



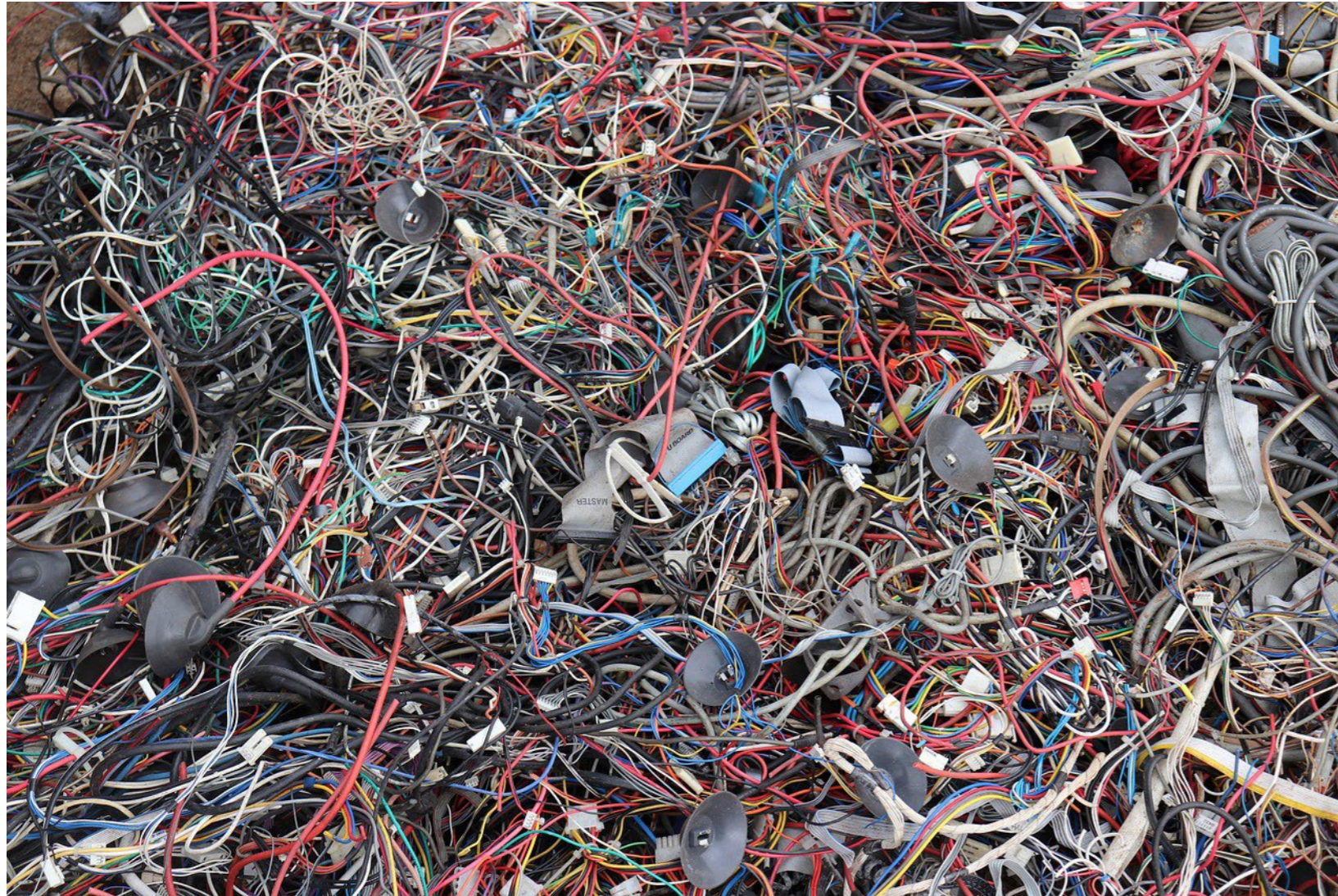
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**THE  
SYSTEMS  
THEORY  
OF EVERYTHING**

**PART 6**

**JIM SCHOFIELD**





## The Systems Theory of Everything VI

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Introducing Jim Schofield's

## Systems Theory

Mick Schofield

This series of issues attempts to set out the first definitive account of Jim Schofield's new Systems Approach to Science. The various papers collected here, and over the next few editions of this journal, explore the proposed theory and explain why it is such a radical departure from the current universally applied scientific method.

While working on the recent YouTube video "Taking Shape: Denis Noble and the Systems Level Approach" (2022), it arose in discussion between myself and Jim, whether or not "system" was even the right word to use for these ideas. Schofield's revised view of natural systems is certainly not the usual one. They are not "systematic", mechanistic or carefully structured in any way. They don't follow universal laws and rules. They are dynamic, contingent and emergent, containing contention and contradiction. They can be hidden, vastly complex, and sometimes seemingly chaotic from our human vantage point. Many are stable and extremely long-lasting, and are routinely misinterpreted by scientists as eternal and fundamental laws of nature. Schofield's view of systems is Holist and Materialist, arguing that the holistic understanding of how natural systems evolve and maintain themselves, is vital if we are to really appreciate how things come to be, and why they are the way they are.

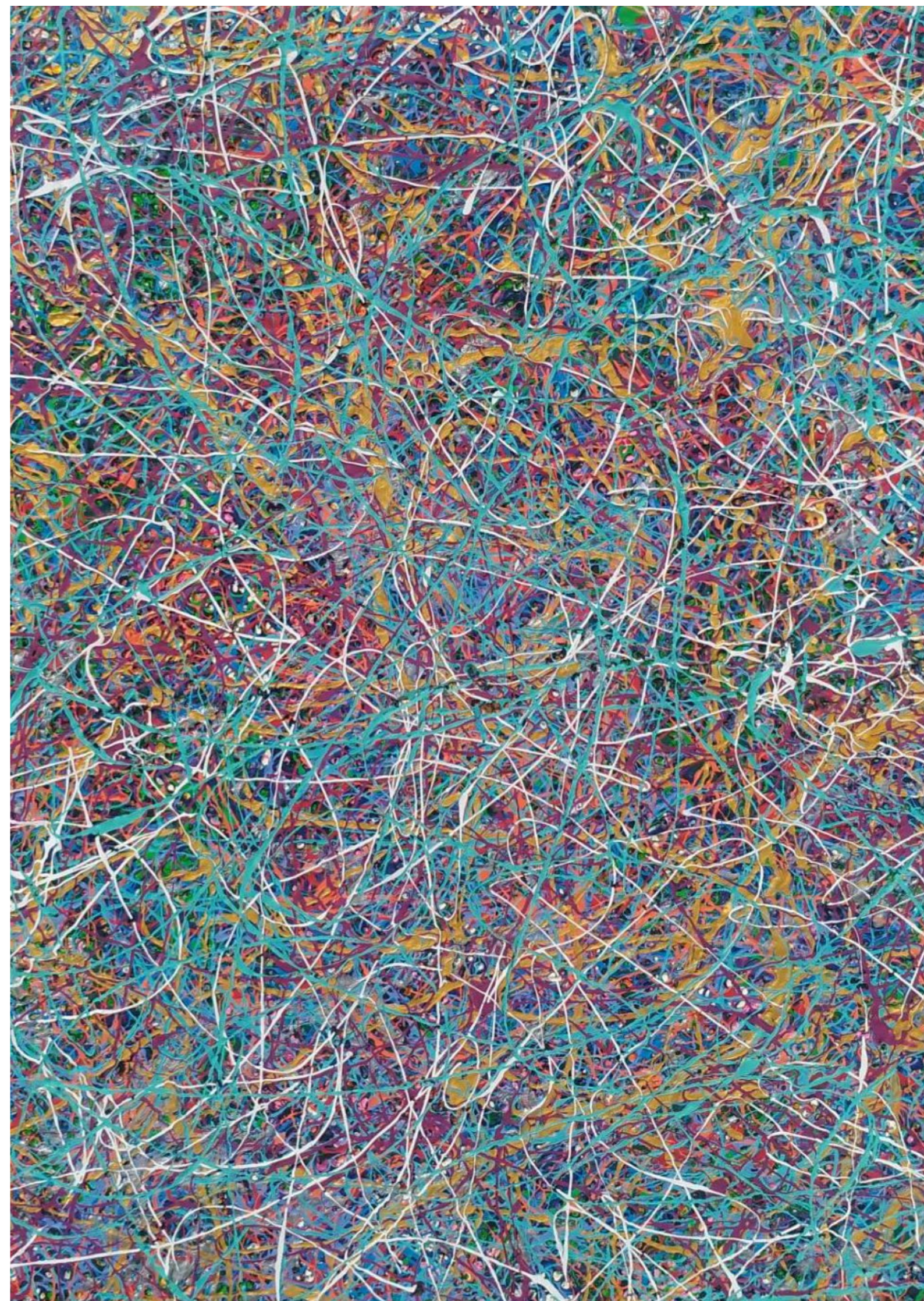
There have been systems theories before. However, the scientific study of systems has historically been hamstrung by pervasive reductionism and the formalisation of entities, laws and causality. In Sociology, for example, Systems Theory was actually a conservative approach to the subject that saw society as basically functional and explicable via person-to-person interactions.

This approach was dogged by a rigid and ordered way of seeing things and was largely rejected by Marxist sociologists in the 1970s, which favoured examining conflict, change and contradiction, as the key driving forces underpinning social conditions. Similarly in systems engineering, machine logic, computer modelling and mathematics, systems are widely used but still conceived of as the complex but predictable interactions of fundamentally reducible elements and rules. This demonstrates the importance of epistemology, politics and a critique of the scientific method, in moving the study of systems forward - beyond the usual approaches, and towards one that embraces the vital roles played by interconnection, contention and hidden top-down effects.

Missing from many approaches to systems is the role that different Levels of Reality play in its composition and evolution, with causality often happening at a much higher systems level than the ones scientists currently seek data in for clues.

The Philosophy of Science must look to other disciplines for ways of dealing with such phenomena, from art to politics, from Buddhist Holism to Dialectical Materialism, the basic ingredients for a new Systems Approach already exist. But first we must look at how the usual scientific methods fail to appreciate the role dynamic natural systems play in everything that we try to study and understand.

**The last in this series of papers deals with how science needs to move on from a mechanistic understanding of systems and evolution, and finally embrace dialectics.**







## Natural Multi-Factor Interactions

Jim Schofield

As promised in the last edition in this series, a major and transforming narrative will now be required to actually terminate the evidently misleading simplifications that have so unavoidably distorted much of the so-called Science-involved - for a very long period of time indeed!

The core problem of reductionism actually originated some 2,500 years ago, and was welcomed at that time, as a significant breakthrough in our understanding of the Natural World - finally eliminating religious and other magical ways of attempting to fully explain the underlying Physical Causes driving Reality.

The reason for the persistent recourse to Gods and Devils in our history, was that Reality-as-is, was never in those times, at all easily explicable, for far too many very different & contending Causes were apparently acting simultaneously: SO direct explanations, which seemed to promise solutions, though they might work for a time, could never be solely relied upon, for they, given time would always & disastrously fail. Some sort of "Hidden Hand" seemed always ultimately to intervene and subsequent events went off in various different and inexplicable directions. Any hope of a reliable-and-unchanging Body of Understanding seemed impossible to achieve for most of our time on Earth! You can see why a contrary, yet superior, human-like consciousness was assumed to intervene, always with many of its own unknowable motives!

But, in response, certain illiterate-yet-competent Artisans were nevertheless regularly, and ever more efficiently, succeeding with many vital Everyday Tasks, but which they couldn't fully explain.

The intellectuals in any Community, having the time and ability to Read & Write, as the necessities of that Community were regularly supplied by an increasingly competent delivering body of Artisans, who worked constantly, but could neither Read nor Write at the time. And, if asked why their efforts worked, they could give absolutely NO explanations at all: but they did indeed know to isolate their tasks from everything else, and at least those they could recognise as spoilers.

For, very long periods of time, there was absolutely NO intellectual interchanges between these very different classes of people, and the Artisans (and everyone else) were kept in order by an intermediate group of slightly better privileged Tough-Types, from the lower Classes, who were certainly NOT skilled Artisans, but delighted in their physical prowess, and were taken on as Soldiers and Enforcers of the Privileged Ruling Class. These fighters did their required fighting-and-killing, but could NOT organise a successful Battle: for that was strictly reserved for certain elements of their Rulers, who never fought themselves but directed things from some nearby Safely-Guarded-Hill, and kept their Fighting Bully Boys in check with suitable privileges!

Now, the pragmatic successes of the Artisans began to influence the ever-widening of Academic Studies, that had been unavoidable, if the effective discoveries thus displayed were to begin to be turned into both reliable and extendable Sound & Teachable Theories. But, there was still a major mistake that had to be remedied! It was the assumption that the Laws revealed by the Methods of the Artisans were NOT, as generally believed "True *Underlying* Laws", but instead, were, in fact, pragmatically true & useable, but misleading distortions



when turned into Fixed supposedly-explanatory Laws! For, the Current and Wrong Belief, was often impossible to deliver when acting together with maybe only a single other Law- for no single Law would rationally always fit with a whole range of other Single others. So, it could never be consistently analysed.

