed re-directing of things in general, including the material world, was neither addressed nor achieved, and hence never considered to be anything to do with the Nature of concrete Reality itself - but merely to do with our Thinking about it.

And, it was only when Hegel's extension of Dialectical Ideas, was demonstrably also identified as a feature of concrete Reality itself, by his follower, the historian, Karl Marx, that the real breakthrough finally happened. And, even then, that was by no means immediate. Indeed even History was previously always explained in



terms of the results of intentions from the thoughts of wise or influential Men, but Marx realised that such an assumption was torpedoed by the occurrence, trajectory and resolutions of Social Revolutions, so that once analyses began to be made of such Events, the Thought-directed idea of development began to be abandoned.

Contradiction was not only found to be intrinsic to Reality itself, but in fact constituted the only driver of its actual creative developments too! And, Marx had the detailed History of the recent French Revolution compiled by Michelet, available to prove his cases!

Yet, it was in his sequence of subsequent writings including Theories of Surplus Value, Grundrisse and finally Das Kapital, that Marx's version finally broke free of idealist notions of historical Reality.

Nevertheless, in spite of the considerable hidden gains within those works, the whole necessary effort was NEVER applied to The Sciences, and they would, as recent work in that area has demonstrated, prove just how crucial Dialectics would be, as there was still a great deal yet to be revealed in that extension.

Indeed, Charles Darwin's Origin of Species, and diverse efforts upon The Origin of Life on Earth have begun to reveal that the true Content of Reality-as-is is endlessly and profoundly Holistic and Dialectical, with new aspects emerging all the time. BUT NOT, it must be emphasized, within the taught courses at the citadels of Current Knowledge - The Universities, though a very few individuals in such institutions are leading the current struggle for a major Change!

But, following a decade-long effort to apply a dialectical approach to a New Critique of The Copenhagen Interpretation of Quantum Theory in Sub Atomic Physics, the writer of this paper has continued to formulate New Dialectical Methodologies in Physics, based upon exemplars in both Marx's work, along with modern interpretations of it, by serious investigators like David Harvey in New York, but mostly with his own contributions in areas such as the Origin of Life, Motion Study and Systems Design, but primarily in the revelation of wholly new actual Dialectical Mechanisms possible for revealing the Dialectics of Qualitative Change in diverse areas of Developing Concrete Reality.

Perhaps the most important contributions deal with how the most general natural situations, that always involve a multiplicity of simultaneously acting Laws, and which, in direct contrast to the purposely Pluralist prior methods usually employed in Science, wherein that Plurality is ensured and maintained by means of maximally restricted experimental situations, that are purposely designed to deliver NOT what occur naturally in Reality-as-is, but, unstead exclusively only single laws optimally restricted and therefore delivering only wholly pluralist situations - one at a time, and wholly separately. Thus, delivering only an approximation of real simultaneous, multi-factor and multi-law Reality, delivered instead as a sequence of different individually-restricted scenarios, each one demonstrating, in isolation only a single relation of a tiny number of Factors, and hence omitting ALL the cross-effects, and ultimately never the New Developments, happening in Real Natural Situations.

At the very best, those can only deliver a series of separated moments of Reality, which never happen as such in Reality-as-is. All cross-influences are excluded, and absolutely NO qualitative changes will ever be allowed to occur.

Is that Science?

NO, it is what we call Technology!

It is a mode of production, NOT one of revelation!

For, as this researcher was able to establish in his Truly Natural Selection Research, the actual processes occurring naturally, and delivering stages that ultimately would form steps in whole complex series of initially simultaneous processes, and thereafter, along with others gradually change the balance and dominances between them to form a phalanx of later cycles of simultaneous processes, that finally could deliver something entirely NEW!

Stanley Miller was on the right track, but wholly blind both visually and theoretically to what was happening in his Famous Experiment. But, nevertheless, it did deliver Amino Acids all by itself!

Clearly with the new dialectically-theoretical and process-aware methods, whole series of Miller-type Experiments could be designed, but each one initially delivering tiny gains, while also suggesting Newmulti-Channelled-forms of following experiments, with both particular

product gains, as well as new designs for the next version.

A whole series of Theoretical Developments immediately followed the Truly Natural Selections gains over 12 years ago, which then resulted in the General Theory of Emergences sometime later.

And, this very important diagram (Editor - next page), in a purely descriptive form, represented one of the results of that research. It is a complex, yet generally-applicable diagram! And, extended details of its original development, are fully available in this journal.

But, at that time, the necessary fuller set of Dialectical Methods were not yet sufficiently developed, to address a thorough-going Explanation, as the demanding Critique of the Copenhagen Interpretation of Quantum Theory was consuming all my time! But, on completion of that task, and because of what has also been achieved in that work, this researcher has now been able to resume essential work upon this crucial trajectory, much better equipped!

#### Advanced Hegelian Dialectics

But, before such a set of developments could be tackled, there was a major and damaging Fork-in-the-Road laid down, that had been strongly and wrongly signposted by the originator of Dialectics himself, - the German Idealist Philosopher, GWF Hegel.

For, his basic area of study was NEVER Concrete Reality, but instead the Concepts and Ideas that were the both the results, and the content of Human Thinking: indeed, he considered that his all-embracing subject was Thinking about Thought. So, as an idealist, he considered that the only possible content of Wisdom came solely and exclusively from all Considered Thinking: which was, for him, an ever-growing collection of concepts, which were wholly cerebral and could not be anything else: so he considered that by revealing-and-using his extended Dialectical "Rules of Thinking, these Thoughts would indeed be validated or corrected by formulating them, along with sufficient detailed, related and well-informed other considerations, to reveal the Truth via his Dialectics alone. So, the task of the Philosopher was primarily to discover and reveal such Laws, which when complete could "accurately both express and even solve, any rational problem!"

The Objective would be this guide to sound manipulation and Reasoning of achieved Concepts, which he termed Dialectical Logic! Now, he considered that his purposes were not just for high level discussion in Universities, but could, had and indeed would, determine Mankind's future History itself, by the consequences of such disciplined Thoughts and consequent Actions.

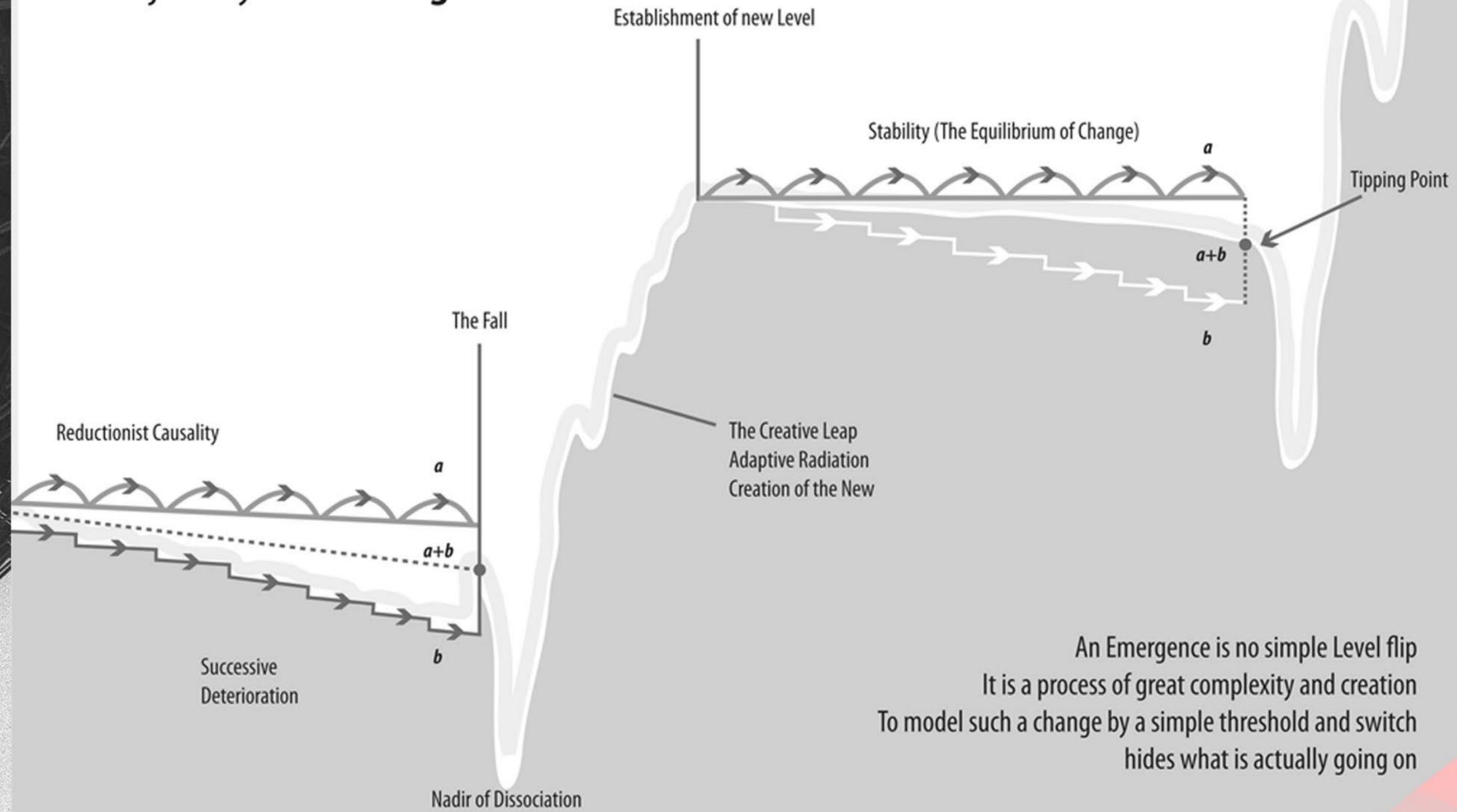
For example, he considered that he could put down the trajectory of History, and all its failures and successes, to the concepts and consequent programmes arrived at by leading thinkers throughout all Known History.

Now, I am neither an Idealist, nor a Historian, so clearly if those are your main concerns, you will not find what you may be seeking in my writings! For, I am a resolutely Dialectical *Materialist* - a very different animal, who is attempting to understand the role of Dialectics, not only within Human Thought, but, at its best, also intrinsically reflecting something of the rationality of Concrete Nature itself, which was first realised by that one-time follower of Hegel, the historian and philosopher Karl Marx.

Marx was originally an energetic member of the Young Hegelians but could, initially at least, never compress the whole of the Ancient History that he uncovered into Hegel's cerebral categories, in his Logical analyses.

And, the most disturbing areas were in understanding the almighty Upheavals that were certainly rare, but also absolutely essential, in the significant Qualitative Development of such Interludes: one of which - The French Revolution, had only recently occurred, and the following complex and multi-stranded developments and its final Resolution, which seem to be the Very Opposite of Hegel's Rational Means of Explanation.

# The Trajectory of an Emergence



An Emergence is no simple Level flip  
It is a process of great complexity and creation  
To model such a change by a simple threshold and switch  
hides what is actually going on

|                         |          |                         |          |
|-------------------------|----------|-------------------------|----------|
| REALM OF THE SECOND LAW | CREATION | REALM OF THE SECOND LAW | CREATION |
|-------------------------|----------|-------------------------|----------|



# WHY DIALECTICS EMERGE

## Why Dialectics Emerge

What, in concrete Reality, leads to Dialectical features in revealed Natural Relations, seemingly occurring at absolutely every subsequent Level of Reality?

Since Hegel and Marx, the idea of Dialectics has emerged as a significant feature, initially limited to idealist thought, thereafter, in its Revolutionary Marxian Transformation, it concerned the whole qualitative nature and development of all aspects of Reality itself!