Clearly, the assumption that the single Law - as revealed in arranged-for One-Law-Experiments - was NEVER the same when acting with any other single Law: and hence was even more changed when acting in larger collections of Laws! The basic assumptions were mistaken when used along with many others.

But, absolutely, NO alternative means of combining Multiple Simultaneous Laws was either evident or could be revealed by both Experiments AND appropriate means of combining them in predictable ways. The problem was that the ONLY evidence from multiple Laws acting together were always Defeatingly-Combined Overall into delivering only Purely Empirical Evidence - always totally un-analyseable into revealing the Crucial Causes involved! Indeed, ALL such Causes seemed to be unavailable.

Now, there simply must be Causes! So, where could they be demonstrated, in the ways that could enable really effective, and Comprehensive Analysis?

The usual Laws identified in the past were all Bottom Up Laws - and so were likely to be available, as usual, in a Level Below that at which they were physically-acting: BUT that was certainly NOT the case at all within any of these! Indeed, the task looked to be totally hopeless until Researchers began to realise that, with clearly evident Multiple Simultaneous Laws, the Causes being sought were no longer within the same Level as the Acting Law, BUT, instead, actually *above* it, within the Relations between those Laws!

And, these initial studies, in this New Area, could never be Bottom Up - they just had to be TOP Down! And, that meant they would never be revealed solely within the Laws themselves, BUT, actually, in how they could affect one another, as a Joint-Conversion, entirely outside-and-above, and acting upon, and changing the Laws. In addition, features of various Special Relations, such as within-and-between the Elements of Sequences of Wholly Different Laws, on the one hand, AND also involving Other Quite Different Simultaneous Laws, on

the other, in which would BOTH have to be adequately addressed.

Chains and Loops must finally be properly considered!

And this must be the focus of a new Systems Theory of Science.

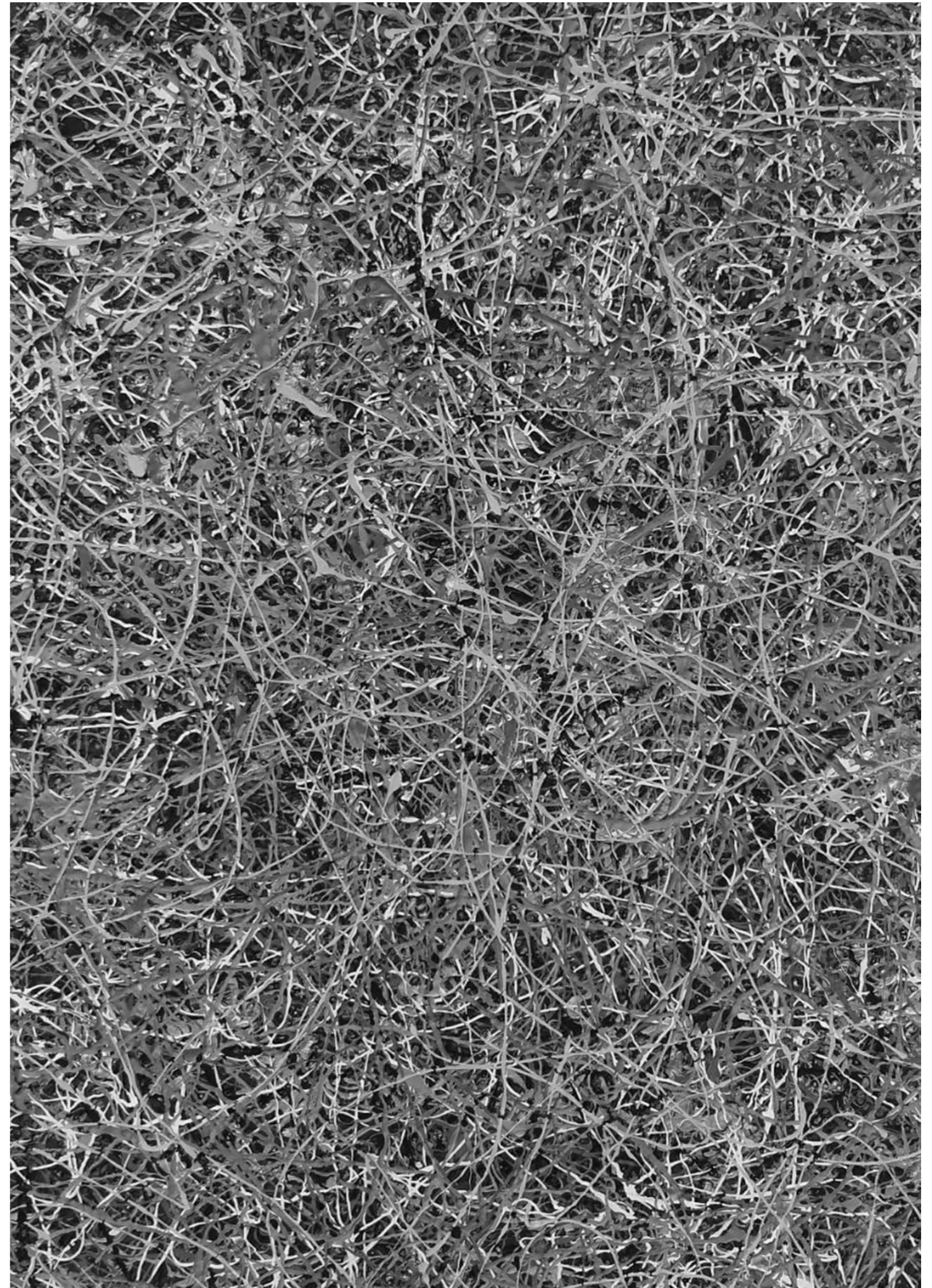
Now, of course, Chains & Loops do not exhaust the many other Crucial Systems Effects, that we simply must ultimately & comprehensively consider in Science, BUT, these first ones alone could fill a whole extensive paper - all to themselves! Though, here, we can only introduce the Topic! For, this is a Wholly New & Discovered Area, and has only just begun to be tackled.

Let us start by dramatically demolishing the most damaging Errors of the usual way attempts at Causal Explanations are traditionally approached.

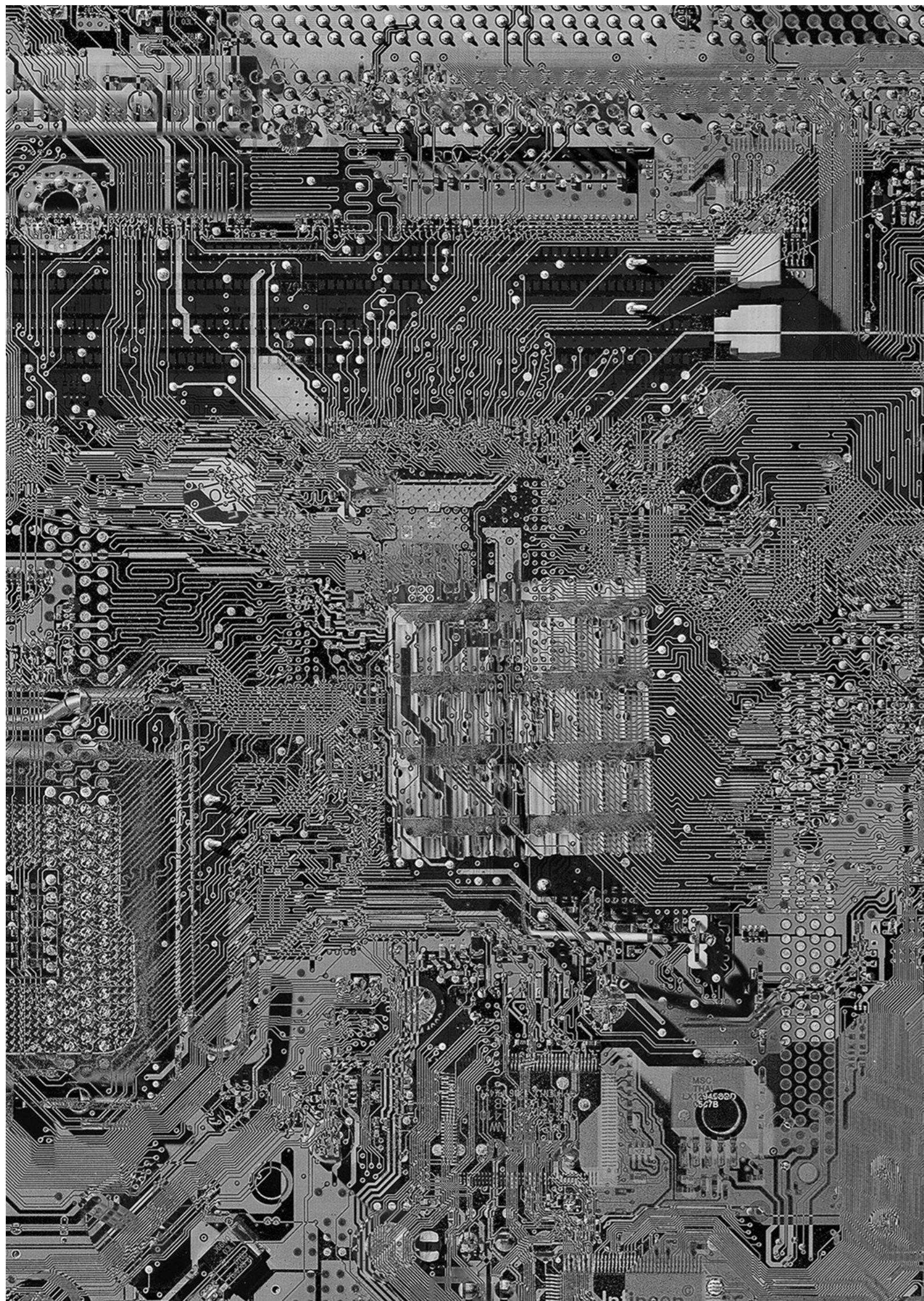
The Cornerstones of all such undertakings, are the Known Properties of Substances, that are, perhaps surprisingly maintained all the way down, from the Bulk Substances to their tiny constituent Atoms or Molecules delivering those very same Properties.

Now, if nothing else is involved, the Appropriate Term in a Defining Equation, used for bringing-in that property is ALL that is believed to be needed: BUT, if other substances are also involved, then Extra Terms containing their properties are usually Simply Added-In to their also included Defining Formula. And, that assumes that these different contributions DO NOT affect one another qualitatively: THEY SIMPLY SUM!

What for millennia has dominated what is thought to be "Science", was, in fact, no such thing: for, it has solely Emerged from the successful Productions of Skilled Artisans, who achieved their worthwhile Products, ONLY, via drastically simplified and steadfastly controlled Separate Experiments - breaking down highly complex Natural Productions into a Totally Separate Set of individual "suspected" contributing Steps, which, overall, did deliver what they were intended to do! BUT, each one was isolated from everything else within a tailor-made restricted and steadfastly maintained artificial environment, which had to be entirely Different in each & every single step. But, of course, that constituted an unchanging-but-necessary sequence of stages, which did NOT act that way within an All-Embracing Reality-as-







is: for there, they all would inevitably affect-one-another, and, even if, by some miracle, that exact required sequence was carried-out - the results would be entirely different, due to all the other things happening there too!

So, as distinct from a Man-made System, any attempt to reveal all possible processes in Natural Reality-as-is, they would never be the same as the artificially arranged-for steps essential within Production! And, the assumption that Reality-as-is was merely a simple SUM of those isolated steps - as arranged-for in Production - was, of course, totally WRONG!

So, the time has finally arrived, to wholly dispence with this "Production-Based Theory", and, instead, make Reality-as-is the sole future & reliable source of all the Scientific Theory we employ: which turns out to be a really Major Switch in Direction! For, as demonstrated above, literally NONE of the Laws discovered were Everywhere Applicable with the Very Same Results. Indeed, they would only work within those artificially arranged-for situations, that don't occur in Reality-as-is, until we intervene in that environment.

So, though they were fine within a successfully arranged-for Production: they were wholly misleading in delivering Real Causes and Natural Consequences. So, ONLY they will always be essential in delivering A FULL Understanding of the Natural Processes of Reality-as-is, AND HENCE also delivering a Theory actually applicable in Natural Situations.

The Cul-de-Sac Mankind had mistakenly backed-into, was not only wrong as such, but was also totally misleded us, when more than one Law was simultabeously active - which defines the vast majoity of Nature as it intrinsically behaves. Let us compare the way we usually carry out both Experiments and Productions, with totally un-restructured Reality-as-is!

In the former situations, we always dramatically restrict what we allow to be involved - however complex that System eventually becomes - and strictly maintain that Context in a very limited way, throughout the System.

Yet, in *Natural* Systems, such restrictions and subsequent Control do not happen in the same way. Indeed, many different processes will be acting simultaneously: so, NO single Pristine Law is ever the case in Nature.

And, unlike OUR artificially arranged-for Special Cases, (as in Technological Systems) where all the required components are ready-and-waiting to be involved, within a purposely restricted set of possibilities: that is never the case in Nature either, where literally everything is potentially there, including many that make the required process either significantly compromised or even impossible. Indeed, many different things are happening simultaneously, and unavoidingly always distorting our expected results to some extent.

For we, quite wrongly, believe that our efforts will have perfectly restricted what actually happens to ONLY those processes that *we* require, and absolutely nothing else! But that is NEVER the case, for simultaneous processes are NEVER wholly independent of one another: AND Cross Effects do indeed occur.

It appears that our assumptions about Reality-as-is are mistaken in several important ways!

For our discovery of the stability of the Properties of things, all the way from the basic Atomic or Molecular Level, to the Bulk Substance, persuades us then to use them the same throughout that colossal range! But that is certainly Wrong too! For, instead of single instances, as at the Atomic Level, by the Bulk situation, literally millions of those processes - all at different stages will be happening at the same time, and at different stages of a Sequence!

AND, they will only exist within considerably extended Sequences of *Different* Processes, so they wont happen without resources from preceding Processes: and will not carry on without delivering amounts to following recieving Processes.

This is why an understanding of Natural Chains & Loops of Processes is absolutely essential!

Now, the whole well-established Investigative Process within the Sciences, has for literally millennia, but also demonstrably so in the last few hundred years, been wedded to Laws with these characteristics, which to an extent reflect something of Reality-as-is: BUT certainly never Everything! Something is always missing - we never have a complete picture.

But the prevailing attitude to these Laws has been that they deliver the Whole Truth - whereas, in fact, that has



never been the case, and it is worth clearly exposing some of the most damaging tendencies hiding within them. And perhaps the most obvious have to do with these Chains & Loops!

The main Problem is concerned with the evident Commonality of many of the Output-into-Input Links between processes in these unavoidable Sequences of Essential Processes (For, single Processes alone can achieve Nothing). And, when the full set of highly complex & simultaneous mish-mash of different Processes in a Natural System is addressed, those common links can, and indeed do, lead to mistaken mismatches with the wrong following Sequences via the Right Link, in the Wrong Context, going to another following Sequence, because it is requiring the same Link: and hence delivering neither one-nor-the-other, but, instead, a mistaken concatenation of Parts of two different processes! Now, such an accidental amalgam will perform neither of the two contributing Correct Processes, but will add-in only a wholly inappropriate aberation!

Now, to arrive at the overall Effect of many of these unavoidable aberrations, is perhaps NOT what you might think! They do, indeed, always deliver an added blurring to what becomes evident - BUT, that turns out to be both far more Random & indeed Minor, than you might expect.

Having come to this conclusion, I feel that I ought to explain it in more detail: because such an explanation will be extremely valuable NOT just in this particular case, BUT GENERALLY, in how Reality-as-is absolutely always functions entirely independantly of us!

Indeed, such seemingly mechanical, and hence usually “damaging” happenings, actually play what appears to be a literally “Organising Role” - usually attributed in our conceptions to *Intelligence!*

So, clearly, understanding this “mechanism” will be absolutely vital in this new Systems Research.

Many millennia of attributing such Effects to Huma-like Supernatural Beings, must surely, by now, be being replaced with The Truth!

As this is singularly important - let us attempt to address it here!

Reality-as-is is remarkably different to the Conscious efforts of Mankind. For, Probabilities, which are usually seen only as consequences, can and indeed do, ALSO have an automatic Role in determining Dominances: and, when they involve Causes, they can certainly be mistaken for the Hand of God!

What happens in the particular situation we are addressing here, determined by What Happens Most. And that will NOT be these mismatches!

Initially they may well happen very often indeed, so a General Random Outcome appears Highly Likely: BUT, Success breeds Success, and it did so here, with the produced Effective Emergent Systems that now grow far faster until they begin to completely dominate their environment.

There is absolutely Nothing within the Mismatches to encourage their occurrences - so they stay at same original-or-similar level. The Productive Option “has been selected”!

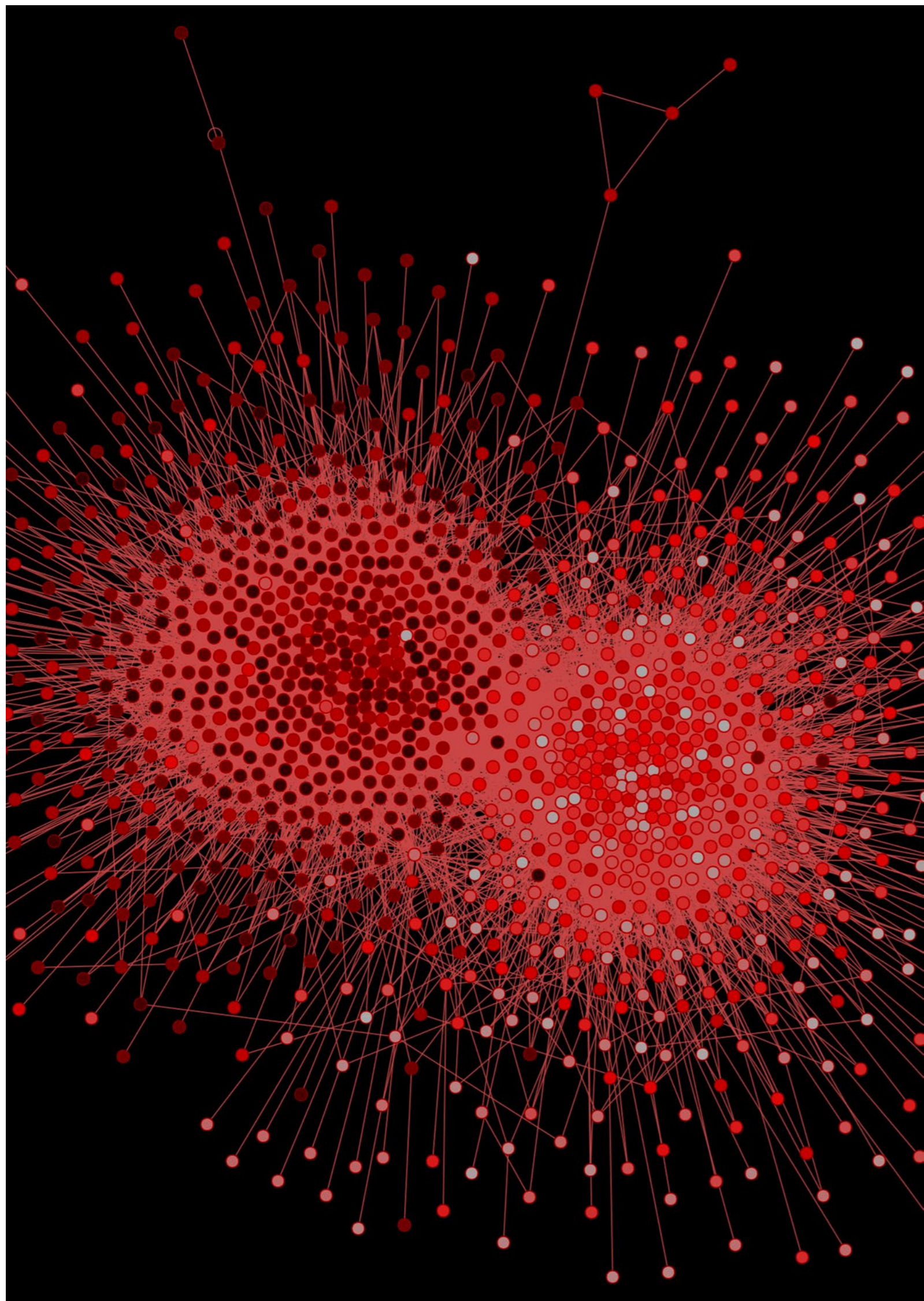
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Now, I am absolutely certain that what has been demonstrated here, will find innumerable confirmations elsewhere within Reality-as-is.

And, an obvious possibility will be in Quantum Theory. But, that is both an important and very different question, that will also require a separate and major effort: but NOT here, nor NOW.







## Dialectical Materialist Evolution

There is doubt in my mind that this kind of Systems Theory, if taken forward beyond these initial ideas, has the potential to be truly Revolutionary!

It has taken some two thousand five hundred years of mistaken & wholly Pluralist misguidance, to finally announce this Ultimate Demise, and the Impossibility (at least at present) of both a Sound and a Developable Truth-Revealing Approach, that will radically transform Human Understanding of our world - of Natural Systems and how they develop and evolve.

It will also, finally extend Marxism beyond its increasingly dogmatic and limited application, and towards the radical New Science that Marx originally had in mind.

And, let us be clear, it is not a moment too soon!

A Minor War in Ukraine, similar to many that, for example, the USA regularly indulges-in (but without the Whole World System having to be purposely-and-consciously put in Existential Jeopardy, as is the case here!) For, the current System instability most certainly threatens to be a repeat of the Second World War, when both sides were also Capitalist Powers seeking hegemony, and the Capitalist Dominance of the World turned out to be at stake then too.

Now, this will NOT be a primarily Political Paper, but these points are much too important to be ignored, and they will always be regularly addressed when appropriate.

But, at this point in our journey, the Full and Crucial Replacement of these Millennia-long errors, made by Mankind in general, were clearly, and will be, by far, the

most important initial task: so, the arguments arising from abolishing the currently Universal-and-Incorrect Stance, have not yet been, by any means, sufficiently elaborated - so, let us, at this time, continue with that First & Foremost undertaking, and get what we will more generally require, initially, from the clearly emerging ideas in this set of papers! For, upon a re-assessment of the currently major mistakes in Science, I am sure that we will reveal, in addition, answers to those more general questions too.

And, the Key Area, is surely in correcting our conceptions of the Required Context for *any* Sound Analysis!

Absolutely Nothing will take place, anywhere, unless the required features are available-and-beginning to come across what they will quite naturally combine-with! Indeed, what we now know certainly currently exists as CHAINS of Processes - linked by the Output of one being the necessary Input of the next in the series! And, of course these will never all be happening at the very same time: they simply couldn't do so, as initially they would totally all be entirely separate - distributed singly throughout a relatively unstructured melee!

The trajectory of the subsequent-build, could only be a One-at-a-Time situation! And for the whole CHAIN to successfully sequentially-act, would not only take an inordinate length of time to complete the CHAIN, but would be regularly-interrupted and even sometimes prematurely terminated, by adding other links from different potential-partial-CHAINS that were available with the same link, but inappropriate. Any Outside Observer would confidently only predict just a different kind of Random Chaos resulting for the whole



population of Partial Chain potentially available by the same link.

And such a conclusion would be correct, and remain so, until by chance, after maybe Eons of Time, a favourably functioning Complete CHAIN was finally executed!

But still entirely alone, what could it DO?

Indeed, the answer would surely be Nothing, and would remain so, until a different and somehow Complementary CHAIN also arose, that could connect with the other one, and thereby produce something Absolutely New, with always reproducibly Favourable functions.

Now, such seeming miracles have been, and still are, considered Totally Impossible to occur - within the Thinking of a finally Dominant Mankind! For, within their known World, such situations would just have to be the result of a plan - perhaps a Supernatural, and All-powerful, yet a Man-like Director of Absolutely Everything - indeed A GOD!

Order could never actually Emerge out of Total Chaos! All the consonances of Everyday Reality simply must have been arranged-for: how else?

Clearly, these remarkable and complex situations, just with Reality alone, as Sole organising Source, and if just Left to itself, would perhaps Complicate, but surely never mutually Co-operate!?

Order couldn't evolve purely by Chance!?

Surely, the everywhere evident, Direct Contentions would always predominate?

Indeed, the trajectory of Development has long been attributed to particularly powerful *Men!*

You have never been able to just sit back and observe Reality bringing up all things everywhere exactly as is - & carrying you with it, have you?

On the contrary, Early Man was always lucky-to-survive a mostly hostile World! And, it appeared to be the actions of particular individuals that changed the odds to every single greater extent that enabled the subsequent rise of Mankind to a kind of Dominance!

Nature usually was only very rarely conducive, perhaps initially only in the tropical jungles, with their Edible Fruit, a means of reproduction that was evidently conducive. But the following Open Plains replacement was almost totally devoid of any natural succour for humans, who had to transform into fierce hunters of the Plains Animals in order to survive!