Now, not everyone agrees with this, or at best they accept only a part of such a claimed scope.

But, as with all discoveries of real merit, there is always a strong temptation to either dismiss the new position in its entirety, or conversely attempt to make literally everything fit-a New-Simplified-View, keeping many of the old "truths" to maintain a significant amount, of what had previously been considered valid.

And, this has definitely been the case in literally all the Sciences!

So, addressing it in some way is clearly unavoidable, but at the same time, absolutely essential, in that all such conceptions must be taken to the limit, in order to both expose any Partial Truths, and to also attempt to correctly define their real scope! And, crucially, thereby, begin to understand exactly "How?" and "Why?" each new view can only ever lead to new Objective Content - and certainly NOT Absolute Truth - yet, nevertheless, deliver an ever-closer approach to that ultimately unobtainable objective.

And, this new stance certainly did not, by any means, win over all past and present philosophers, for, in addition, even fewer scientists were moved to take the new view on - for it ran directly-counter to their long-established, indeed often-founding, assumptions, premises, and even their relied-upon, and universally-employed "scientific experimental methods" themselves, because of their undoubted efficacy in Production: indeed Technology had always been its greatest asset!

For, over the last couple of millennia, and in spite of their significant gains, their well-established approach, has finally led to arrive at, and even all the way over, The Precipice in Understanding, whereafter the necessary revisions included in trying to correct the current mess, will now just have to involve the most enormous insisted-upon fictions, in order to survive at all!

Literally all pre-Hegel thinkers saw things very differently indeed, and many aspects of their long-persisting and historically-defined approach, are still dominant in most different areas of study, within the most important intellectual disciplines of today.

So, apart from any supernatural origins, which can be easily dispensed with, we will certainly have to also address all those earlier form-utilisations, as they, very clearly, not only continue to sometimes pertain, but can also still be used, with an undoubted, if limited, measure of success.

But, this will be the case, only as long as the essential determining-conditions that are always arranged-for, are entirely appropriate, and are steadfastly-maintained throughout both their investigation and subsequent use. For all those past successes were predicated upon strictly limited and maintained conditions, which though they worked pragmatically, were incapable of dealing-with and explaining all of Reality-as-is: it delivered a handleable subset only, and omitted ALL multi-factor situations completely.

So, to get a real feel for the unavoidably real trajectory of development of Mankind's attempt to Understand-its-World, we have to start with an even earlier approach, which we now call Pragmatism, that "in a nutshell" can be seen as:- "If it works, it is right!"

This pragmatically successful tenet long-preceded anything that we would now call Science - for it had nothing to do with Understanding, but only with clearly-identified and accurately-described conforming-processes - which could indeed be, thereafter, re-employed-to-the-same-useful-end again - in identical conditions!

For, Mankind always was composed of intelligent, able and flexible users of anything they came across, and they also were successfully able to bend most revealed natural entities and phenomena to their needs, if they possibly could.

The question "Why?", even way-back-when, did still indeed occur: but the actual Knowledge of Man was, for millennia, totally insufficient to deliver either any achievable explanations, or any further consequential Reasoning, as to what else might be possible with such things.

So, in such circumstances, the revealed Process-itself "became the cause", and as it didn't always work-out -as-expected, there arose a set of prescriptions about what was to be used, coupled with in what precise circumstances, and also involving an essential set of "incantations" to elicit a favourable outcome, via appeals to The Gods, or other magical powers.

Even, during-and-after the colossal gains of the Neolithic Revolution, such "Magical Rites" were ubiquitous, and even grew, for they certainly made the retention of all the right-moves-and-conditions easier to remember and re-employ. They were not discarded until the much later beginnings of a re-invigorated and primarily-investigational Science was achieved, which attempted to reveal the essential physical circumstances to reveal such relations, and, within those, the real concrete Causes for studied phenomena were assumed to have been revealed.

That approach of Science meant that many new things, once merely seen as "differently-coloured-rocks" became, instead, named-and-valued resources (ores) for producing important products like Tin, Copper, and even at a later stage, Iron. So, instead of spiritual appeals and rituals, things changed into well-described processes, and even Causal-Relationships began to be attached to these wonderful new techniques.

Things could no longer come out of Nothing.

Things had to be due to specific causes.

And, very soon, the means of production of a more complex metal, like Bronze, was discovered, with more-than-one producing "Ore", to give a sharper edge and more strength to their "now-alloyed" products.

Mankind was set upon a new path, seeking out the natural "elements" that made "all things", and these became an ever growing list, from which new possible processes could be tried, and occasionally successfully established. It still essentially remained closer to Alchemy, long before it finally approached something more closely resembling modern Science. But ultimately there arose a stance termed Natural Philosophy, which began to be applied to long unaddressed phenomena - such as the motions of so-called Planets - the "wanderers" about the unchanging celestial dome of the stars.

But, the various initially conceived-of "Principles" that were devised to be revealingly-applicable, to all studied phenomena, were simply not true: nor could they be, at that stage.

But, they would work in certain situations, that were carefully adjusted and manipulated in certain simplifying ways - so, following "successes", with such adjusted situations, they were mistakenly, generalised so that one or another of them supposedly applied, in various sequences or sets to all those arranged-for situations could, if they had it right, produce whatever they wanted!

On some new elements, these methods worked well, while on others they didn't! Mankind, *pragmatically* of course, kept to those that did, and thereby began to gather various different series of reliable situations-and-processes that "seemed to define" a generally, overall approach.

Experiments were always thereafter limited to those that seemed-to-fit, and a narrow, yet often useable, definition of The Nature of Things began to grow.

This was still, at least in part, a result of Pragmatism, and it still exists in diverse forms, and in many areas, to the present day. Indeed, it is the credo of what were, and are still called *technicians*, who always delight in their useable Knowledge of "How?", but could never satisfyingly answer the question "Why?"

Nevertheless, a growing number of those who considered themselves to be Natural Philosophers, also dearly wanted to know "Why?" as well, and, to apply their extracted hypotheses, as to why things happen, and to do so even into wholly new areas - and occasionally they worked effectively, in at least some of them. They began to seek to extend their involved factors to wholly new Elements, and, thereafter, try to find their affecting-properties and consequently their full range of potentialities.

Interestingly they could often explain things but not physically perform them!

Real-but-not-yet-True Science was born, but its philosophical basis was still an eclectic mess: it certainly was not yet consistently and soundly philosophically established! Gradually, sequences of causes-and-effects began to be linked together, in more complex Explanations, and the Principle of Reductionism was devised, and widely accepted as the appropriate guide to ever-fuller Explanations.

Ultimately, it was believed that a sequence of causes would ultimately be unearthed - one-below-another, which would, "in time", all being well, arrive at the bottommost substances, the foundation from which all those-intended-things could be produced by those processes, associated with these Explanations.

And, coupled with this, was the considered-to-be-essential Principle of Plurality, which saw all known relations between Causes & Effects as Eternal Natural Laws, that were both entirely separate-from, and indeed wholly independent-of one another, and also totally unchanging, and could, therefore, be merely added-together in various proportions and appropriate sequences, of the correct conditions, to produce absolutely Everything that could possibly exist.

But, such "Principles", though assaulted on all sides, with multiple exceptions to those rules, STILL survive to this day, and have finally, in many areas, brought Science to a stuttering halt, as a possibly consistent, and comprehensive interpreter of phenomena in many important areas.

Indeed, the Logic employed presented many seemingly unsolvable situations, in which the required and usually-available and rationally-decided-choices appeared to be unavailable.

And, these were the situations, where Dichotomous Pairs of contradictory concepts seemed to be equally applicable. But, at the same time, absolutely NO incontestable reasons were available for the correct choice to be purely-rationally made between them.

Naturally, the "old-and-reliable" Pragmatism was employed - by trying each alternative to see which one had-the-legs-to, thereafter, allow a continuation of the reasoning to take place. It could, thereby, lead to intended outcomes, but they were NOT the result of continuous sequences of reasoning based upon the supposed Natural Bases alone!

Hence, all such Theory was full of these Rational *Holes* - patched by pragmatic, rather than rationally-explained, links, at some of the necessary steps.

The most dramatic example, currently, is in Sub Atomic Physics, where the attempted Explanatory Theory led to the same entity being dealt with sometimes as a Particle, while at others like an Extended Wave - in the infamous Wave/Particle Duality, which delivered a Contradiction, that simply couldn't be theoretically resolved. The chosen solution to the impasse was (remarkably) to abandon Physical Explanation entirely, as wholly unreliable in the face of the mysteries of the universe, and wholly replaced its Materialism with Idealist Formulae and their well established Rules-of-thumb, to somehow pragmatically achieve the required results.

They quite wrongly call this "Theory"!

It is, at best, a succinct and useable Description of Form, which can certainly predict, but it cannot, and indeed never can, explain "Why?"

Science has become the work of technicians.

Clearly, there was something profoundly wrong in the universally applied stance and methods of this important Discipline, which had brought Science to this terminal, and currently rationally-undevelopable state, not only once but all over the place. Clearly, this had both to be diagnosed, and then corrected, for real Understanding to be able to proceed! But, thus far, it hasn't been (so it subsequently proved), in Philosophy, in General Formal Logic, and in Science too.



For, since its initial discovery and employment, in his famous Paradoxes, by Zeno of Elea, 2,500 years ago, a pragmatic get-around known then, and as described above, has ever since been re-employed whenever such Dichotomous Pairs emerged in reasoning.

Both alternatives were tried, and the one which led onto further rational developments was taken as “the right choice” - even though no rational reason had been revealed apart from “it seems to work!”

And, it took Mankind a further 2,300 years after Zeno, for Hegel to consciously decide to address this important flaw in Formal Logic. And, his extended period of research into Thinking about Thought came up with a damning criticism of the universally trusted Formal Logic.

For, Logic certainly couldn't cope with Qualitative Change of any kind at all. And, even ordinary everyday Thinking that arrives at something wholly new, could not be explained within the usual methods of reasoning - for NO way could the “wholly new” be purely-rationally derived.

So, they were just “added-in” to the Current Comprehensive Bag of Content, without any rational-justifications for embedding them within past Knowledge and Understanding! Now, Hegel knew this just HAD to be WHOLLY incorrect!

The usual resorted-to “solution” was yet another pragmatic addition. He knew that he, personally, actually arrived at new ideas by reasoning, but it wasn't by never by Formal Logic alone. It involved, what he termed an as yet undefined Logic-of-Change, and he determined to reveal what was involved, and to create such a wholly New Logic himself!

Now, of course, Hegel was an Idealist, so for him Thought was primary, and all problems could be solved in this abstract way - therefore, he was, unavoidably limited to the processes and rationally-arrived-at products of Thinking alone.

Of course, when you do that, you set yourself an impossible agenda, for everything has to arise only out of prior thoughts, yet wholly-new-things have no concrete source in such a schema!

You have to start with a fundamentally closed system, Formal Logic, driven by fixed Laws, and it can only use these, and nothing else, to reveal “all possibilities”. Despite this, Thinkers do-indeed introduce new ideas, but they handle them only in the prescribed ways. They cannot deliver the origins of their additions, and, if pressed, attempt to explain them in terms of established ideas via the inadequate means of Formal Logic alone.

Needless to say, even Hegel didn't succeed with his chosen undertaking! His Dialectics saw all Qualitative Change as due to the Interpenetration of Opposite *concepts* (which only happen in Thinking) - but what actually underlay that process?

His best student had a solution!

The actual source of the wholly New was in the Real-Concrete-World outside of the Thinker: a solution to the impasses generally would only be possible if the whole underlying Stance was changed from Idealism-to-Materialism, and the necessary processes-used extended to include concrete investigations in the Real World, to reveal where and why such things occurred.