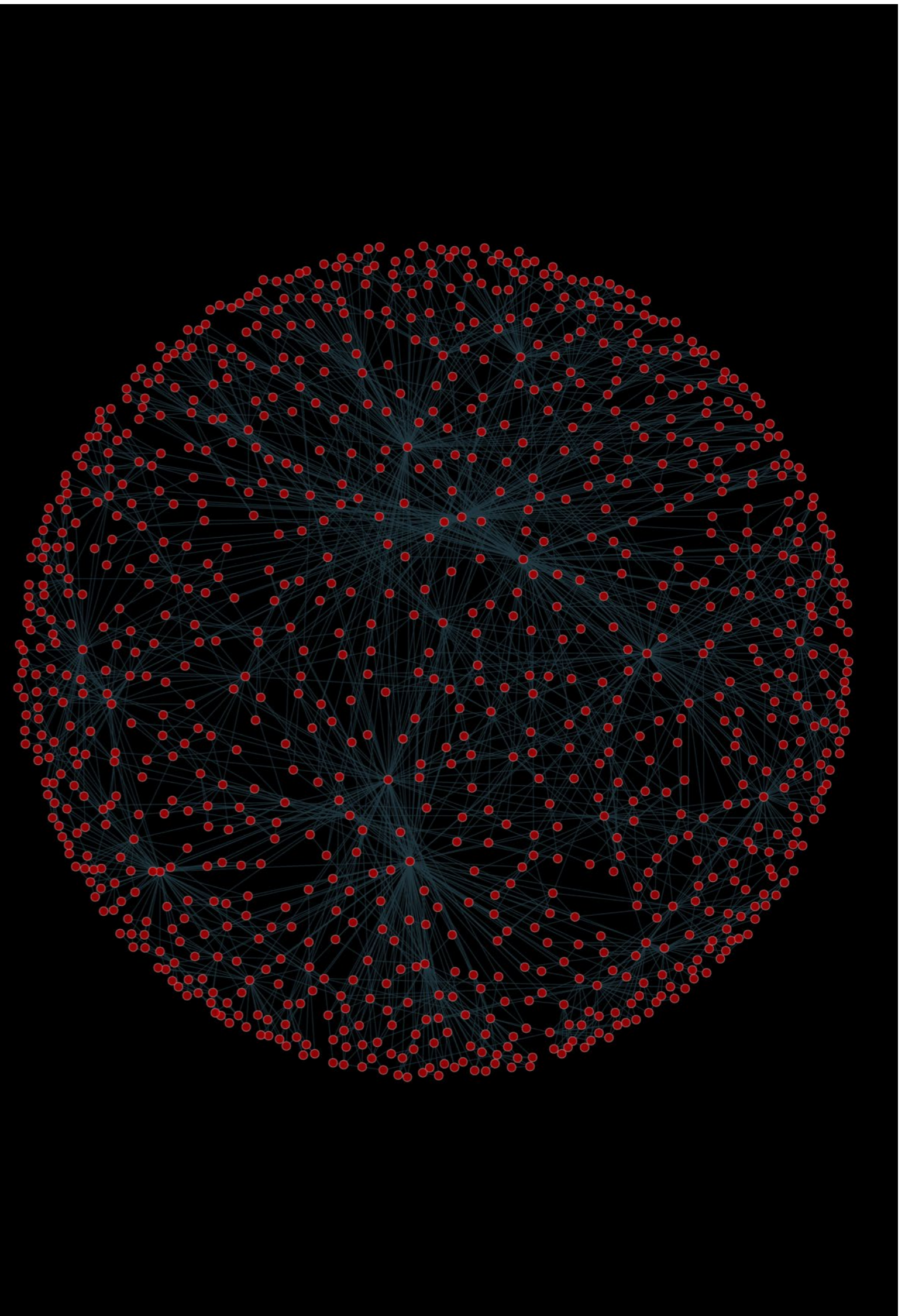
Indeed, conceptions of natural mechanisms of Development, through All the Stages that must have been involved: and particularly the earliest ones, entirely without Life, have *never* really been understood.

Yet, it is certainly those, existing at the Base of all subsequent processes, which have always been the Real Productive Drivers of Absolutely All Natural Development.

Let's make it Crystal Clear!

We have to explain the earliest Pre-Life Developments to fully understand later ones - the evolving material systems that enabled everything that happened subsequently - including the Origin of Life, then Human Consciousness, Science - and, indeed, this very paper.

A dialectical approach to Evolution is the only way to resolve the unacknowledged contradictions mentioned here.





## Addendum - Emergence and Randomness; Order out of Chaos?

Before continuing with the Main Content begun in the previous paper, it is imperative that a great deal more, mostly indirect points, should be added, to what terminated that prior contribution, concerning several extremely important - indeed essential - extensions to the General Philosophic Clarifications necessarily included there.

For example, the all-too-brief mention of Emergence, in this crucial area, were only very skimpily outlined, whereas on the initial & essential re-reading of those included points, produced a veritable avalanche of absolutely vital further extensions, that also unavoidably came tumbling-out at the same time: which certainly must be recorded somewhere, in order for this writer to later initiate a thorough-going re-assessment of Everything that is simultaneously going on in this work!

So, this addendum will, hopefully, serve as an initial attempt to do just that.

Though it will, most certainly, be further added-to over the coming period, as this Wholly New Line, will, undoubtedly, be worthy of a Significant New and More Profound piece of writing, in the near future!

Perhaps, also, it is here to here remind me, regularly, of those New Ideas, I should also commence to include all such other recollections, delivering the usual regularly-occurring Concept of Purely Natural, if usually only Apparent *Randomness*.

For, it was suddenly, only recently, profoundly-realised, that TWO Very Different Forms of "Supposed Randomness" actually occur, whereas they are frequently

seen as always being exactly the same! The simplest version is that delivered by Multiple Simultaneous & Continually Varying Factors, that within Always Irresolvable Contentions, will seem to continue to deliver the Very-Same Unchanging Randomness, continuously thereafter.

The Second, and far more important Version of such "Randomness", concerns what, initially-at-least, looks surprisingly like the first described Type - but which most certainly isn't! And, this is entirely because the apparent total-mutual-independencies, crucial within that first type, are, in this type, NO LONGER still the case here, with this different alternative.

For, these contributing-components are certainly NOT totally independent-of-one-another, AND, intrinsically fiercely-display the property of causally affecting their own possible futures, with what they produce, at times, in all their future natural-intrinsic Histories of Development.

For, whereas the former type would continue to maintain the Same Randomness, literally forever, this version can, and indeed always does, significantly interfere with that "supposed randomness", by moving-things-about, instead, over time, ultimately-settling into a relatively fixed, and indeed often directed set of states - clearly, the exact opposite of its prior "randomness"!

Indeed, Rules or Laws, in these circumstances, now begin to Emerge, which until they become established, are in NO WAY, as yet, predictable - and most certainly NEVER SO before they finally appear in their ultimate Forms! These are undoubtedly Key Examples of what

circumstances can indeed Produce Totally unpredictably, Wholly New Emergences!

They are, in fact, the ONLY Creators of Evolution!

Now, of course, both of these are Still Simplifications: as they must always be, because in creating the Wholly New, they are inevitably adding previously non-existing elements into-the-mix, which for long periods, may have seemed to remain exactly-the-same (perhaps because of them having little in common with their current Contexts).

But, as more Wholly New Emergences, they may appear with other crucial common elements, so the seeming constancy may well cease to be the case, and a New very Differently-Sourced "Randomness" may also be being newly generated! Periods of Quiescence may well, in time, precipitate yet another Torrent of Changes - indeed even a New Revolution!

Clearly, we are unavoidably, and perhaps surprisingly, entering the Key Realm of Creative Developments, with not only individual transformations, but also, if rarely, System-wide Revolution, too.

For, Mankind, to be able to deal with all that can be possible within Reality-as-is, simply MUST, put the usual purely Production-Defined, Pluralist Laws behind them, when addressing Reality in a Necessarily Explicable Way.

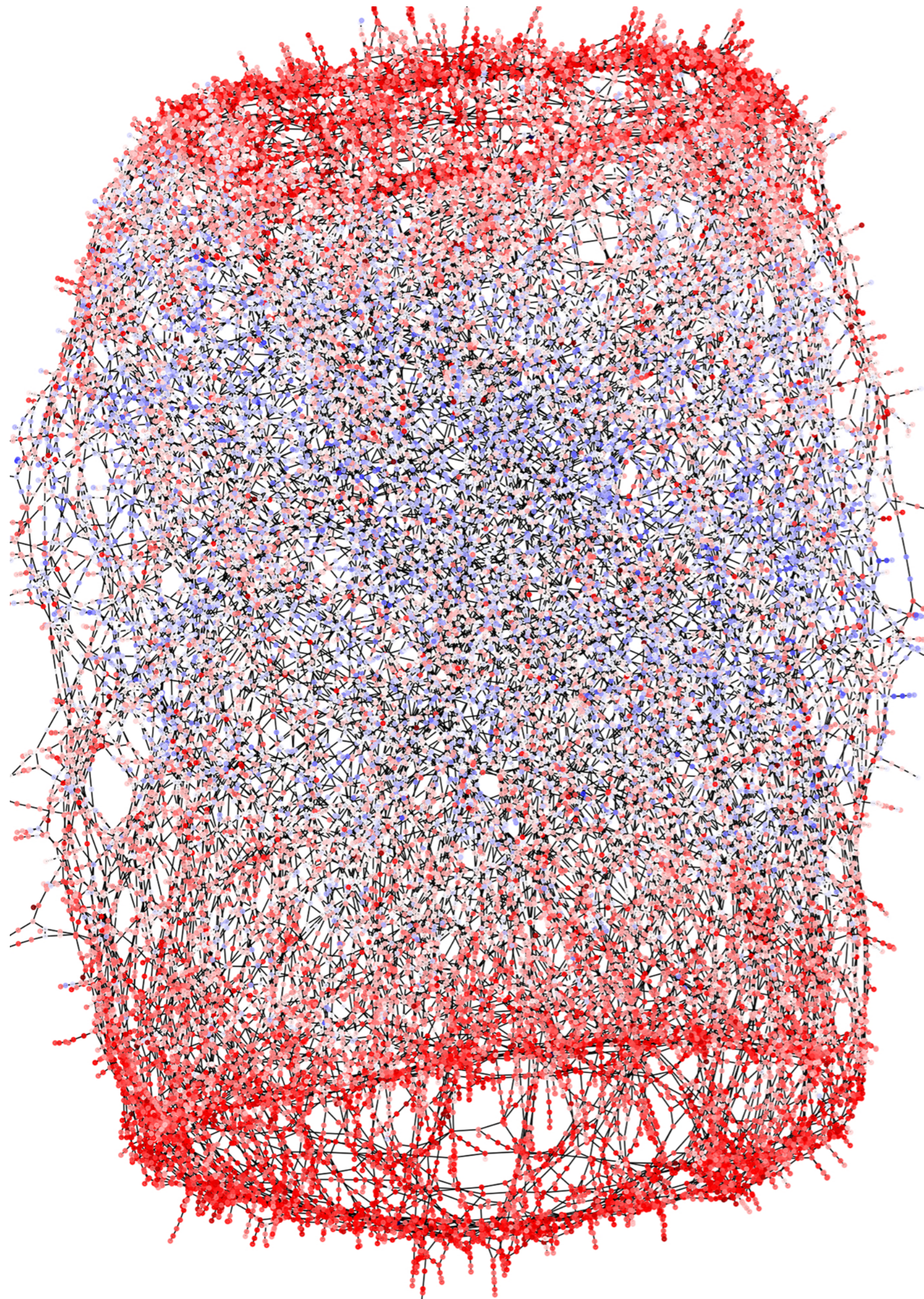
True Explanatory Science must cease being a crude-spin-off from mere Technology, and become Primarily *Explicable*, via a Essentially Holist Underlying Stance.

Now, the consequences will be many and varied, as the two and a half millennia long diversion into Pluralist "Science", has totally prevented the ONLY correct Approach, which has to be via some Holist Alternative - focussing wholly upon the dynamic Systems of Reality-as-is, and NOT their simplified Pluralist versions, which are never adequate in Understanding, and only delivers anything-at-all, solely within those fiercely restructured Productions, via an imposed Plurality.

But, by far the Most Destructive Feature of the Approach - originally established by the Ancient Greeks, and yet, still only potentially rather than actually underlying everything, then thereafter developed, since that "Supposed Great Victory", was the Discovery that absolutely all Physical Laws were established, solely & originally, only at the Atomic & Molecular Level: for Laws established there were also found to remain-as-such, all the way up to & including the Bulk Level!

NOTE: They did NOT exist below that Level, they were first created, as such, at that Level. Properties of Atoms or Molecules were assumed to continue to apply all the way up to Everyday occurrences - actually totally unchanged! But, that was never the whole Truth! Yet, it could be imposed-generally by extremely restrictive and tightly-maintained limiting Conditions for all Experiments and Productions. For, such conditions absolutely Never-Prevailed within Reality-as-is: it was always only an artificial imposition from above, which guaranteed the very same outcomes every single time, and consequently the resultant, seemingly-constantly-underlying Fixed Laws, reflecting that imposed Constancy! And though the complexities of diverse Wholly Natural Situations would seem to indicate major changes - they were





always believed to be the results of many simultaneous contributions that remained totally unchanged throughout! And that assumption was Wholly Wrong!