That student was, of course, Karl Marx, and he wholly transformed Hegel's philosophical ground, into what Marx termed Dialectical Materialism - using initially the methods which Hegel had begun to establish within Human Thinking, but into a very much wider realm - for the first time including all of Concrete Physical Reality too.

In other words, the actual combined Causal sources of all new concepts would actually be there in studies of concrete Reality itself, which in various combinations of different-causally-integrated situations could deliver these very different results. Indeed, remarkably, these would never have been predictable from the fully-known conditions existing before the Transforming Emergence, as the results will be caused from a wholly different amalgam of active components, sourced from a new set of previously-connected but now dissociated contributors into wholly new integrated causalities: they had Qualitatively different results - impossible Pluralist assumption of Reality in the World - but long accepted within the Holist alternative espoused throughout the Orient and originally formulated by The Buddha.

Marx's Philosophy would clearly have to be considerably extended, as he had done for *Das Kapital*, in a truly holist/dialectical way to also be capable of dealing with The Sciences too! And, by establishing crucial primary-defining-links between Thoughts and concrete Reality, he even found the same sorts of dynamic, developable features in Concrete Reality, that Hegel had revealed-for, and limited-to, Thinking alone!

Hegel's idealist philosophy couldn't possibly have done that, but he could very carefully seek answers, entirely within Human Thinking, and he did make a particularly significant breakthrough. It was, of course, in his attempt to deal with Dichotomous Pairs of Contradictory Concepts, and the consequent unavoidable impasses that they inevitably generated in ordinary Logical Reasoning.

He discovered that situations that led to these impasses, always, in all connected prior reasoning, involved certain assumed-premises, and he decided that it was in these that the problem lay. His purposely-limited task, then, was, therefore, for any Dichotomous Pair, to reveal those damaging premises, in full, and work out which were either mistaken, or even missing, and then, by a correcting adjustment of those premises, he would totally avoid such impasses, as had occurred previously, and instead deliver a straight-forward fork in the reasoning, at which a strictly rational decision was possible, because of the now different premises, to correct, and thereby easily transcend, the prior error-based difficulty.

Hegel realised that instead of either:-

1. ignoring the impasse and getting around it purely pragmatically, or alternatively.
2. Trying to determine which arm was "primary".

He would, instead, seek out other Dichotomous Pairs, AND their previously-considered-necessary premises, in order to, if possible, reveal and correct all those mistaken premises, so as to always attempt to open pathways for a clearer, consistent and comprehensive form of Reasoning - to effectively address absolutely Everything, purely within Thought!

(This is always the problem with philosophy)

Of course, in Reasoning generally, it turned out to amount to an infinite, onerous and debilitating task - as

the same processes would have to be followed at each and every impasse, which would, in the end, not only inevitably repeat forever, but also by such means alone addressing only a minor fraction of the problems caused. And, such a comprehensive task was actually impossible within any current and necessarily incomplete state of our Knowledge and Understanding.

So, a half-way-house alternative was proposed, which constantly re-stated the problem by always first-of-all finding, and then juxtaposing "an absolute opposite" to every single concept! So, as you might imagine, not all concepts were so easily paired, and Hegelian Dialectics often deteriorated into a maze of "opposites" - many of which were actually *linguistic* rather than *intrinsic*, as well as being limited only to cerebally possible ideas, and hence governed only by "laws of Thinking" - more like a clever puzzle than a revelation of Reality...

And, of course all ideas must have originally come from that Reality!

When limited to Thinking, every Thesis, required only an Antithesis, and it was then up to the individual involved to try to attempt a particular and meaningful Synthesis.

Now, this wasn't just a means to the very same end at all! Indeed, the purely cerebally contradiction began to be taken as only being such, because the valid contributions of both of these opposite concepts, to the actual current state of the problem, were not being adequately considered.

So, instead of always assuming a flat, sought-for Reality, the task became the recognition of a Struggle of Variable Opposites, either side of which could indeed dominate in the particular selected-for circumstances.

It also, and this time more intrinsically, introduced a "kind" of dynamic for Events-of-Significant-Qualitative Change, if there were embedded in the situation Two-Real-and-Direct-Opposites, which, with a changing situation, could lead to a seemingly-irrational transformation in outcome.

The following initial simplified tenets arose:-

Thesis-Antithesis-Synthesis  
Extremes Meet

## Quantity into Quality

And, beware, many a false "dialectical argument" has been constructed directly upon such simplifying tenets!

Only Marx, with his very different (and more thorough) Dialectical Materialism, could take such arguments well-beyond Human Thought, and consider the contradictory factors BOTH causally present together within concrete Reality too, in determining physically-caused as distinct from merely conceptualised Outcomes!

Concepts were most certainly NOT just unchanging or fixed cerebral premises AND Human Thinking is NEVER all encompassing. Neither is it always totally correct!

It is, at best, always only an Inadequate-Reflection of Reality. And to seek the Whole Truth only there, is bound to fail in almost all cases.

That is why Marx turned away from Hegel's Dialectical Idealism, and instead made Concrete Reality the only reliable source for all cerebral concepts: as well as dumping the assumption of Fixed Concepts, which had dominated both Formal Reasoning and Science, ever since the Greek Intellectual Revolution of the 5th century BC.

He couldn't, of course, do it with every single impasse in Thought, but Marx still applied the approach to considering the concrete History of Human Societies, and took the things to be considered away from mere fixed cerebral conceptions alone - for they would always alone be totally inadequate, and, at best, only a reflection of the given studied moment.

The total omission of Qualitative Change, from the universally adopted Pluralist Logic, made real Development totally impossible to explain! By vastly widening the scope of Hegel's discoveries, Marx also extended the sources of possible causes of Contradiction, and hence made it about concrete Reality-in-General as well as in "Logical Reality" too.

NOTE: At this point, it seems appropriate to show how these ideas work for a Dialectical Materialist, which would never be remotely possible for an Idealist. The problem for this aspiring Dialectical Materialist physicist (Jim Schofield) was to find an alternative, dialectical explanation for the famed Double Slit Experiments,

which had become the major cornerstone for the Copenhagen Interpretation of Quantum Theory.

And the consequent proposed Dichotomous Pair consisting physically of the Particle and the Wave explanations, which both were seen to be legitimately extant in different conditions of the very same thing. This "supposed concrete equivalent" of Hegel's flawed premises had to be sought, but here, the supposed missing premise could only be *physical*. It was hypothesised that the contradiction could be caused by something we had missed - a missing, and perhaps-undetectable physical Substrate, and the correcting of that "key premise", had to be to re-instate that Substrate, and thereafter observe all its possible effects.

But, exactly what would it be composed of, in order to both deliver the observed effects, but, at the same time, also its necessary undetectability? It soon became clear that a full and comprehensive definition of its composition would not only be an onerous task, but would also have to be undertaken, if and only if, a brief prior theoretical investigation indicated that a solution might well be possible. And, this was indeed undertaken, with a simplified definition of a suitable substrate.

With this alternative assumption every single anomaly in all of those Double Slit Experiments was totally removed, just by theoretically re-instating a Substrate - using, for this purely theoretical experiment, only already-known particles and their properties to construct it.

Now, in this attempt to get to the bottom of Real Concrete Contradiction, we, of course, have still to go very much deeper, and explain why such a physical contradiction is so important, and, of course, why they emerge at every single Level in concrete Reality - from Sub Atomic Physics, to Social Revolution - just as they do in Thinking!

And, in so doing, we will surely arrive once more at Hegel's paramount problem with Formal Logic - namely, its fundamental inability to acknowledge or deal with Qualitative Change - any Development, Evolution, or Revolution - all of which we know not only exist in Reality, but over time actually built it.

And, perhaps surprisingly, the beginnings of a solution came not from Science, Philosophy or Dialectics, but from a detailed Holistic study of the Origin and

## Evolution of Life on Earth!

The Key Phase, in that Origin, just had to be, in the revolutionary transition within an initially, purely non-living, but already complex chemical world, of a wholly-new, and very-different kind of process, possessing the very first instances of an extremely primitive form, in some significant ways, similar to Life.

These entities would have been very different to any that survive today, but, surprisingly, rather than having only a very-weak, precarious existence, they would, on the contrary, have survived, and grown in vast numbers, for the very different reasons - yet still as purely "chemical-systems".

NOTE: Now, the following idea is a very revolutionary suggestion, because it is likely to have NOT been a part of an ever-ascending series of steps, ever-upwards, towards Life, but, on the contrary, there was instituted, a short, and later dispensed-with Interlude, in which a vigorous, though limited, diversionary development, would, for a short time, deliver a widely dissociating-and-re-organising tumult of changes, that presented NO possible future on-going development, in that Phase, but did achieve a necessary clearing-of-the-decks, to enable the next crucial phase! What is absolutely crucial, is that it could never occur with the usual Pluralist conception of fixed Natural Law - but *could* do so with a Holist, Dialectical conception of such "Laws", which can contradict, affect and change one another as systems evolve.

They would have been much more vigorous and strongly-persisting than any other simpler chemical processes that surrounded them, and, therefore, competed with them, on all sides, when necessary, for the very same required resources. For, these new systems would both grow faster, and persist longer, than everything else. [Think about something like a very primitive virus].

Now, this is a surprising position to take! You would expect ordinary substances, and their interactions, to be more persistent, as Stabilities were their modus operandi, while the new forms were also much more subject to change. But, this changeability actually made them simultaneously more conducive to changing contexts, making them potentially very adaptable, while the usual "one-song" straight-forward chemical processes simply couldn't change in the same way, while also ultimately

"dying out" as they ran out of amenable changes! [Again the novel Coronavirus is just the latest version of just such an adaptable biochemical system]

Amazingly, even at such a stage as this, we are still not yet talking about Darwinian Evolution: for those systems would have been initially at least mostly chemical, but, for some important reasons, were also exceedingly persistent, and therefore could grow very quickly in numbers of individual processes, and in certain cases actually establish relatively stable overall systems. The question, of course, has to be just how such outcomes could be achieved.