Completely fixed contributions delivering always the same overall results, were misguidedly believed to merely be Summations of Entirely Natural Fixed Laws!

We must now begin to investigate exactly why, that assumption was wrong: and what, in fact, was happening in naturally unfettered Reality-as-is!

Such wrong assumptions were actually historically derived from the Successful Methods of Production, where Real Natural Situations were NEVER used as such - we couldn't access them without some technological mediator.

Indeed, every Single Process in every Production was always Purposely Totally Isolated from absolutely everything else, by major restrictions upon the Contents-and-Context employed for each and every step! And, by performing each step entirely within its own ideal circumstances, the overall result was always achievable by forcibly keeping all steps totally separate-from-one-another, and feeding the achieved output from one directly into the next, and, ultimately, the whole series of an idealised set-imposed!

Now, Real Natural-Situations and these Arranged-for Production-steps, were assumed to be essentially The SAME - both here and generally within Reality-as-is!

But they are most certainly not - and, let us now see exactly why...

There are many features within Reality-as-is that do NOT conform to these imposed assumptions! Let us commence with the also present, unavoidable Complexity: for within Reality-as-is the isolations essential in Successful Production simply DO NOT NATURALLY OCCUR!

Indeed, many different, and even Contending Processes are literally always acting simultaneously in Every Single Area of Reality-as-is: AND their actual mutual effects upon each other cannot be ignored!

They must somehow be suppressed, to limit things to ONLY what we require and NONE of the possible Cross Products.

Additionally, Every Single Process CANNOT happen if to tally Isolated & Alone: it will definitely require ALL & ONLY the Resources it will actually need to perform its intended function.

And, it will also fail in its Overall Multi-Step Functions, if Each Step doesn't deliver its particular necessary contribution, required for the Next Step thereafter.

It CANNOT ever play any of its full role if Totally Isolated!

Indeed, any individual Process-required, including for all subsequent Process Steps would have to deliver them all, exactly as they should be, all necessarily happening within the exact SAME general natural environment in Reality-as-is, BUT totally without any artificially purposely-intended limitations.

Indeed, with everything properly competing with everything else, going on at the same time, including a host of all the other natural processes entirely-unconnected with any other particular ultimate intention.

So, how could such things ever be successfully achieved within Reality-as-is?

Surely, almost any complicated multi-process-sequence could be very easily taken-over by Something Else - in such a seemingly chaotic melee!

And, to do it, only currently requiring a process common to many other uses, but now totally unconnected, yet quite naturally occurring from other simultaneous productions?

But this does happen! Indeed, it is unavoidable!

So, what could be the scenario, with situations just like those we are considering here?

Clearly, all such possibilities did and still DO occur: including those having significantly useful results, and also the others necessarily getting nowhere.



Does this carry on, in exactly the same MIX for ever? No it certainly doesn't!

Initially, absolutely all possibilities DO indeed happen, and consequently deliver an overall Apparently Random Result! But, while the mix-ups will still thereafter continue at ONLY the very same Level, and still getting Nowhere, the Necessary Productive Cases will constantly-increase in their own contributed proportions, until they will over time undoubtedly Totally Swamp the Chaos within certain transformed areas, and ultimately establish a Wholly New Order.

A kind of Revolution will have occurred!

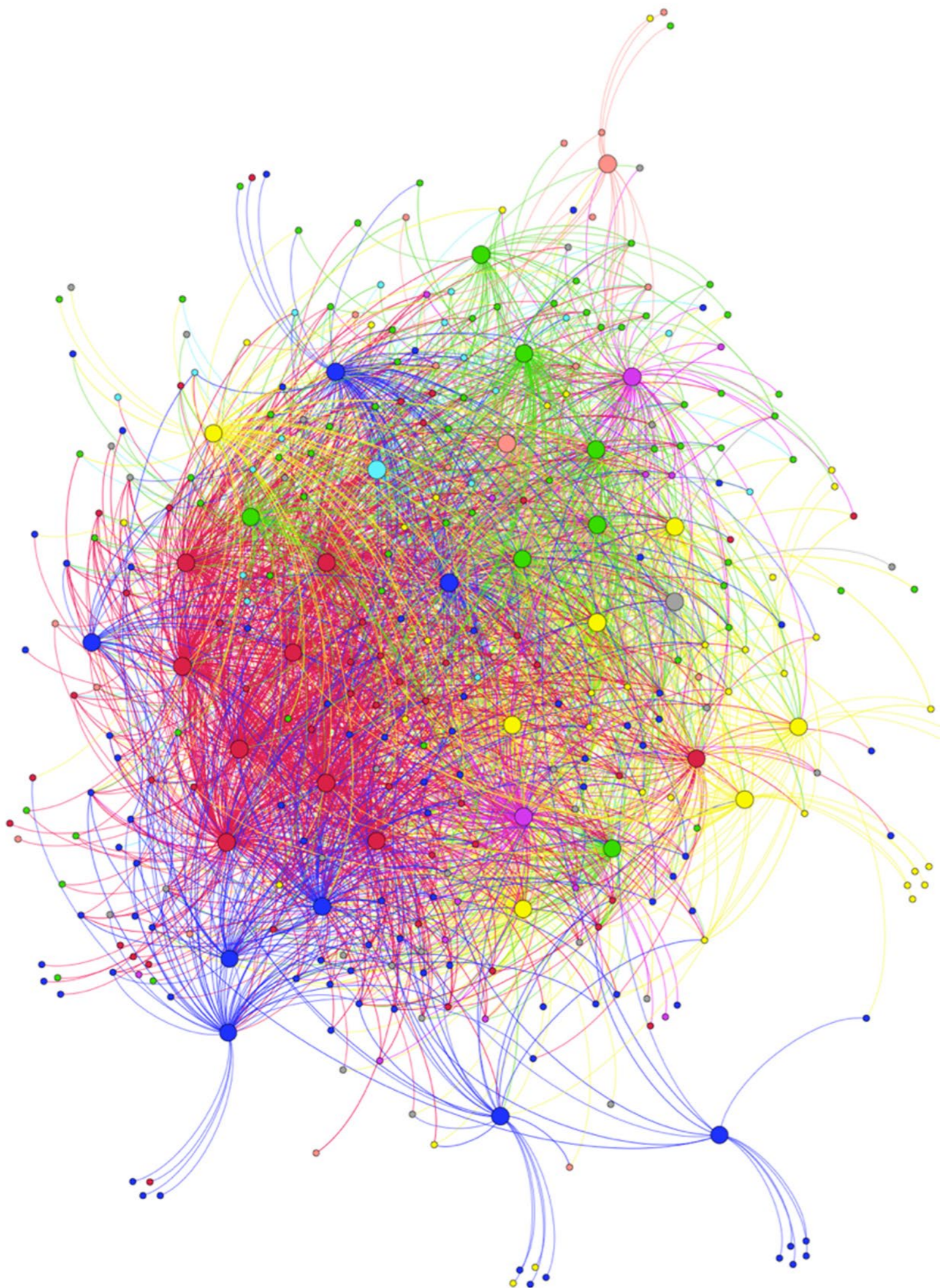
Now these considerations may seem unnecessary, until we wonder how any such things ever naturally occur on their own!

But they certainly must have - the only alternative explanation must inevitably resort to a God intervening to assist development to his chosen requirements... for if Laws didn't Emerge in this way, *someone* must have written them!

Understanding the dynamics of Natural Systems is, in fact, the only way to understand Natural Law.







## Systems Structures and Top-Down Causalities

### Understanding and Teaching the Invisible!

As has already been fairly minimally-pursued in a few references in prior papers, the absolutely crucial tackling of a New Kind of Causality, essential in all Top-Down Effects, has scarcely been even marginally addressed in terms of explaining Top-Down Laws that alone deliver a very large part of what is produced throughout all regularly-acting Laws (and their Effects): and doing so *invisibly*, because of our Old Established Pluralist prejudices, Unavoidably Imposed by the steadfast and exclusive dedication to only Bottom-Up Laws, has blinded us to them.

Now as I have explained often in this series, that erroneously exclusive standpoint has been the norm for well over two millennia, as the inventors and developers of all such extractions, and Uses, from Nature, were invariably carried out by what I call "Artisans" - chiefly pragmatic workers who had painstakingly and gradually, developed effective Methods of repeatedly getting the very same required results from given processes, exclusively - by forcibly maintaining the Exact Same Context & Contents, every time they employed that Method.

But that was a System they invented - it was NEVER within Reality-as-is, but, on the contrary, within unnatural, arranged-for and rigidly-maintained limited Contexts, involving only Strictly Limited Contents.

Now, at that time, absolutely NO OTHER Range of Arrangements could ever give such consistently reliable Results: so, of course, they rapidly became the absolutely necessary circumstances, for both Investigating, AND also reliably Using such things, to successfully make any gains whatsoever.

They were NEVER the Wholly Natural Circumstances, delivered by Nature, so both Investigators and Users also HAD to be able to precisely achieve and maintain exactly those circumstances - whenever Necessary!

Now, those able workers knew well-enough, that these Special Conditions were, most certainly, NOT Reality-as-is. But, they knew both that they were absolutely imperative YET also completely wrongly, as it turned out, considered it as the *Only Way* to isolate the Single-Aimed-for Law - exactly as it acted, usually along or with others.

But, crucially, their assumptions were wrong upon two separate counts! First, when acting normally outside such specially arranged-for cases, the Law would unavoidably both be affected by the other present Laws, and also actually be constantly varying.

In the Real World No Law is Fixed!

The Wholly Wrong Assumption had also been made, in concluding that such Wholly Pluralist Laws, so acquired, were the Actual Real Laws driving the Natural World somehow, and that it would be merely An Addition of such Laws that delivered the Actual Holist Result - and that is Totally Incorrect.

Much later, these arranged-for straight-jacketed Laws were correctly termed Pluralist, whereas within Reality-as-is, the joint version involving ALL the other processes acting simultaneously, was correctly termed Holistic!

Now, this realisation took a very long time, in necessarily changing the way we thought about these



things, particularly with respect to Explanations. For, the completely-artificial Pluralist stance made true-Explanations impossible - for if Holism was the correct interpretation - and Everything, at least to some extent, affected Everything Else, THEN real Explanations of Natural Phenomena would require their full inclusion to allow an always appropriate Understanding.

But, the Pluralist Mistake was entirely understandable, because the situation was NOT of Fixed Jigsaw Pieces, merely fitting together in a Single Fixed Way!

On the contrary, the situation was wholly dynamic, so that the amounts of all the various contributions varied - and many were initially inapplicable, and only very gradually grew in their affecting contributions. And this, also caused distinct Phases in the evident Nature of situations - at first, with increasingly-modifying-amounts of the New, until an unavoidable, and necessary Complete Rearrangement - A Veritable Revolution, would transform things radically!

For, these components were NOT merely Purely-additive, but Qualitatively Transforming. And, most important of all: they regularly, within these Transformations delivered The Wholly New.

So, not only the usual Effects of the growing new contributions - as subordinate contributions BUT the "Significant Directing Effects", wholly unknown until the Transforming Revolutionary Event, would deliver overall feature Totally Unpredictable from all our Prior Knowledge.

And, of course, such a totally unexpected Emergent Contribution delivered features that had NEVER existed before!

The Douzy has to be Life itself!

And how about Thinking and even Language?

You can see why the idea of a GOD was widely believed in - BUT, of course, that was not only wrong, but also greatly misleading for most of Human History.

Mankind has to put such mis-directions behind it, AND begin to Understand the Dynamics of Reality-as-is! And, of course, NOT Mechanistically, BUT as it really is - Dialectically!

Reality is NEVER merely an increasing number of Unchanging Pieces that fit perfectly together - BUT instead a self-developing trajectory of naturally-occurring developments, wherein Everything Possible actually occurs, BUT Reality, itself, ultimately selects what CAN naturally survive in such a Melee of Changes... Reality itself selects what should Survive!

Mankind, or at least its more beligerent, and self-promoting elements, do attempt to direct things elsewhere: BUT though they do produce, for a time, the most abhorrent aberrations, that simply CANNOT forever oppose Reality's ultimate results: for unlike self-informing Reality, they ultimately promote only its implacable natural opposition!

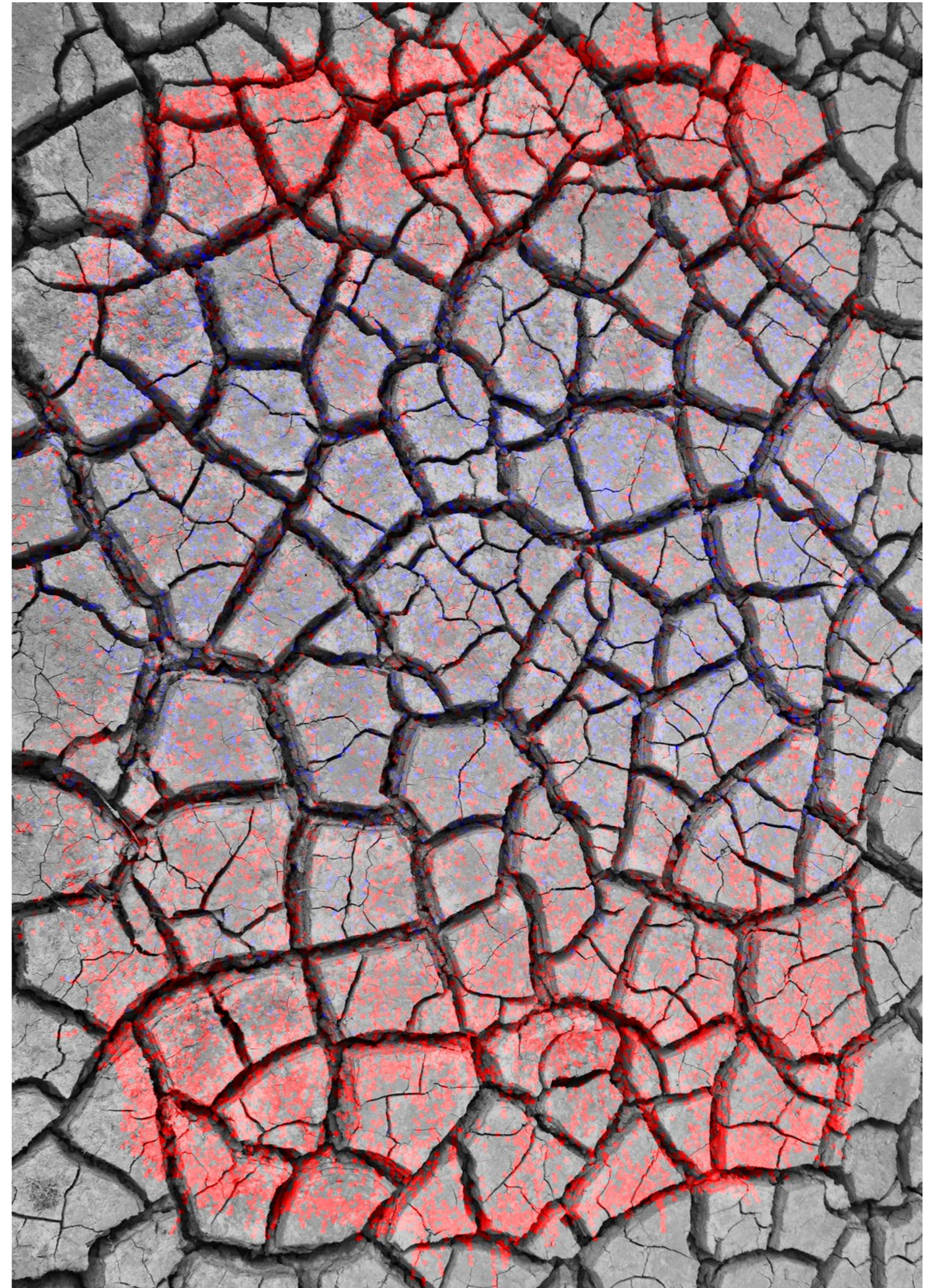
Nevertheless, over two and a half millennia of the Pluralist Diversion, it has imposed basically a naturally unsound approach upon literally all investigational AND even Educational norms! There are a host of understandable, but nevertheless mistaken approaches still dominant throughout established Educational Practice, which will most certainly have to be remedied.

After spending the whole of my long life in Education, and at all Levels, I am aware of the scale of the necessary job to yet be addressed!

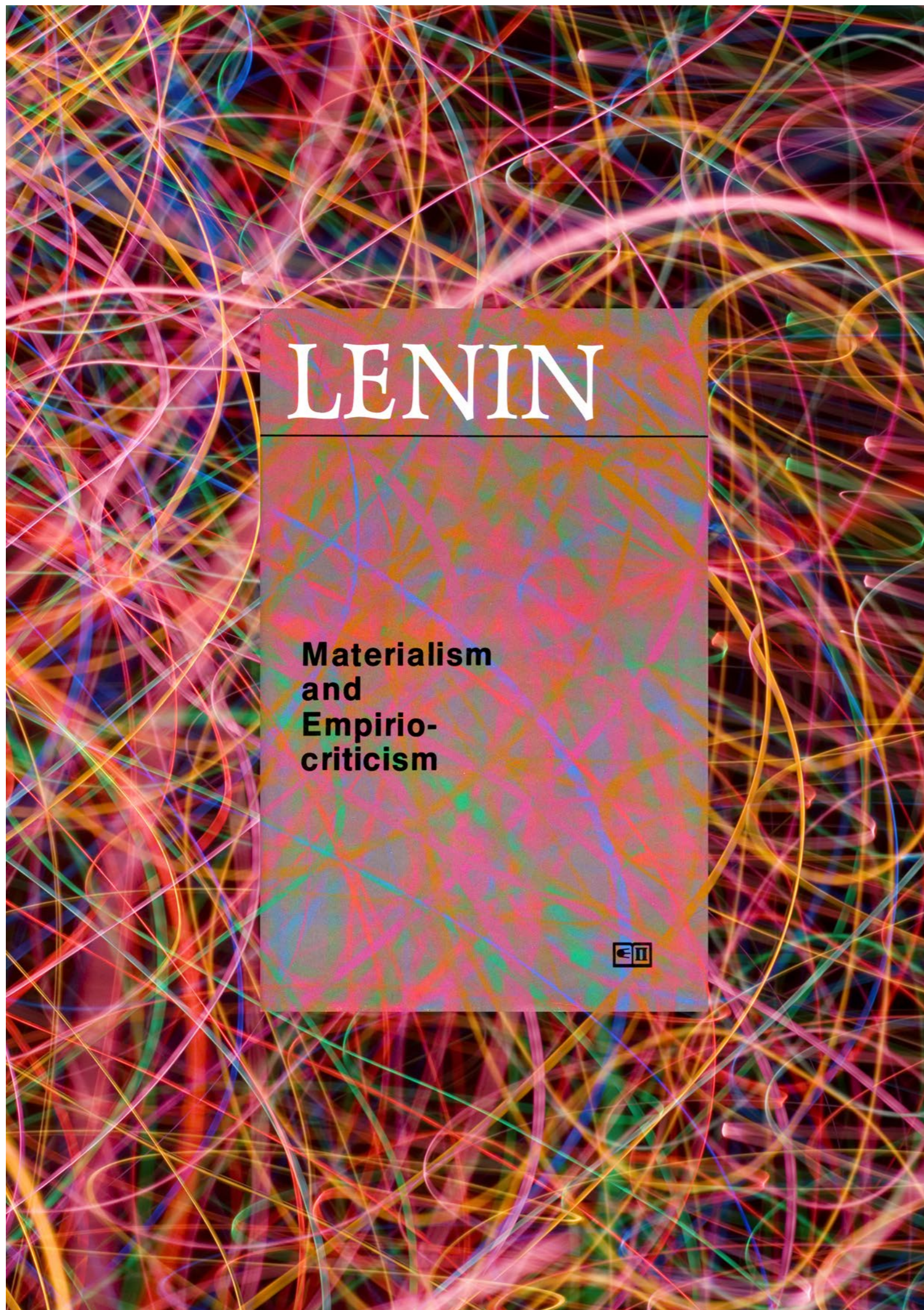
Indeed, perhaps unsurprisingly for me, whose first love was always Mathematics, the dominating Rationality throughout the majority of educational areas, has come to be the same one that historically also first recognised Logic: though generally, it has turned out to be a great deal more inadequate than most pupils ultimately came to believe!

Indeed, in most areas, where some form of development-trajectory would always be an essentially Mathematical Rationality, that was always a major-liability - indeed a kind of limiting straight-jacket, rather than a path to explaining the inevitably New.

And not Teachers and Pupils would settle into it's general assumption - like a truly revelatory generally-applicable-form! Indeed, right up to my time in Grammar School, right through to the Sixth Form, it was my guaranteed-cure-all too! But then, when having to choose my Subject to study at University, I surprised everyone by choosing Physics, because, at that time, all my Physics Teachers primarily emphasized *Explanation* as being the main







purpose of Education! But, having been won to that approach, I was then aghast, when I attended Physics lectures at a leading University, to find that there the same Mathematical Rationality was here unjustifiably rampant too. In my First year group of 100 students, I was unable to find a single one who agreed with me!

Hitting the University Library for evidence for my standpoint: I was finally able to find it in a book by the Russian Ulianov, which not only took my position, but extended it profoundly into a coherent and sound standpoint! The book was entitled *Materialism and Empirio Criticism*, and I felt I had to read more of what this excellent Russian was writing! It was only later that I found out that Ulianov had a necessary Pseudonym (Lenin), because he was the leader of the Russian Bolshevik Party, which some 10 years later took the Power in the World Renowned Russian Revolution of 1917!

This great philosophical standpoint certainly needed further investigation... And it was indeed crucial! Empirio Criticism was a standpoint that, for the first time, had a solution to the presence in Physics of two very different kinds of Law.

To the one I had always lauded - Causal Laws, there had been added another kind, Empirical Laws, which involved ONLY the relations between numbers - and hence capable of NO Explanations.

The writers of this position, Henri Poincare & Ernst Mach, who called themselves Positivists, insisted that the two kinds of Law be given Equal Status. And, by the 1930s, this had become the Norm throughout Sub Atomic Physics. It was a major mistake - for to implement such an unproved principle meant abandoning the requirement for all Real Situations to Always have Explicable Causes - enabling Explanations to be appended to all our discoveries. The Positivists suggestion was a total abandonment of that necessary requirement.

The excuse was, that there were NO Law-Delivering Causes available, for they were the result of a summation of different-yet-un-revealable multiple-and-mutually-affecting Causes. But such a conclusion incorrectly assumes that they could never all be arranged to be revealed: and prior experiences demonstrate that such conclusions are likely to be, most of the time, premature!

For, there are always two sides to a Cause-&-Effect Situation, so as well as the Effect: we must also give attention to the Cause! Indeed, merely eliminating an appropriate, individual Cause will, perhaps surprisingly also tell us a great deal too.

For, as extensively demonstrated in a recent earlier paper in this series, NO Particular Effect ever occurs in total isolation: so it would require Sources for causing all its actions, as well as Destinations for its subsequent Products! So, every relevant Process will have to have both Producing and Accepting Contexts. And, these can vary too - sometimes resulting in messy, and often unusable results. Some fail to function properly at all!

And, the consequent mixed erroneous fragments produced there would also occur-spasmodically as part of almost every situation, and hence, to some extent, muddy up the circumstances: while the much more frequent successful completions would in time swamp the errors, and clearly dominate the mixed situation.

Indeed, such seemingly undirected processers involved, ultimately turn out to be quite significantly-directed, even if initially apparently random overall. The more recent case, discussed a little earlier, demonstrates exactly where research will be necessary to remedy this apparent defeat. And many others will doubtless also turn out, in time, to be possible too. The easy alternatives applied to such seeming impasses have to stop NOW!

They must be replaced by dedicated research to uncover these more intractable difficulties - to, in the end develop an approach suitable to the Real Nature of Reality-as-is! And as this research is beginning to reveal, the Whole General Method, for literally millennia, is no longer even approximately Fit For Purpose! It was, for a vast period of time, considered to be the only conceivable Approach, addressing what features were generally easily accessible. But, the significant Revolutions by Thinkers such as Marx, and the Crucial Emergence of Systems Theory, have finally opened the door to the possibility of a much more profound and revealing Alternative: though, at the same time, we must accept that we are still at the beginning of a Very Different Approach - for as yet, it is nowhere near good enough - to actually transform Education, for example!

And, even more devastating, changing the existing Dominant Social Structures benefiting most from the



## A Revolutionary Understanding



Current Stance and their consequences!

Indeed, just as Dialectics has to become generally involved, to address the more blatantly wrong attitude to Natural Laws as such: So, in correcting the general assumption of Natural Effects “merely adding” to hopefully additionally address the evident fact that Laws are NOT independent of one another, but can ,and indeed do, change each others Effects in certain circumstances!

There will have to be Laws-about-Laws too!

But clearly, they will also NOT be merely *additive!*

The whole General Approach must be “dialectical”: and that will be much more difficult to deal with, as is being demonstrated already, with the case currently being addressed! For, it is difficult enough to actually define these features: imagine how difficult it will be to teach them!