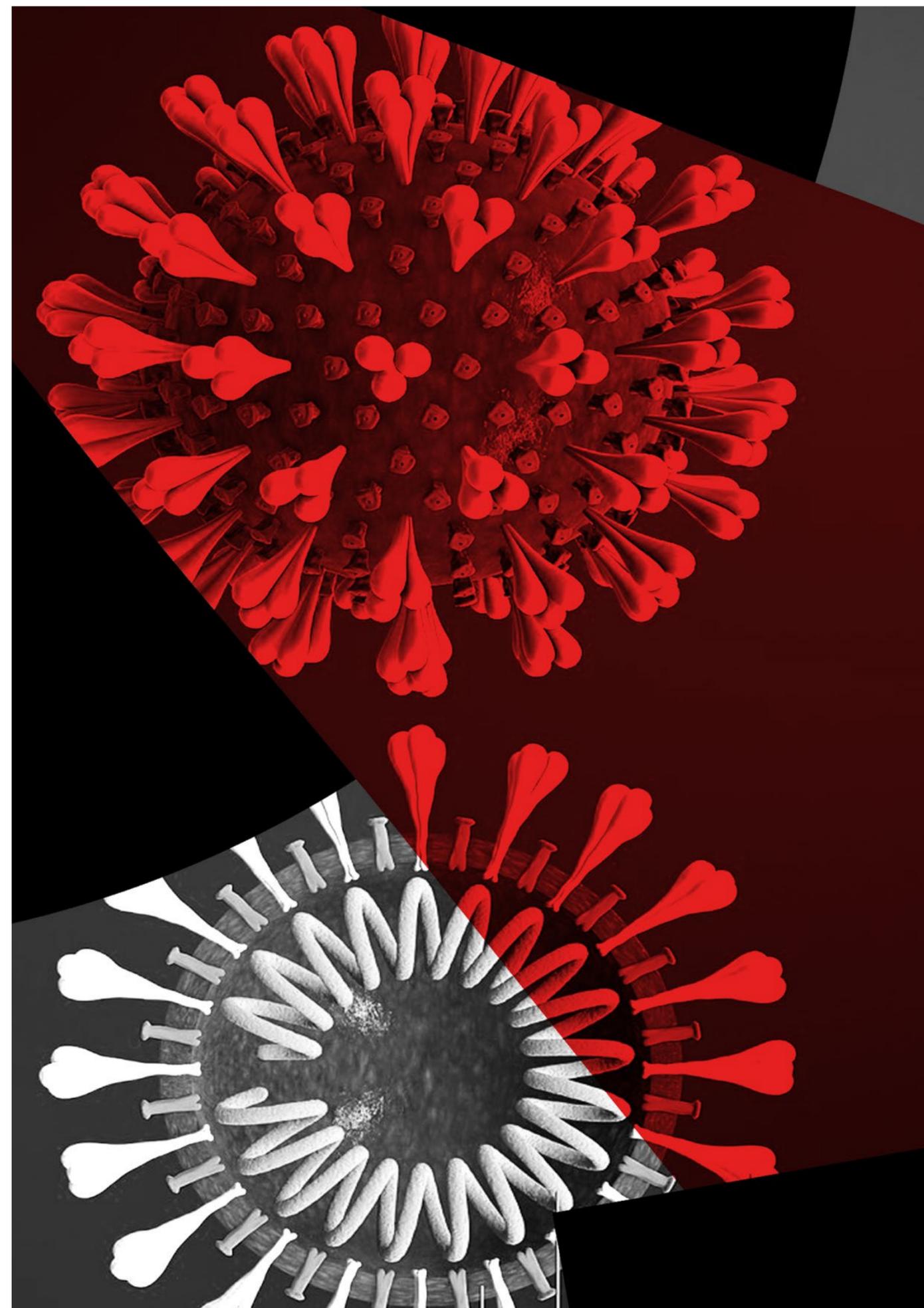
Indeed, even after a major transforming calamity, some remaining systems could also have some significant advantages over simple, individual chemical processes - perhaps possessing already-involved energy, that would not be so easily available to the usual purely chemical processes, surrounding them.

Now, of course, we don't know yet anything-certain about these initial pre-Life systems, but from what certainly happened later in their vast subsequent History (it is reckoned that such a development period must have spanned around 3,000,000,000 years, and has been characterised latterly by Life and thereafter by what we call Evolution).

Now, clearly, those earliest "almost-living" systems could not evolve in the way real lifeforms can: Evolution involves complex Living-Competition, so with the first such entity, it would initially have Zero living competitors - and only ordinary chemical processes to contend with. But, it would be "superior" to ordinary chemical entities, crucially having the ability to Change, which ordinary chemical processes could not do. But, at the same time, it would not have the qualities of Life, as Life would seemingly be mostly chemical processes, but organised into systems, containing built-in purposes.

So what I am seeking is a possible route to achieving that via a hierarchical system of intermediaries, which because of their vigor could drive simple chemical systems into a series of steps towards Life. Clearly, though, all we have today as suggested intermediaries are Viruses, but they are already much closer to life, with reproducibility etc.

This is still an unsolved problem!



So, initially, its success would be in the increasing amount of its actual overall substance. So it would, (because of its advantage(s)), become at least locally abundant. Yet, certainly, NO evolutionary changes would still as yet be possible! And, the presence of such a successful variant system would actually, in time, ultimately-change the nature of its local environment: and hence it would also convert-itself from being an odd variant, among a population of purely chemical processes, into becoming ever more of a context-maker for those individual chemical processes, at least locally, and for a time.

And, this would ultimately have two very different effects:

First, it could, and often did, affect the conditions for those other strictly chemical processes!

and

Second, it could compromise its own growth or even existence by separating-off local areas-of-itself, progressively, from the crucial resources it essentially required.

NOTE: Now, at this point our alternative philosophic stance of Holism, can begin to transform a “seemingly-chaotic” view of Reality!

For, the new level, involving Systems of related chemical processes, could not but one way or another, begin to transform their own forming-environment, to ultimately change what could happen there: so that other new multi-process systems could begin to emerge in the changed contexts. So, thereafter, instead of relatively fixed, lego-like purely-chemical processes effectively getting-nowhere-overall, the Emergence of wholly New Systems would sufficiently change contexts to eventually be regularly producing even more new contributions. Now, such obvious and physically-simple-constraints would begin to also impose various limitations upon the future of our almost-living systems, and also, via their successful replications or even their inhibitions, to therefore increasingly re-define the best situations for the optimum successes of a given population of certain increasingly dominating Systems.

And these developments may have been limited to only surface positions upon solid stable substrates, or even to extensions in length rather than of area, or volume.

Certainly, once in existence, and proliferating, a Collection of such Systems would certainly encounter successively-less conducive conditions, either natural, due to local surrounding substances, or even due to its own dominating presence.

Conducive Circumstances?

But, before we go any further, it is clearly essential that we clarify those optimum conditions (as best we can) from where we are trying to visualise this (as for us, it is never an actually experienced situation), for the appearance and continuation of Life to have actually finally occurred, and indeed thereafter developed.

For it has delivered a very Contradictory Existence!

It is both conducive to change, yet must also be resilient in steadfastly maintaining its overall Existence: and these are indeed contending *Opposites*.

For simplistically, you would not expect something apparently impossible-to-change becoming what thereafter actually persisted. While the changeable would always, in the end, find one way or another to perish!

The extremes between what happens within a storm, or in so-called Empty Space, would certainly still prohibit the sort of developments we are considering here, and the very continuing presence of Life over billions of years on Earth points strongly to a planetary origin which both retains Life resolutely, but allows it to Qualitatively Change.

But, of course, not on absolutely any planet, and certainly not in all possible conditions. The primary states of Matter - namely Solid, Liquid and Gas - certainly will present many very different and determining constraints upon Life's origins. Perhaps the main one is the capability of movement for our initial-life-scrap, not initially via having its own means of locomotion, but, passively, due to the nature of its moving context.

Movement through a solid is generally not conducive, but it is certainly possible both in liquids, and in gases. But, within a gas, seems too agitated an environment, while a liquid would certainly be significantly better.

Yet, we also know Life did originate on Earth, so, perhaps, we are considering a context having both solid-

for-stability, and a liquid with currents and tides for passive transportation, as the most conducive situation. And, clearly, the simplest common liquid, Water (H<sub>2</sub>O) would require a very constrained range of temperatures for it to remain liquid, at least somewhere. And, only large amounts (as in oceans) to both cause currents and tides, and allow the necessary movements to ensure that our pre-life-scrap will ultimately find where-it-needs-to-be - to survive!

Clearly, Stanley Miller, in his famous Experiment, considered these conditions too, and constructed his transparent-yet-totally-sealed apparatus, containing what he knew of the Earth's primeval atmosphere, along with water. He sealed them absolutely from contamination by our own environment, and adding-in only heat (from a supposed Sun) and electrical sparks (from supposed storm-caused Lightning). He also included a condenser to turn evaporated water vapour back into liquid water - via “rain”. He set his sealed apparatus in motion, and left it to see what would happen. Within only one week, when he inspected his apparatus from the outside, he saw that the contained liquid water had turned brownish-red, which upon subsequent analysis was shown to contain Amino Acids - the actual crucial building blocks in the subsequent DNA of ALL present-day living things. It was an excellent demonstration, if also totally incapable of further development at that time.

NOTE: the writer of this paper, Jim Schofield, has theoretically devised a whole system consisting of an Extended Sequence of Experiments - each one devised directly from the lessons learned-in, and the questions posed-by its immediate predecessor, and all of them developed from Miller's prototype, but, in addition, using inactive barriers to separate and channel internal flows, each one containing non-intrusive regularly-timed, sampling monitors, positioned at regular intervals along these channel barriers, to deliver, each time, a “changing” account of what was happening.

Each experiment was, initially at least, designed only to provide appropriate data for following re-designs and numbers of the inactive channelling increasingly required. Such a sequence of experiments would, overall, be a major, long-winded, and expensive undertaking, but certainly worth it!

Returning to the topology of potential situations for early Life to occur upon a planet like Earth, we have to

consider all possible interactions, whether non-living, or our early forms of Life, in various topological contexts, and also consider the consequent non-living, yet creative developments of such contexts - entirely due to their own intrinsic multiple, interacting processes, as well as passive distributions, and the possibility of stable states, or even niches, that were possible due to stationary, immersed solids to provide temporarily-protected enclaves to allow a wide range of early possibilities to be tested-out-first, in the most conducive situations (but only, of course, as temporary, necessary interludes in a development that would later become independent of such conditions).

Admittedly, such a wide-ranging set of requirements may seem inhibiting, but as has been proved with Miller's foray into his area, and possibly also by Schofield's suggested developments, well-designed experiments in developmental sequences, could most certainly be employed here too.

I am currently drawn to returning to an even earlier pre-Life stage, to consider in detail the development of multiple, non-living, chemical processes, all requiring particular resources and thereafter delivering newly-available products, BUT, involving no pre-existing purposes: in other words, entirely determined by what was naturally available, and what was possible within actually-available contexts.

You can see why a liquid medium (water) would facilitate maximal mixing, and also present the widest possible range of conditions and possibilities, accessible via Flows and Tides. And, if we, in such conditions, legitimately assume large numbers of possible processes, we can, (even long before Life) still consider what I have termed *Truly Natural Selection* occurring at the pre-life level.

Indeed, such developments and the topology in which they occurred, would be invaluable both in our originally stated objective, and perhaps also in revealing the concrete (rather than *intellectual*) origins of relationships such as Opposition - in which we find directly contradictory processes evolving over time - and at higher levels perhaps physical causes for Dialectics too!

[You can see why this writer, being a scientist, as well as a philosopher, would naturally be drawn to such extended objectives as being absolutely essential to be considered.]

So, following the above extensive, though absolutely-necessary detour, perhaps we can, in the sorts of contexts considered above, begin to address the actual real-world origins of Dialectics - at a non-intellectual, and hence purely concrete, level! Dialectical causality occurring within concrete Reality and its natural processes! The ideal context for such considerations has to be a maximally varied, maximally mobile, and rich environment.

Let us assume a body of liquid water, with a history (at least) of access to further expanses of water, solid land, and interchanges with a globally-connected atmosphere. Such a context would guarantee, a maximal number of dissolved molecules, and even suspended tiny solid particles, and thus ensure a truly large range of processes going on simultaneously within it.

Needless to say, these processes will certainly not be going on entirely independently of one another. In our assumed to be Holist World, they would constantly affect one another, and, even in some circumstances, promote both conducive (supportive) relations, while also causing inhibitions, due to competition for the same resources. Indeed the original primitives - formed in specific conditions will very soon encounter other processes - some entirely complementary, and hence allowing combined sequences to occur, while others potentially competing for the same resources, and therefore being detrimental to one another.

And, in those latter situations, one or the other may very well *dominate*, or, alternatively, an *active-balance* between them may be produced.

Clearly, in such a complex and chaotic mix of multiple, different processes, one significant determinant of the consequences will be any diametrical oppositions - indeed Opposites!

NOTE: Indeed, such totally opposite processes have been used in research to actually achieve oscillating pairs of processes, which with differing colours, have enabled the solution of the actual nature of reaction-fronts of dissolved chemicals within liquids, which revealed them to be in the form of Toroidal Scrolls - the maths was done by a friend and research colleague of mine, Jagan Gomatam, when we worked together in Glasgow Caledonian University.

While, at the same time, the majority of other processes (not so diametrically opposed) may effectively be so random as to present a general, relatively-unchanging, overall background “noise”, minimally affecting both each other and our diametrically opposing pair.

But the opposites, which, though competing, are likely to be producing very different products, will certainly affect one another, and, in switch-of-dominance-outcomes, will change things dramatically for the context in general.

Indeed, we must consider a range of outcomes for these diametrically opposing processes, ranging between the Dominance of one, via various proportions of each, in a particular, possibly-oscillating, balance, all the way to the Dominance of the other exactly opposite process. It will be their different products that determine such a flip!

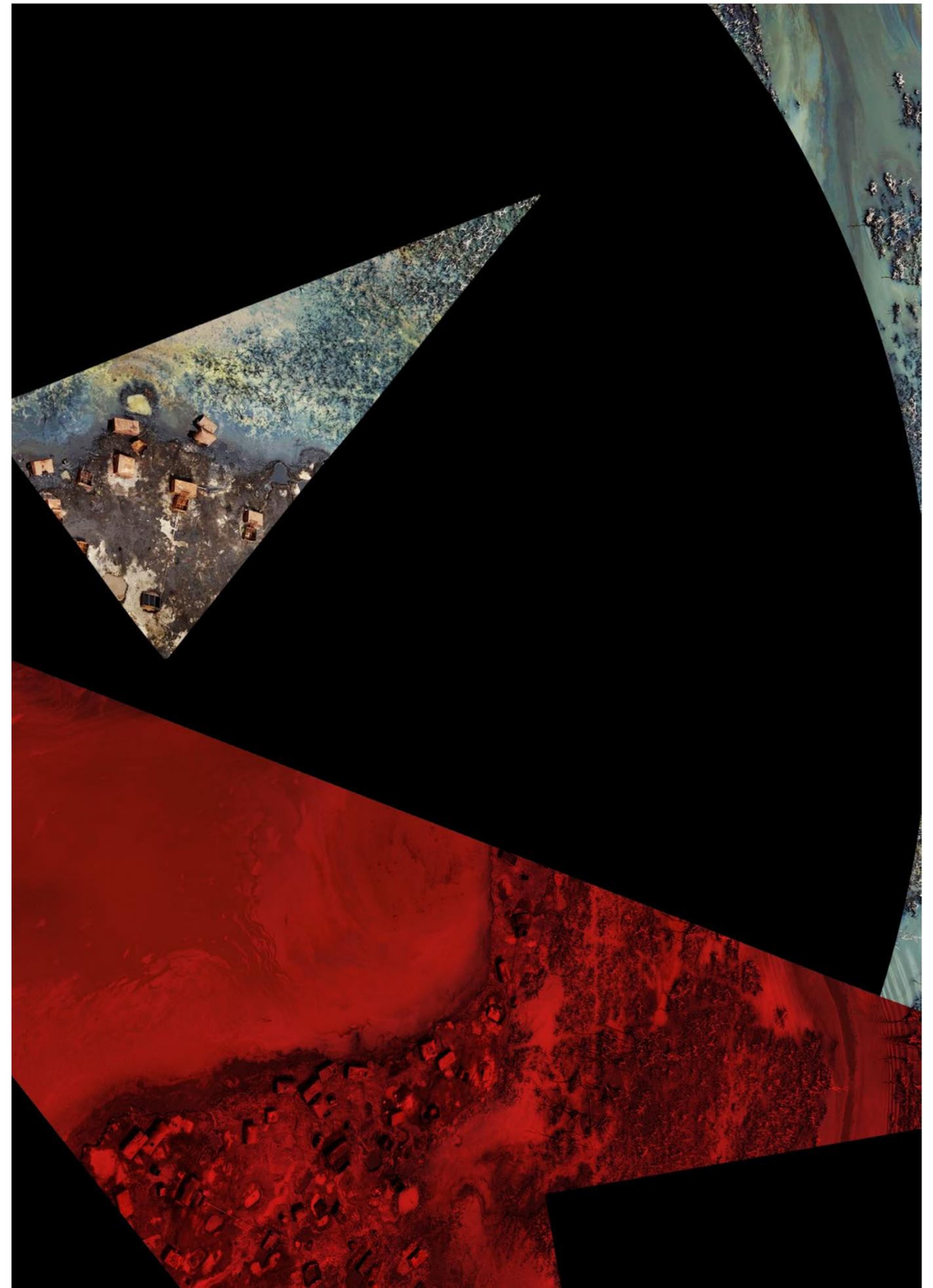
Let us consider a possible trajectory of such a relationship over time.

The usual changes will be towards one or the other's dominance, which are likely to persist once established. Indeed, it will require quite major changes elsewhere in the local mix to challenge a current dominance, and perhaps, in quite a short period of major transformation, flip the situation over to the dominance of the other alternative.

BUT NOTE: More recently researches have led to the consideration of what I have called Balanced Stabilities, wherein many different pairs hold each other, and “collectively” a whole bunch of them in check, so the overall situation appears to be a natural and permanent Stability - BUT it never actually is!

Indeed, though often very long-lasting, it is in fact a self-maintaining, and therefore always-temporary situation: and this gives the appearance of “Stability” or even “Permanence”, but always, in the end, is terminated by its total general dissolution, and inevitably followed by another though entirely different Balanced Stability! - similarly constructed and persisting.

Now, such considerations may seem unlikely to prove anything substantial, but that would be a truly major mistake! Another and absolutely crucial product of Hegel's Dialectics was “The Emergence of the Wholly New”, and with Marx's revolutionary transference of these to a Holist/Materialist stance, he could include Chemical,



Physical, Biological and even Social Emergences of the wholly New too. Indeed, at much higher levels of Reality, Marx explained Social Revolutions in just such terms.

Very importantly, this paper is certainly NO pluralist attempt to explain the higher in terms of the lower, and, and indeed not in terms of the lowest-of-all levels, but does indicate clear *Systemic Resonances* at all the different levels of Reality we can access, with ever more complete novelty as things developed over vast periods of time.

In a hierarchy of such Levels, the most primitive examples of the change-overs will be both easily reversible and repeatable. But, as things complicate and grow in size, with a regular increase in wholly new additions, such repeatability will become ever-more-difficult, and at some point becomes impossible - that is, it will cease to be "exactly repeatable" - for the outcomes will get more and more different, and future significant changeovers will be from very different contexts from their initial immediate predecessors.

Now, another significant kind of process will also be changing its initial context from a merely additive set of primary processes, to something increasingly more complex. For, in addition, individual, conducive processes could be effectively joining together, where the product from one becomes the resource for the other. The basic nature of their successes will be the same: for as Process-A increases, it will also cause the consequent increase in the linked Process-B. And not only in pairings, but even in longer chains, and occasionally in the actual closed-loops of processes, that will also occur.

Independent Primary Processes (à la Plurality) will gradually (à la Holism) form Systems-of-Processes. And, these too will also tend to have opposites - that is, appear as systems that do the opposite, so similar Systems Possibilities could occur as they did with Primitive Processes.

But, in addition, the survival of a System-of-Processes could be severely challenged in a new way.

For, the chains of such a System don't only involve links of the Product-Resource kind, but other lateral links too, and if these are taken away by a competing process, the whole system could begin to be undermined or even ultimately dismantled.

Remember "Everything affects everything else!"

And such Spoilers are termed dissociative, indeed parasitic processes, and they will become increasingly important as things develop ever further.

The point, I am making, is that though some patterns will recur at higher levels, others will be significantly changed, and make exactly-repeated oppositional flips less and less likely.

Indeed, by the time we consider the complexity of Human Societies, the major changeovers - Social Revolutions - can never be exactly repeated, and both successful, and even failed Revolutions, will always permanently change both what is produced by it, and the nature of any future Change. For, too much has been transformed for things to be ever returned to their prior states.

Clearly, there is still much to be addressed in this area!

And though many phases of the overall trajectory are beyond our reach at present, much can be done in the still accessible areas, such as in the study of past Revolutions (the works of Michelet, Marx and Trotsky come immediately to mind). But, also, with a steadfast holistic stance, and with incisive and innovative thinking, new forms of experiment can, and indeed will, be devised to research particular past developments, often in an imaginative "transferred" or analogistic contexts --- here the brilliant "Walker" contributions of the French scientist Yves Couder come to mind, where oil was used as a Quantum Analog - as does the mathematical researches of the writer of this paper, with his demonstration of the appearance of Double Helices, as found in DNA, in his three-dimensional "Soma Strand".

BIO:

Jim Schofield is a scientist, I.T. Specialist and philosopher from Lepton, UK. He has some 50 years experience teaching at all levels of Education, (and especially in multi-discipline research work) in Hong Kong, Glasgow, London, Leicester, Leeds and Bedford, the last 24 years have been spent entirely in Research and Writing.

HISTORICAL NOTE:

This paper was written in November 2016, where it reflected a stage in the writer's new research required for his intended Marxist Demolition of the Copenhagen Interpretation of Quantum Theory, finally published in 2019. As well as delivering important contributions to his on-going research into the Origin of Life.

ADDENDUM:

The gaping hole in this account, occupies the gap between the still-occurring-now physical and chemical interactions, and those involved in Life!

The trouble is that such a trajectory is no longer occurring, having been entirely prohibited wherever Life itself became permanently established, and that prohibition achieved solely by those of Life, which both replaced and disabled those original creative processes, concerned with its own achievement of Life itself. And it currently also seems to be the case, that no new fundamental interactions were involved, and that what were the Creative Agents, were, in fact, merely the selectively-driven systems of certain fundamental processes, which created a whole Hierarchy of Multi-process Systems. And, even Multi-System arrangements in an ever increasing hierarchy.

Thus far, it also seems likely the regularly repeating and oscillation systems, are the most likely of these arrangers - especially involving constantly repeating Cycles, so instead of single instances being the norm, "driven-repeats" due to orbitings and a constant input of Heat, would significantly change the resultant effects of such maintained cycles over time - by reinforcing certain repeating processes while effective elimination uncondusive accompanying components!

For if favoured processes get the required energy, but the uncondusive ones do not, the latter will gradually cease to be significantly represented in "The Mix".

Also, as already been inferred in the main body of this paper, the role of certain processes, like the creation of Virus-like entities, could, by their speedy reproduction, out-compete and hence eliminate many previously existing processes, and even systems, without themselves containing the wherewithal to develop beyond a certain point themselves.

Clearly, much is still left to be established, but the task is underway! The next issue of SHAPE Journal will take this work further with a specific look at the role of Cycles in both Dialectical Reasoning and Evolving Natural Systems.

## The Trajectory of Development

The biggest error one can make in addressing Change, is to assume that such processes are exclusively-quantitative, and only govern the various ways in which such increases are brought about, for they, then crucially, and unavoidably, thereafter, affect the resulting products, which can always then lead to changes in the processes involved, entirely due to the consequent changing context.

Obviously, the biggest determinant of both the following initial processes, and how they will ultimately and inevitably be self-defeating will depend upon that assumed starting point - the nature of the initial units involved, and how they were originally produced, because to assume absolutely nothing about such questions, prohibits any kind of start in addressing such questions.

But, of course, the whole inconvenient problem goes away, if the Principle of Plurality is assumed: for then, simultaneously-acting Laws no longer affect one another - they are totally independent of one another, and their quantitative individual effects will simply be summed-unchanged!

Yet, even the most basic assumptions would surely include both Matter and Energy as unavoidable basic components, and an initiating Event, presumably as the result of some unstoppable initial dissociating cataclysm!