The major Wrong Turning at the beginning of the 20th Century within Physics (and then the other Sciences), was undoubtedly that taken by the Positivists, who were troubled by the increasing number of solely Empirical Laws arising within Modern Physics, which seemingly had no evident Physical Causes naturally available - as had always been the case with the usually historically-sought Causal laws. The advantage with those Prior Laws, was that they could be related to the involved components' Natural Properties, that also clearly held sway all the way from the Atomic & Molecular Level, to their performances in Bulk at a higher Level of Reality. So, in addition to any purely Quantitative Relations extracted, there was also always this Qualitative Information: so, together, they married Quantity & Quality into two-sided, Meaningful Laws!

But, those New sort of relations, also emerging, though they involved similar numerical relations between certain evident variables, clearly DID NOT & COULD NOT ever relate these to any Qualitative relations, to, together, deliver meaningful Explanations of Real phenomena.

Now, before we go any further, we simply must make absolutely clear that the now usually achieved Totally Separate Quantitative & Qualitative Equations as such delivered NO PERFECT standard to mutually relate to! And, this inadequacy became a far more general attitude to behaviours well outside The Sciences too!

Once accepted as legitimate, ALL LAWS covering much wider areas of Reality also were acceptable as mere Quantative Relations having NO Qualitative Explanations!

And this was highly dangerous, for what effects they produced were seemingly Unknowable!

And they were only finally possible as Mankind developed the means to largely Control Limited Areas of Reality, extremely effectively, and, thereafter maintain that situation throughout subsequent variations within the Main Components, that would have to be clearly associated with certain actually consequent changes: and if these were then extracted as Laws they could effectively be used - BUT ONLY in Artificial Tightly-Controlled Production Methods.

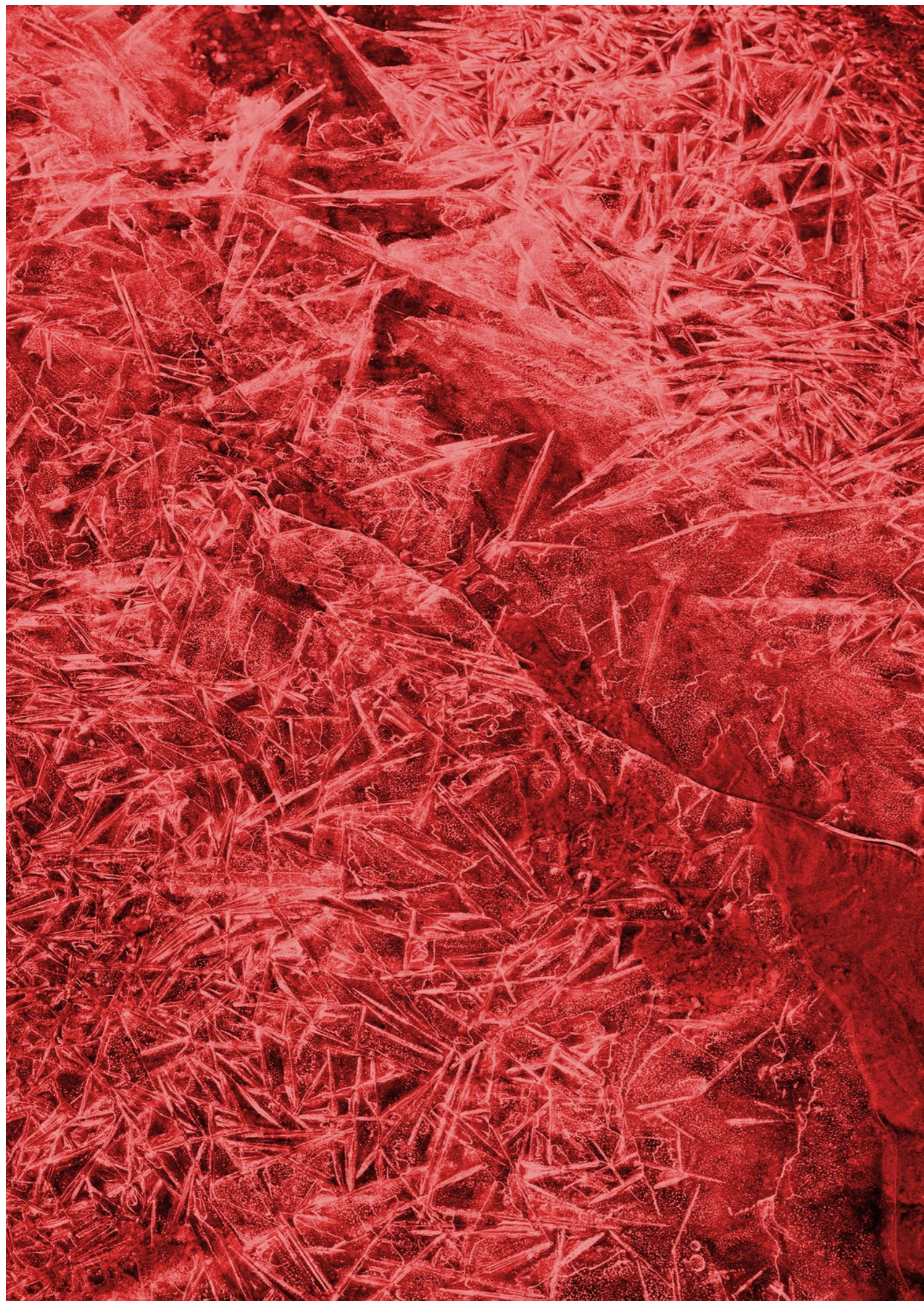
That became their primary motivation!

For more generally evident Quantitative & Qualitative Relations were NOT there simultaneously available! And so NO Explanations were possible

You would imagine that the growth of The Sciences would simultaneously greatly enable Mankind in Explaining their World: BUT the Pluralist limitations caused by those tightly restricted conditions made it so the relations that they were limited to DID NOT reflect Reality-as-is, and was linked to Numeric Values rather than Explanations! And, it, inexorably, began to move Human Society from merely taking Reality, exactly AS IT IS, to instead having to be able to direct, small parts of it into very useful chosen (and more-and-more-often), Entirely New Directions). The age of advanced technology killed Science.

It wasn't so much a “Revelation of Reality-as-is”, as it was a “New Extracted and Totally-Controllable More-Limited Version”, capable of empowering the





Manufacture (but NOT the Understanding) of useful, artificially extracted & Transformed Additions - both as clean & unadulterated, as were most of the wholly Natural & Different Productions, independent of Man, within Reality-as-is!

Indeed, the New approach embodied a Veritable Revolution in the Capabilities and the assumptions of Mankind in order to achieve ONLY that & no other. But, it also originally explained Absolutely Nothing! For, it was situated only within a Parallel Artificial Domain, which was initially, at best, much more useful than it was informative.

But, Mankind saw, at least, the possibility of it delivering a great deal more, if, and only if, it could be married to its evident Properties with roughly-appreciated from already-known (for many Natural Phenomena) and their inter-relationships. But the two were only separately known.

Of course, these ideas emerged as such, ONLY within the Working People of Society: for NO progress could possibly be made by those who didn't actually DO any such work! So, the initial gains were always made by the Artisans and their descendent Engineers and Experimentalists - the most skilled pragmatic workers in Society - whose knowledge of making things was Wholly Pragmatic, rather than Explanatory.

Now, simultaneously with these crucial developments, a very different Social Class had politically taken control of their individual Localities, (often by Force), and, thereafter, convinced the Populations which they now controlled, that they alone were ALSO both Capable Defenders of their now-subsevient charges, and were also absolutely necessary to stop even-worse-others (from elsewhere) taking away all that was now being achieved, and doing it by vicious-looting Force, and even killing any who got in their way, when they thought it necessary.

Now, such consequent internal social divisions, were never conducive to the increasing requirement for a real Understanding of what was currently actually being both pursued & achieved, and, by which the overall Level of Understanding AND Achievement could be extended.

Somehow, the false paths, and even the consequent wrong conclusions imposed by all the participators within so far experienced History, just had to be

somehow transcended, if the many usual prematurely-terminated outcomes were to be avoided.

But, it, unavoidably, had to eliminate the usual consequences of a very poorly understood, and consequently always deteriorating situation, especially as the Ruling Classes (and their many privileged hangers-on), constantly used their limited Control to actually prevent the Real-if-hidden Truth being both considered and then developed effectively!

How are we to convince ordinary people of the Real Truth of the situation, when as individuals it will always be impossible, within such a situation, where every usual means of informing them, of what is possible, has been well-and-truly tightly controlled for centuries, if not actually millennia, by the Ruling Class's generally agreed self-centered means of dealing with all such features, while ALWAYS maintaining their CONTROL!

The consequently-developed route unavoidably-achieved, came to be via Wholly New Political Parties, along with Jointly-agreed actions, based solely upon their Own Class! But, those benefitting mostly from the current situations, would, in any Generally-Precipitated Crisis Situation, always turn to the much wilder, more direct Forms of Repression, such as Fascism & even naked Military Control of Society.

So, the best hope surely now, has to be to equip the Real Class Forces of Change to take maximum advantage of the Coming Inevitable Terminal Crises, by knowlegibly revealing the predictable Result, if the Forces of Reaction within the battle for The Minds AND The Forces necessary to impose their preferred outcome. As always, a union of The Working class Youth and the latest Marxist Theory - as spelled out, for example, in this Major Series of Essays, can be the only salvation.

But beware of false Prophets!

It is also very clear that the Stance fought for in these papers is neither complete, nor does it have sufficient Forces to achieve the Necessary Objective of providing what will be needed, to direct that Assault! Alliances with currently existing and tolerated organisations clearly presently, does the Very Opposite, and ALWAYS also undermines the only valid means of understanding the current Headlong Deterioration!



It IS NEVER mere Organisation that will equip the Necessary Forces of Social Revolution, BUT ONLY a genuine UNDERSTANDING of what drives such situations.

Not Alliances, but Understanding!

And, currently, absolutely NONE of the current Claimed-to-be Left Parties have added significantly to the contributions of Karl Marx - the unavoidable limitations of a philosophic stance initially derived almost 200 years ago, will NEVER be sufficient to address TODAY!

That is why this research was begun, some 16 years ago, following an active participation in literally ALL the Parties of the LEFT, but also an increasingly a commitment to the essential Development of Marxism via the Sole attempt at a Dialectical Critique of both Social Development, and its inevitable Turning Points within Social Revolution.

BUT, and it turns out to be a very big *BUT*: the necessity of Theory involved which can NEVER EVER be developed by a single individual!

It is far too big a risk to be the work of only a single contribution, as was clearly proved by the example of Marx himself!

Though the gains I have been able to contribute, have at least been significant, they have been so in spite of over 60 years commitment, which has NEVER been sufficient! And, in spite of my most productive contributions being in the last 16 years, amounting to over 1,600 papers, it has only been in the last couple of years that the most significant contributions have been produced.

It isn't the job for a single individual (no matter how committed), for it is without doubt, an approach which not only transcends any single discipline: but, indeed, needs to be adequately developed, it requires them all - and not just produced by real interest, but also, necessarily, by the required methods to breakthrough all the many constraints, implemented to simplify analyses! For example, it has been the inclusion of the major discoveries in Systems Theory, by Biologist Denis Noble and others, that has for the first time also addressed several limitations in the ways Marxism has regularly pursued ever since - and including, Marx himself!

Now, this project, along with a series of others, has put into serious question, NOT just these type of problems, though also upon a much wider scale, in which the Whole set of ways that problems can occur - both in Reality-at-large, AND in the whole range involving both natural and consequent engineered problems, concerned with Explaining all that we now also see, as well as the full range of situations both now possible and also as newly evident, achievable Objectives in delivering what they all can do. For, in the past, a set of assumptions about what makes things the way that they are, have MOST CERTAINLY greatly over-simplified our Understanding.

The perceived basic (and invariably inadequately described) situations, have, almost always been believed to be those possible States - that some Natural, or even Man-Made Action or Event can actually exist within!

Indeed, on-going-investigations are always revealing New Forms, which could-and-often-did actually persuade Artisans that their objectives were impossible: especially as "precisely-knowing" the current state turns out to be never a simple task, as so many interactions frequently produce results that "look unchanged" and are in fact actually significantly-different, in a way which is not immediately evident.

Remember that Artisans have long established required conditions for certain processes WITHOUT a full theoretical basis for them, & their Laws reflect curtailed & severely limited Equations only!