The trouble with even this, will always be that the situation we are attempting to understand, will inevitably be a very long way from any initiating Event. And, will have passed through many different modes of subsequent changes and even the separating into various different lines of development, which could (and indeed will) thereafter affect one another!

Plurality is therefore both an incorrect philosophical assumption, and a very misleading approach to studying Reality - it will only apply in rigidly controlled situations which we can term *Stabilities*, but these only ever last so long.

Interestingly, Karl Marx, who was a historian as well as a philosopher, was presented with just such problems in bringing together Hegel's recent formulation of Dialectical Development, which he had termed Dialectics (involving unavoidable Qualitative Changes), with events in History. And, he finally began to address all the multiple levels of such changes, by what he realised happened in the most tumultuous Events in Human History - Social Revolutions (admittedly a very late occurrence in the History of Reality, having followed a truly gigantic Pre-History, along with multiple even lower levels of development, before Societies, before Man, and even before Life!

You would think this was the worst possible place to start, by ignoring all of the vast trajectory of Development before it. But, paradoxically, it was, in fact, the-only-possible place to begin!

But Why?

Marx had realised that the vast majority of concrete developments were currently totally unavailable to study by Mankind. And, this was because most of it had happened long ago, and at tempos far beyond Man's ability to discern, either by experiencing them, or in what remnants were left for Man's subsequent analysis.

But, every Social Revolution necessarily involved Mankind itself, as active-agents, and at a tempo they could both discern, AND purposely intervene in!

So, Revolution was actually the ideal place to attempt to answer basic questions involving Dynamic Qualitative Changes, to for the first time, be in a position to see how these decidedly, non-pluralist changes actually happened in Reality.

And, almost two centuries later, Marx's Dialectical Materialism was finally (and belatedly) applied to Science, and even used in the successful analysis of creative movements in Dance Performance and Choreography! My research ultimately revealed, at extremely diverse levels, the same natural trajectories of both Quantitative and Qualitative Change.

Significant change always involves long periods of apparent Stability, separated by short tumultuous Interludes of substantial Qualitative Change - termed Emergences (or even Revolutions, when applied to Society).

And, these were revealed as occurring at every possible level that we could study, though at very different tempos, and involving wide ranging contexts.

The early efforts pre-Dialectics, by Mankind, were always limited to restricted areas of study, where the investigators always continued to assume the great discovery of the Greek Intellectual Revolution of the 5th century BC, in carrying over the mathematical Principle of Plurality, as being universally applicable to *all* Intellectual Disciplines, whereas, in fact, it was *ONLY* ever true of Mathematics, wherein the Pure abstracted Forms involved, never changed *qualitatively*, but only quantitatively.

And this, unavoidably, led to many situations, in which the Logic being used was incapable of dealing with the changes being studied, and hence led inevitably to irresolvable Contradictions, and even terminating Impasses in the rationality employed.





## Mind and Reality

### The Roles of Reason & Religion

The point at which such questions as these are addressed, cannot but be shown to have distorted the initial conclusions reached upon such questions, because sometimes it is impossible to detach-out current conceptions from what certainly then would have appeared to be permanent, on initial inspection.

Indeed, Mankind's very first such conceptions, were always the "Naming of things", and many, if not most, of these would remain unchaned for longer than the lifetime of the thinker! It was therefore undoubtedly the "best" first step, and with such a stable thing in any discussion of what might happen next, that primary assumption would definitely suffice.

But, the "Naming of a living creature", though also likely to be unchanging for exceptionally long periods, would, in the end, evolve into something different, and this would turn out to be a very modern transformation (remember evolution was only realised a couple of centuries ago, and philosophy is yet to catch up), and arrived at by studying fossils of no-longer-living lifeforms, and even finding wholly new forms in majorly isolated places, such as volcanic islands in the middle of great oceans.

Now, Mankind - in making these Namings, is still doing it NOW, with many millennia of their own development already behind them, and to do it using a uniquely developed Brain, rapidly and continually self-equipping itself with a Mind, to address such things.

But, clearly, such facilities have not always been available: there has certainly been a time when there were NO Thinking beings on Earth, and earlier times when there were NO animals at all. And finally times when there was also NO Life whatsoever on this Planet.

And, this time-based imperative, means that most of the questions that would ultimately arise for The Mind,

when it first occurred would never experience anything that would then question initial conceptions of absolutely Anything!

Indeed, somehow, very long ago, the first slivers of what could be called "Life" appeared that would certainly have NO brain and hence NO mind, so, it could only have possessed some sort of "plan" or recipe of possible processes, including, crucially, how it could carry on after its death, by also having been equipped with Reproduction, and hence producing offspring.

Already, this is very different indeed from the usual "Philosophical" discussions upon this subject in various important ways!

First it isn't a "trans-discipline" approach, but a very different "inter-discipline" approach, absolutely insisting upon *explanations* that soundly straddle the disciplines involved, and rejecting unwaveringly the universally-adopted Pluralist stance, which because of its falsities always makes such a separation of "so-called disciplines" unavoidable.

And Second, philosophy in the normal mode also treats its many Named Conceptions as "similarly" fixed in quality, and also carries-out its arguments littered with these unchallenged conceptions throughout.

For Example. a product of the Greek Intellectual Revolution in the 5th century BC, established the very first consistent and coherent System of Reasoning, in the area of what came to be called Euclidian Geometry, which was later, and quite validly, extended also to include the whole of Mathematics.

But it was only possible because all Form-Definitions within that discipline are forever Fixed, and this therefore imposed that restriction throughout, and consequently

enabled the implied Principle of Plurality, to be embedded in all its operations - the assumption that there were Eternal Laws of Nature that were separable and study-able as forms.

And this had allowed the whole system of Theorems and Proofs to deliver such a powerful and useable Rationality, BUT only to such Pluralist Disciplines! This became embedded in the Science and Technology that rules everything today.

The alternative, developed at about the same time, by the Buddha, was the Principle of Holism, in which absolutely nothing was so fixed: literally everything varied: and it was certainly true for absolutely everything else in Reality, outside of Mathematics.

Now as Mankind was still largely only a “doer”, and not yet a thinker, Plurality in artificially fixed circumstances was more than enough to develop the purely technological side of Science, and also a very straight-jacketed version of General Reasoning too - but all thinkers until the time of Hegel still continued to apply the Principle of Plurality to absolutely Everything!

And that did irreparable damage to General Reasoning: for as soon as qualitative changes were unavoidable, pluralist reasoning generated unbridgeable Contradictions, which in Pluralist Reasoning must always be dismissed as false!

And, the best solution arrived at was to, at that precise point of Contradiction, establish a Discipline Boundary, and give up trying to transcend the gap with Reasoning. So Science was constantly divided into “separate sciences”, with only non-rational links between them. And further divisions into Specialisms, that acted in a similar way, ad-infinitem.

But, ultimately, the problems were so difficult that statistics was used in multi-factor-situations, and problems were simply handed over to the specialist scientist, whenever such a boundary was transgressed.

In the end, it still became intolerable, and, as both Technology and Mathematics were pluralist, the problem was blamed upon Explanatory Science, and in the Sub Atomic Realm it was abandoned as misleading, and the one-legged version of Technological Science was used instead, and a bastardised version of “Explanation” derived from the Maths alone.

The writer of this paper was originally a Physicist and a Mathematician, but within a single term studying Physics at University, I rejected their idealist stance, and set about seeking an alternative.

None were available!

And it took “Materialism and Empirio Criticism” by V.I. Lenin, and many detours through David Bohm and others, before I realised that the problem was clearly to do with a deeply underlying philosophical error - and embarked, at first very slowly, but finally with increasing speed and energy, into a Marx-like application of Dialectical Materialism to Sub Atomic Physics, and in consequence, to the correction of General Reasoning too.

It took 10 years, but, in the end, I was vindicated. The New Dialectical Materialist Explanatory Theory of Sub Atomic Physics was completed in 2019, and has been published in this journal across many issues, the latest of which was Issue 69, entitled *Waves and Fields*.

Idealism:

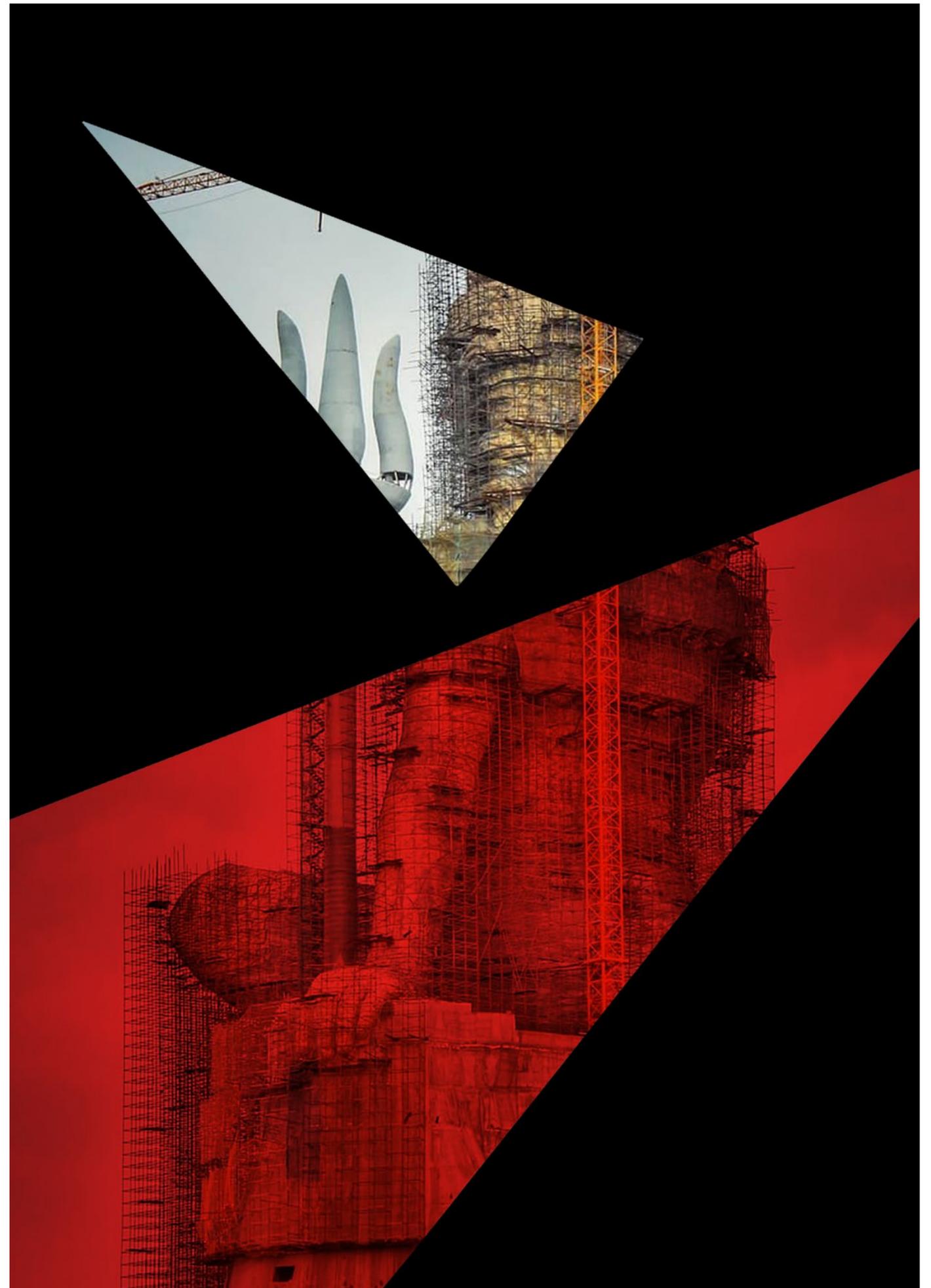
Now, the ambition to find the “underlying order in all things” - the all-answering “Why?”, was ever-present in Mankind, and the successes of the Greek Intellectual Revolution, gave some indications, within the powerful Rationality found in the study of Form - Mathematics, especially as that form-of-discipline was immediately carried over, by the Greeks, to both General Reasoning and even Science.