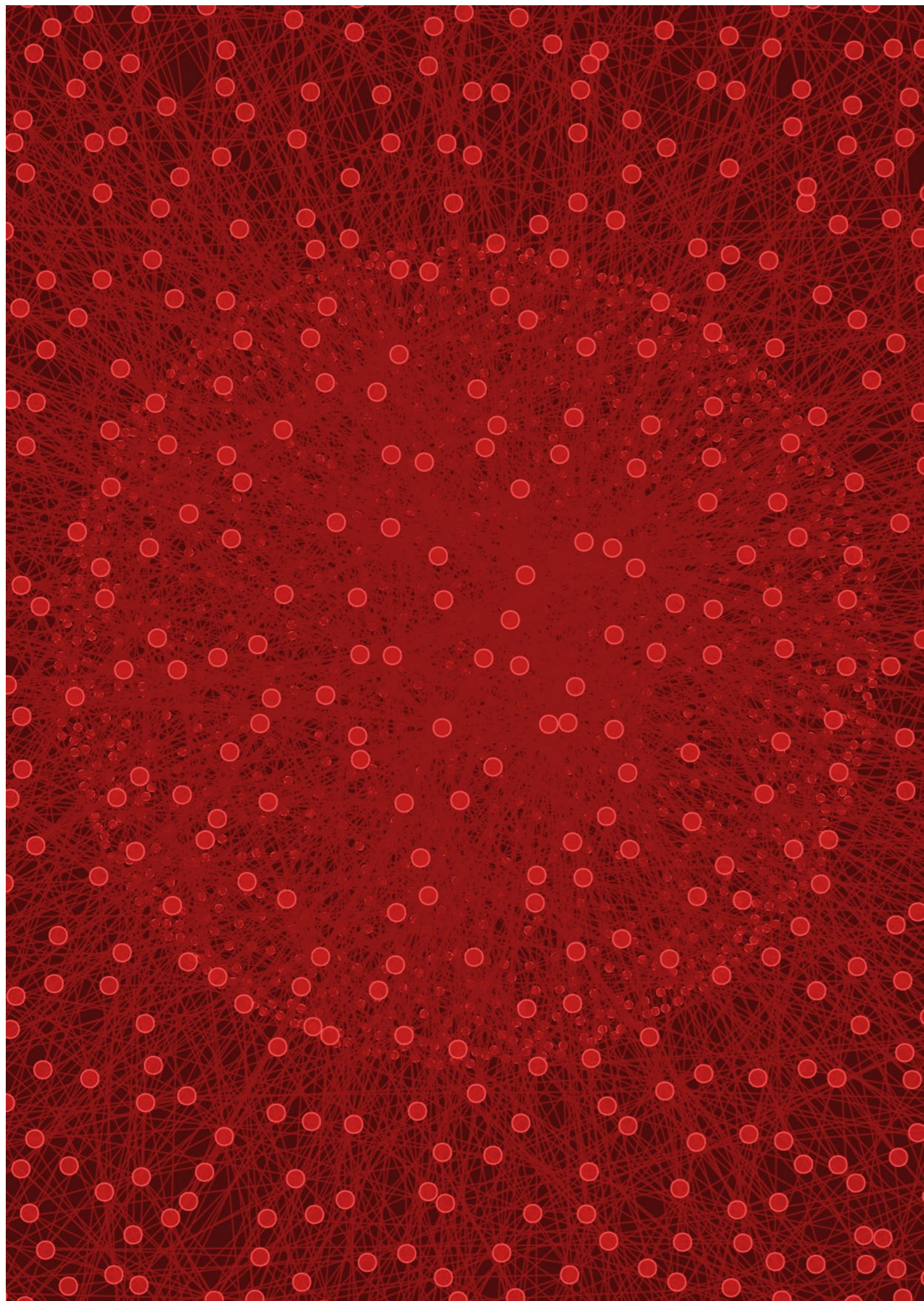
The usual solution was always to so-greatly-restrict both the Context and Controllable Content, as to always produce a single, easily reproducible State, that could validly be considered One of the Many Basic States possible, which would always be taken as a legitimate extraction from all of the others known to be possible in that Context! For such always was the Primary Objective, as a starting point, in all Manufacturing - as the dependable Basis for all Subsequent Productions.

But that doesn't help us Understand complex, dynamic, Natural Systems - including those of Society itself.

The separately arrived at properties in Reality-as-is DO NOT just ADD UP - they DO NOT deliver the Full Set of possibilities. They are a Strictly Limited Set, selected for by the particularly severe constraints that had been imposed in order to extract them in the first place.







For the objective was NOT, and, indeed, was never intended to enable an Explanation of the subsequent performance, BUT, instead, only those required for Future Production of a Chosen Result.

And these two sets of conditions produce Very Different Possibilities!

The ones always chosen are just those with ONLY a Future Production in mind! Indeed, that objective is the ONLY One usually fulfilled: the whole Approach is solely directed towards Production, and NEVER Explanation! And the Conclusions from this are that our assumptions are certainly NOT sufficient! Reality-as-is contains many other cases we are unaware of, and, they also affect one another, which would greatly complicate the then required processes yet to be implemented.

So, they don't even try!

So-called Physics is NOT what it is claimed to be: it is a SYSTEM for controlling Reality, solely designed to aid Production.

#### **The Required Revolutionary New Stance**

Clearly, we have been well-schooled, in this Wrong Turning, for a very long historical period, and for what always were Very Good Reasons indeed!

You would not criticise a child for Not Dancing before it could even walk - NOR understand what you were saying before they could even talk!

There have been profound and unavoidable Purely Natural Reasons for the necessary route we have taken, which, if we are Now (and Subsequently) to avoid at least some of the consequent pitfalls, in our future updates upon our methods.

For, the problem emerges entirely from our distorted - yet completely understandable, Early Misconceptions of the True Nature-of-Things!

For, we, ourselves, actually also developed from a Whole Series of Lesser Forms, and many earlier solutions, within our then Primitive Thinking, only had to be close enough to Reality-as-is, to deliver an improved,

and hence worthwhile, benefit! This, anyway, has always been the situation for Mankind: for settling upon the "Supposed Truth", long before anybody even had the required means to do so absolutely, or even partially! So, it NEVER delivers the required complete-and-wholly-correct Truth as its evidently, arrived-at conclusions.

Let us attempt to address this problem better NOW!

We will still NOT yet arrive at the Complete Truth (for it doesn't yet even "exist"), BUT, we can eliminate just a few obvious very long-standing "supposed truths" as now completely evident as errors.

The daddy of them all is the belief that The Truth is FIXED!

It isn't.

Indeed, Absolutely Nothing is!

But, it can certainly appear so in stable Systems, for some considerable periods of time, because even with apparently constant random variation, Really Significant Changes will only emerge when that "seemingly undirected variation", somehow, finally arrives, surprisingly, and at a Much Better State - and, thereafter, vigorously proliferates the New Form fast!

BUT NO External Judgement of Quality was necessary in this crucial transformation: its own increasing relative success, alone confers that by itself.

This is something like Darwin's notion of Natural Selection, but extending that to all Levels of Reality - all Natural Systems.

So to us, at our Level, , most things either continue to appear Fixed, or in "Getting-Nowhere Randomness" seemingly permanently! But, that isn't actually The Full Truth.

Yet, appreciating this, still doesn't indicate, in advance, exactly what Laws are going to emerge. On the contrary, to ensure Current Success, you simply always have to be maximally aware of what Laws seem, "for now", to be Fixed! But, the scientists who do ONLY that, will unavoidably be caught into getting nowhere, when suddenly a New Law finally does emerge!



So, instead of ONLY Subject-Based-Research: there, surely, has to be also Constant Background Research probing-deeply into the very important Dynamic Development of Laws.

A Final Aspect of this whole Approach, when generally-applied, concerns how the various well-established Laws, being unavoidably radically challenged by this Current Stance, occupied by almost Everybody Else with the argument that it most closely reflects what has been continuing to significantly Change. Laws that were usually considered as Forever Fixed now are more correctly seen as involving Whole Mixtures of Laws, most usually swamped by one that had previously emerged as totally naturally dominant.

This is a rarely appreciated feature of Reality-as-is, which is usually simplified into that which is currently dominant, so when circumstances begin to greatly amplify another element, it seems to have come in from outside of the System, whereas it was always a built-in, though currently suppressed, aspect of Reality-as-is that was therefore always totally hidden and ineffective previously, but in non-conductive conditions. It is clearly an important philosophic feature that was naturally, if mistakenly, assumed as such in the past.

For with the Long Established view determined by both tailored and rigidly maintained Fixed Sets of Contents, along with unchanging Contexts - they are all separately dealt with - each in its own required Context and Content, the resulting Laws, are then coupled with sets of another, Absolutely NEVER arrived-at in a Commonly occurring Situation - and in a Production always applied as part of a sequential Series, with each step in its own ideally necessary and maintained different Context.

So, clearly, that will constitute a wholly Artificial Union, and will never suffice if they were all applied in a singular Common Context - which is, of course, certainly mainly the case in Reality-as-is!

### In Conclusion

So, in finally assessing what has ultimately been achieved, we must draw some general conclusions, primarily about the most important areas tackled in these essays.

The key objectives were always to deliberately target the absolutely necessary Philosophical Developments, which are particularly difficult when no longer addressing Restricted Contents & Contexts, as we always do in Mathematics: but, instead, approach the Real World-as-is - much of which still remains not only yet to be revealed, but also Explained in any way!

And, that, I'm afraid, is much easier said than done: for an Extremely Important Ser of Reasons:

Reality-as-is is NOT already fixed!

Neither does it change within limits!

It is an Evolutionary System - forever developing to the Wholly New!

So, they were here addressed hopefully to transform the underlying assumptions unavoidably-associated with the usually involved important Ideas and Methods, upon which our current Theories are always based.

But, unlike most Explanations that only ever deliver within Constrained Rationalities (like Mathematics), what we have to deal with is absolutely NEVER finished: for it creates the Wholly New regularly (if infrequently) and requires, instead, an Open-Ended System, integrating the Totally New, BUT also never as an Anything Taken-up Collection. It also has to fit!

But, in doing so, it adds more to have to relate predictably with every new addition! So, it involves a Rationality, which grows, and though preserving the old, it also adds-in, an affecting, yet mostly conforming, *NEW!*

How about that for a truly demanding Discipline!?





## The Need for a New Approach to Theory in General

For many many decades I have been aware of the need to tackle Theory in a new way - but only in my old age have I begun to make any real progress towards what that might be.

Over some 64 years this product of the English Working Class - who nevertheless won for himself an extensive Education primarily in the Institutions usually in the past reserved for a very different clientel - had by the age of 18 arrived at what seemed to be an intellectual impasse!

He was in his first term at a prestigious University in the Industrial North of England, and already found himself at odds with his lecturers: one of whom was internationally regarded as an important contributor to Modern Sub Atomic Physics - E C Stoner.

He saw through almost a full term of lectures and practical experiments, but required considerable discussion with his instructors to address various important problems, I had started with my fellow students on the same course (of which there were about 100 in my cohort) but I didn't find a single one who had any misgivings, and the reasons for their confidence, rather surprisingly, were also at the very heart of my misgivings!

The trouble was Mathematics.

For distinct from the consistent ways that I had received in Physics at my School, addressing real Causes and consequent Understanding, my lecturers had switched to a different approach wherein proven Empirical Laws were regarded as sufficient in themselves, on which to build this Important Discipline.

And attempted criticisms of this switch in discussions with my fellow students were invariably terminated by them with the same dismissive comment, "Is the Maths too difficult for you!?"

But I had always been top of the Mathematics class in my Grammar School, yet had chosen Physics as my primary Subject at University because it Explained Reality, and didn't just accurately *describe* the involved effects! So in spite of my ability at Mathematics (in which I was persuaded to undertake four times as many "A" levels as were required - PLUS another three "A" Levels in other subjects - all of which I passed within the time allocated for an overall total of just three! And alongside my University Studies in Physics, I also had to undertake three years of high Level Mathematics too, in which I excelled - but at that early stage no marks were allocated, so my fellow students had no idea of how good I was at Mathematics. I simply had to have discussions with my Physics Lecturers: but they were NEVER allowed, with 100 in my year. And the only access I could get was with the Post Graduate Demonstrators, who were assigned to help students in their regular practical Experimental Sessions. But they were making the same dismissals as my fellow students. I got absolutely Nothing out of them: indeed I was just considered a "Trouble-Maker!"

In just a few weeks I was in Crisis, and could get absolutely NO meaningful discussion with anybody! Had I picked the wrong subject?

So I hit the University Library, as I was a mere first term student, could not be alone in my trenchant criticisms! I would certainly find others, and the place had to be one of the best libraries in the World.

I searched everyday in the Physics Section, and found absolutely Nothing!

So I consulted the excellent Library Staff, and was directed to the Physics Section within the Philosophy area, which he was convinced would be the best place to look! And, he was right: I found the aforementioned book by Lenin, and was set on a new and fruitful path.

But the questions I had then, and the questions raised in *Materialism and Empirio Criticism*, are yet to be adequately addressed, so many many years later. The Soviet Union rose and fell, and now, in many ways we seem to be going backwards.

The work on a new materialist Systems Theory of Science has really only just begun - but somebody else must now take up this mantle, and set Theory back towards approaching our ever-changing Reality - without reductionism, without Idealism and the distorting limitations of the experimental method. An approach that takes the world's complex, dynamic and holistic systems as they are, and attempts, somehow, to understand where they came from, how they work and interrelate, and where things might be headed next.





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