But, as it turned out to only apply to systems with fixed Laws and concepts (was indeed wholly Pluralistic), it inferred a Universal Order, determined by an unchanging structure of Natural Law - yet largely, so far, expressible in terms of Human Language!

There were gaps and contradictions, of course, but they could be accounted for by an omnipotent God, conceived of in the image of Man!

And because of this, the Languages of Mankind, if appropriately developed, might, in time, mirror the Designs of that Human-like Deity!

And the Pluralist nature of these Formal Laws, fitted in very well with this idea of their origin.



The backstop of Religion allowed a measure of Universality!

But, it also seemed to justify an Idealist stance too!

God was the Word: and the Word was God!

The alternative Holist View, with absolutely everything interlinked, and not only varying quantitatively, but also *qualitatively*, was considered wholly untenable! Nothing could be separated, controlled and therefore understood.

So, the rise of a Determining-Overarching-Order was increasingly embodied in what was termed Philosophy. And, the job of Philosophers was to uncover more and more of that Order, and express its qualities increasingly accurately!

But, of course, Reality increasingly got in the way of this simplifying stance! Everything wasn't permanently qualitatively FIXED. Indeed, as Science developed, more and more Qualitative developments were revealed - both in Matter itself, as such, and in its dramatic extensions, particularly into Life, and thereafter via Evolution into the very late production of Mankind itself.

And in all the branches of Science, even concerning non-living Matter, qualitative developments were legion, and could never be explained by a mere complication of Fixed Natural Laws. Reality was never just a Game with Fixed Rules!

It was always a self-developable, and self-maintaining System. Total Chaos is NOT the Natural Future of Reality!

Dialectics:

But the demise of Plurality, Idealism and Religion, as well as the increasing dissociation of the Sciences, certainly left Mankind wholly bereft of a rational means to make sense of a Qualitatively Developing Reality. Strict Pluralistic Causality still was useful in limited (and usually human-maintained) situations, but had absolutely nothing to say about real qualitative changes in the natural world.

The reason was that pluralist science always used a Single Law relating very restrictive situations: so they were necessarily "purely additive". Whereas real Qualitative changes always involved multiple "Laws", not only doing their primary function, but also, and significantly, also affecting other "Laws".

Indeed these were relative effects between simultaneously acting Laws: and they effectively did several significant things:-

- 1: They changed one another's actual effects, and
- 2: They changed the context, and even on occasion, flipped it into a new situation.
- 3: They reacted with opposites to occasionally balance out!

Once an *active* environment became causally involved, the usual one-to-one causality was replaced by something else, which as distinct from Plurality, could actually create the "Wholly New!"

Now in prior production, many different Laws were certainly still required, but previously ONLY "within their ideally-constrained contexts"! More complex products were insulated from any inter-relations between the individual Laws - so-called "systems" were always dramatically straight-jacketed, to avoid relative changes

effects. But Holistic situations, occur everywhere in Reality-as-is! That is why real Qualitative Development, and ultimately the Origin of Life and its consequent Evolution could occur at all.

And in a Holist World isolated Pluralist relations could only occur in well-maintained Stable Situations: everywhere else, multiple simultaneous Laws would form Holistic mutually affecting Real Systems - the kind we know in the World that surrounds us, but which we strive to straight-jacket into easily-controllable "Pluralistic Systems", allowing the usual forms of Technology to proceed.

As Marx discovered in his lifetime's labour to explain Capitalist Economics, by revealing how Reality developed, which was a very different task to those the usually available Rationality and Science could ever deliver! Concepts and Ideas changed qualitatively, and at certain crucial junctures suffered cataclysmic qualitative transformations, invariably causing Crises, which had to be accounted for and included from that time on.

And in certain situations the crises begat further Crises, ultimately dissociating a Whole Economic System in a Revolution!

Clearly, the new stance for attempting to Understand Reality is a very different Kettle of Fish!

From small acorns do prodigious Oaks grow;  
and from apparently tiny changes  
total System collapses can occur!

## Redefining Philosophy I

### From Plurality to Holism

You would think after two and a half millennia since the Greek Intellectual Revolution, that a Universally-Agreed-Basis for the totally Generally Applicable premises and methods for an underlying Philosophy would by now be well established, but that is not only far from being the case, BUT also inevitably so!

So, let us reveal the unavoidable trajectory of Mankind's Intellectual Development into a real perspective! For Rational Thinking of any developable kind is at most 2,500 years old, in an overall hominid historical trajectory of several million years. Man began to try to think rationally in the last 0.0005% of that time, leaving 99.9995% when they didn't, and indeed couldn't think rationally at all!

And, of course, in the actually-occurring tempos of that development, have certainly not been embodied in a constant upwards climb: for sometimes it was actually Zero for long periods, and, occasionally, even Negative.

And for some 2,300 years after the Greek Intellectual Revolution it was fatally damaged by the universal assumption of Plurality, which made all relations, properties and Laws totally fixed.

Only in the early 19th century did Hegel, the German Idealist Philosopher, attempt for the first time to integrate Qualitative Change into General Reasoning. But even that was not universally accepted.

Indeed, it couldn't be, whilever Philosophy remained fundamentally *idealist*: for the solution was not in Thinking itself, but in the study of the Reality beyond ourselves.

Only with the extension and vast further development of the ideas which Hegel termed Dialectics, was the possibility of a breakthrough even possible.

And, when such an approach was attempted by Karl Marx in the limited area of Capitalist Economics, it took him the rest of his life to address even that. And in doing so, he was developing the stance as much as applying it. It was soon clear that Explaining Qualitative Development rather than the much, much smaller possibilities of a Pluralist World of entirely permanently FIXED relations and Laws, must be the way forward. Indeed, every significant area of study, such as Science, there would have to not only receive the same sort of attention as Economics, but would also be as much another voyage of discovery. very much more complex and unknown than Economics had been for Marx.

And in the the 140 years since Marx's death, this task wasn't even attempted.

And it has taken this Theorist over 10 years to lay the most basic foundations.

But they have been remarkable! To even begin the process, a wholly new approach had to be researched which produced the wholly NEW!

For all Qualitative Change must produce the wholly New! In all reasoning previously with Fixed Laws and Pluralist Logic, the rationality involved, when it could be used, produced actual results - and the same ones every time it was used, and whoever used it!

But Qualitative Changes are Dialectical, produced in what used to be seen as impossible developments, which I have termed Emergences.

To grasp what an Emergence actually is, we must compare it to one of the previous Pluralistic Laws all of which have predictable outcomes. The outcome from an Emergence, on the other hand, is NEVER predictable prior to its commencement, Indeed, you have to be

an exceptional Dialectician to even predict the next phase of such a transformation, and only when the final result is imminent, can the culmination of a completed Emergence be guessed at!

So clearly the Revolution in Premises and Bases required here, will be very different from the prior Pluralist Methods.

The classical Qualitative changes involved in an Emergence start with a Stability, the destruction of which originally appears to be totally impossible, but which is then threatened by a whole series of crises, which usually, but ultimately would cascade down into a total dissolution of the Stability, towards what seemed to be impending doom, but could, and often did, begin via series of crises attempt to bulid towards a new, and finally achieved self-sustaining Stability.

The new approach would have to reflect all of these too, in order to deliver Real Development!





## Redefining Philosophy II

### Multi-Component Holism

As soon as we determinedly leave Plurality behind us, as no longer to be seen as the true state of Reality-as-is, we unavoidably have to attempt to deal with both multi-component and multi-relations in that Reality, especially IF we are to both understand and use the consequently-revealed underlying Causality, because it is not only very different to the now-rejected, previous Pluralist set of assumptions, but in order to also realise that it alone is capable of dealing with all Real Qualitative Development too, and hence all those aspects of Human Understanding, which, if sufficient, must enable us make sense of the actual World we live in, and attempt to cope with it.

Now, for the last two and a half millennia, Mankind has found-and-used particular "held-down" ways of building a useable Stability (Technology). But, the also intended Science, producible from those developments, was also supposed to explain phenomena accurately, and that turns out to be entirely impossible from the consequent Pluralist Stance unavoidably involved, which only deals with artificially and pluralistically modified situations that were necessarily set up, and maintained, as such, within that adjusted Reality, and which can only lead those involved astray, as it does NOT address the crucial dynamic aspects of Reality-as-is.

So, in all those scientific disciplines, which are ostensibly about Reality-as-is, which seems to include the whole range of them (apart from Mathematics), the re-casting of that presumed to be basic discipline to them all, as it has by now been, across this enormous range of subjects, certainly appears to require a Giant Undertaking, indeed a veritable Intellectual Revolution, to get them all back on track!

But we are not starting from scratch.

Marx significantly addressed both History and Economics in his work, while Darwin and Wallace's contributions in the Evolution of Life, are significant well-advanced contributions, and currently this theorist has made an important start in addressing Sub Atomic Physics holistically, while a small separate set of individuals are soldiering on with the Philosophical Implications. But, the vast bulk of these significant Disciplines, are, as yet, relatively untouched, by the New Stance!

Now, the first paper in this series did attempt to begin to address a Holist critique of prior Pluralistic Reasoning, but they were all very small excursions into a Whole World of Holistic Relations, concerning which, we still only occupy only the first foothills of a towering Himalayan Range of enormous Peaks still dominating in these vital areas!

And, the very nature of the universally employed, and supposed Lingua Franca of all these disciplines - namely Mathematics - not only ensures that they too have been pluralistically-dealt-with, but also, in so doing, it effectively hides their physical causalities behind an algebraic (and Idealist) world of symbols, with its own validly pluralist Rationality, and thereby illegitimately replaces any real causality with a strict concordance only with the Pluralist Rules of Mathematics.

And, this is compounded by the conclusions from that Reasoning being TRUE - but only in those achievable arranged-for Stabilities, which alone conform to that Rationality!

Ask any modern scientists to explain a given phenomenon, and they will immediately resort exclusively to the Maths! "No!", you insist, "I want to know *Why?*" But, they will respond by relating a Stable case where the Formulae do indeed work - usually from an experiment or other carefully managed data gathering device.

What they have mastered, in fact, is only a very limited Technology, but no longer a real Science. And, in the many gaps within that Rationality, they have to use Mathematical tricks, that can approach what is sought, or alternatively abandon Materialism altogether, for a blatant Mathematical Idealism, as with Wave/Particle Duality or Quantum Entanglement!

Now, the real causalities of Reality-as-is, can never be built out of a mere addition of Single Pluralist Laws, for what is actually involved is always produced by multiple simultaneous "Laws", which can always qualitatively affect one another, and can even successively change the entire Context, in which everything takes place.

Clearly, by attempting to totally isolate individual Laws, an approximation to a stabilised Locality within Reality *can* be achieved. But, it completely omits all Development!

And, literally everywhere we look clearly displays that development taking place, or having taken place in the past.

#### Dialectical Changes:

What is clearly required is what was suggested in the first paper in this series, and now has to be spelled out in all its multifarious details!

It is, of course, the lateral qualitative effects between the actual Laws, and the consequent transformation of contexts! The first port of call for addressing these requirements will be within the host of particular cases, at all sorts of levels, implied in the already devised and published Theory of Emergences, as elicited from Marx's Study of Social Revolutions. But, in this context occurring at very different Tempos, but, nevertheless, sure to mirror the same sorts and sequences of Phases, evident in those studies, which significantly slowed their rates of occurrence in Social Revolutions, to those which Mankind could follow and analyse!

But, when addressed Pluralistically, the very inter-law effects that we require to understand were effectively wholly suppressed, and their results, when noticed, seemed completely inexplicable - such as radicle switches in dominance, in the solution of contradictions, and also in wholly New Qualitative changes!

My own attempt to find answers, drove me into considering multi-simultaneous chemical processes, in the Pre-Life era, where a theoretically assumed Random Mix of various processes, instead of more or less continuing indefinitely, as such, would instead relate to one another as either Conducive or Contending, and be likely to form conducive chains as well as competing contending groups, for the same resources that would be required by both forms! And, also, in explaining Dominance, and its switching between contending opposites, as well as the achievement of persisting stabilities due to chains of processes linking ends to start-to-form on-going, repeating Cycles: all of which began to throw light upon Real Development, rather than ever persisting Random Chaos as possible outcomes!

This is detailed in a whole aeries of papers from a few years ago upon the topic of Truly Natural Selection (or Evolution before Life).

Now, in this new context, it is clear that these and other related contributions will be relevant in the kind of hidden processes involved in the current areas of study, but totally suppressed by the usually imposed Pluralist Stability for the investigative experiments!

The crucial area that departs from the Pluralist approach, is most certainly in the Complex Dynamics of Real Qualitative Changes, sometimes across vast natural systems, which naturally get re-organised over extended periods, into Opposing-Sub-Systems, that tend to balance each other, while in repetitive, on-going situations all others tend to decline markedly, and particular exactly where that seems to NOT be happening - in the interludes usually defined as being Permanently Stable.

Because the prior conception was, and often still is, that Stability as such, is the likely outcome for many originally changing situations, they are seen to settle into a resultant Stability (often seen as a minimum energy outcome) - in other words the Natural Norm!

For with such a belief, the enforced quiescence sought for and achieved in literally all scientific Experiments, which is justified as THE only purposeful ways of revealing the underlying Stabilities of Reality.

But, in a Holist Stance, as argued-for by the Buddha, with his insistence that Constant Change was in fact

the norm, and Stability was always a naturally arrived-at and always long-winded, but still purely *temporary* State, that should always be seen as a self-maintaining dynamic arrangement. And hence one which hides the multiple active factors still-acting, but re-organised into that self-maintaining state of Balanced Opposites, which, as a complex group, of still individually varying componenets, nevertheless actually form a temporary Stable System at a higher Level - from our worm's eye view these arrangements can seem eternal.

And the persistence of that Stability being the-overall-result of a tightly mutually-organised System, of many sub-systems, not only displaying *separate* balances within each pair of them, BUT, made to persist as an *overall collection of such sub-systems*, by not only their mutual balancing between opposing components, but also any individual diversion from its role in the overall balance, by being reacted-to elsewhere in the overall System, by just the right amount of opposite stimuli to act against, and cancel that possible diversion, from an overall Balance.

In addition, as distinct from that maintaining set of reactions, in exceptional circumstances, the very same reaction, but *instead* involving a greater disturbance, could precipitate a whole set of general dissolutions, and lead to a final System collapse!

## Redefining Philosophy III

### The Hidden Dynamics of Holism

All scientific experiments, both those that supposedly “reveal” Reality, and then also those that productively use it, are entirely undertaken in a purposely-designed artificially-pluralising set of conditions. What are revealed by such means cannot, and never could be, the properties and potentialities of wholly-unfettered Reality-as-is, but, instead, give only the analysis of purposely restricted versions, which instead build only a false World of wholly Fixed Relations and unchanging concepts.

Hence, we can safely insist that Reality-as-is is literally never delivered for use, but instead only a strictly-stabilised version of it is accessible to us: and additionally that the real engines-of-change of the usually built-in features, have been forcibly removed from our experiments!

They must have been so suppressed, otherwise those changes would still be clearly evident. And, they never are!

So, there are two major barriers to really Understanding Reality, built into all our usual methods of investigation.

First, because of only *quantitative* changes being evident, we downgrade The Scientific Method into a kind of Game - with only fixed Rules, and a Pluralist context.

And, Second, therefore, also never addressing those precise causes of Qualitative Change, for they are Totally Absent in such an artificially pluralised World!

The products of those causes and their consequences are still evident, everywhere in the everyday world that surrounds our actual living existence: BUT, no actual causes are evident, within our established-means, which deliver anything at all if, and only if, they effectively suppress all the qualitative engines producing such

change in natural conditions!

Clearly, in such coercing situations, so as to eliminate all qualitative changes, we effectively remove them from our studies, which therefore only deliver a falsely-stabilised, and hence distorted view of Reality.

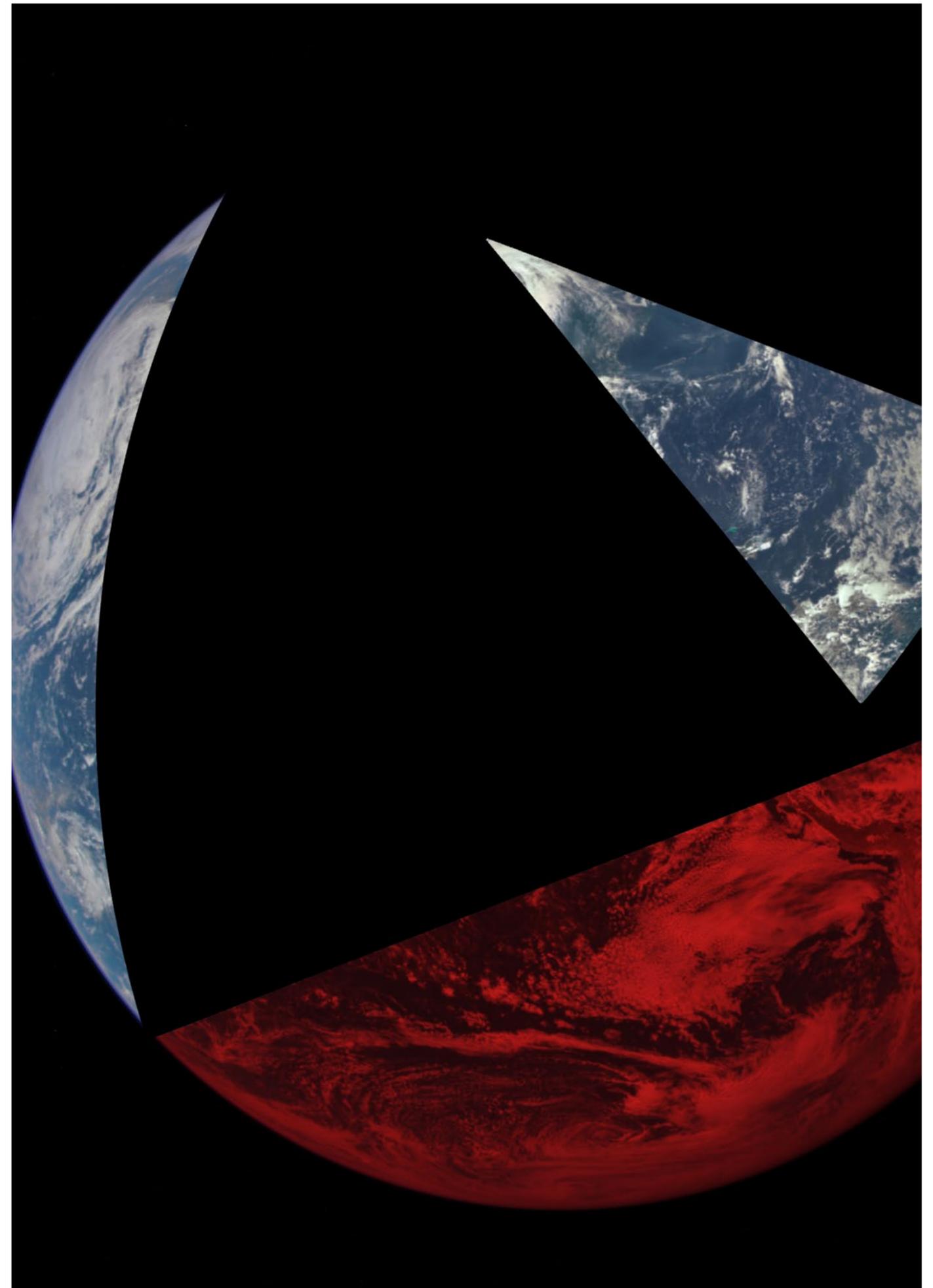
The actual results of the really Holist World are, of course, evident, absolutely everywhere, particularly in Living Things, and in the uncontrollable Elements of the Atmosphere and streams, rivers, lakes, seas and oceans of our planet.

For, our very primitive approach to studying Reality, is to limit real situations so drastically: “ideally!” with only an absolute minimum of contributing components, to reveal, in highly constrained circumstances a Single extractable Law, which, in such maintained conditions, behaves “entirely alone”, and hence as forever-fixed!

Now, as has already been emphasized elsewhere, this takes the Real World, with, at all times and places, multiple single Laws, all acting simultaneously, but also affecting-each-other too: and the pluralist approach arranges things, so that this important second contribution is eliminated from Science entirely!

Instead Science should be considered as multiple simultaneous Laws, all acting together, as absolutely essential, BUT which are also, in addition, modifying-one-another, to alter each and every single individual Law to various different extents.

But, the usual assumption is of the wholly-unaffected Strict Addition of those Laws - an assumption which turns out to be totally mistaken. And, the causalities involved in these inter-Law effects are currently Unknown. And hence, currently NOT implementable: and definitely NEVER delivered by purely Mathematical means.





The *mathematisation* of the Sciences imports Plurality illegitimately into our studies of material Reality.

Science should not be pluralistic: its nature is determined by the *qualities* involved, requiring Real Physical Causality, and certainly NOT the abstract Rules of Pluralist Mathematics.

Now, how we get around this difficulty just has to be by Experiment 0 by appropriate reference to Concrete Reality-as-is. But, in attempting to do this, the usual ways will be a total waste of time!

At the very least, we will have to arrange a whole series of Experiments, but with each one restricted to delivering only TWO Laws, the results of which will be compared to the results of separate strict pluralist experiments addressing each one alone in turn. The idea will be to define a correcting Cross-Effect term for the Effect of each individual law upon the other.

Obviously, depending upon the range of conditions occurring in these experiments, will give different conclusions for significant variation in those conditions. So, initially the ranges would have to be restricted.

NOTE: Elsewhere, in proposals for a major update of Stanley Miller's Famous Experiment into the early chemical developments towards Life, by modelling the Pre-Life Earth. It was very clear there, that Miller's initial experiment, though it did deliver an Amino Acid, within a week, could tell him nothing as to how it got there.

And, this theorist's solution, then, was to institute a whole sequence of such experiments involving inactive internal barriers to constrain certain flows, within which sequences of change were happening. And, in addition, to embed regularly-fired sampling-monitors at regular intervals along the barriers, to give time-based data related to certain flows.

And, the whole object, of each Experiment, was to suggest the necessary changes for the next experiment in the series. It would, overall, be a major and expensive undertaking, but eminently worthwhile.

We are only at the very beginnings of Holist Science, but the ultimate objective, apart from the real Understanding of our world, will result in a very different kind of Production, wherein multiple processes are taking place simultaneously and together, yet as stages in separate production objectives, and bringing something of the efficiency of Nature into the heart of Human Productions.

And, more generally in a wide range of investigative Disciplines, with Understanding re-established as their primary purpose, the whole assumed ethos will be transformed, from purely hit-and-miss, single-objective treatments, to intrinsic re-establishments of Truly Natural solutions.

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