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**THE
SYSTEMS
THEORY
OF EVERYTHING**

PART 4

JIM SCHOFIELD



The Systems Theory of Everything IV

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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 series of papers continues to investigate how Systems and their Laws Emerge and Evolve, and why a Marxist approach is necessary to untangle it all.





The Continuing Reasons for Empirical Laws within Science

Jim Schofield

In attempting to necessarily extend my current serious criticisms of the still dominant, yet completely inadequate methods in all established Scientific Theories, I happened upon a crucial area, that was so complicated that there were a considerable number of completely contending, yet simultaneous features. These couldn't just be added together, as their combined effects, along with several others, could indeed be very different, which, due to the varying sizes of their relative contributions at each and every particular moment, unavoidably produce different and impossible to explain results.

Now, it was clear to me having particularly studied Contention in simpler situations, that a variety of contrasting results were possible, and, in such cases as this, at least some of these, would be cancelled or masked by others! For, there was never a single result in these cases, but a whole series of very different unsynchronised outcomes - depending almost exclusively upon the varying sizes, and also the current nature of the mix, of their individual contributions at each particular moment. And, the Effects were clearly Qualitatively different! A range of different results were possible.

Where have we seen this before? Well, Absolutely Everywhere, if we are really dealing with Reality-as-is, rather than limited and tightly constrained sub-cases!

It must be made clear, I am NOT talking merely of purely Quantitatively different contributions. I am talking about Qualitative Difference - and often contending contributions. And these can include simultaneous contributions with entirely The Direct Opposite Effects. For, they, if Exactly Equal, merely totally cancel out - delivering Nothing!

While at Unequal contributions they will produce Qualitatively different results!

Do you recognise the very important Current Examples of this in Quantum Theory? But Notice! Absolutely no attempt is made here, by myself, to replace Quantum Theory's Empirical Laws with Explanatory Causal Laws - though it at some stage MUST be addressed.

Instead, in classically empirical fashion, Quantitative Probabilities derived from prior results are used instead. And attempts are made to "explain" these in terms of a "built-in", natural randomness, with discrete steps occurring within Reality-as-is!

Can that EVER be legitimate? NO! It is always a clever trick!

The correct scientific method would have to be to attempt to reveal exactly what Simultaneous and Contending Qualitative Laws actually are active, and also, and crucially, how they affect one another - for that they most certainly do!

Now, I have also arrived at an identical situation, in my own other current researches: so, I intend to prove that these objectivest can be achieved both there, and to do it NOT purely Empirically but Qualitatively fully explained!

But, of course, some naturally Quantised processes do indeed exist within the structures of all Atoms: and, for very good reasons, historically, connected with the fixed sizes of the physical units involved at that level! But, as elsewhere - and always unexplained - throughout

Modern Physics, ONLY Purely Empirical Laws are evident, taken from results, and currently, absolutely NO causal explanations seem to be available - leaving only the Empirical Laws.

So, the importance of the disagreements, early in the last century, between the Positivists and the Causal Physicists, has been amplified considerably, by the universally wrong decision to side with the Positivists.

But, historically, of course, it couldn't have been otherwise, because of the way literally all Experiments have been carried out for truly vast periods of time! In fact, ever since the Greek Intellectual Revolution all experiments have been necessarily carried out in very restricted and maintained Contexts, with an absolute minimum of active components.

And, there was another determining reason for this!

Reality-as-is is NOT fixed and easy to handle: it definitely EVOLVES - and that divides it into Levels, and frequently the Causes (developed later) for additional effects are situated within an entirely different Level to that of its effects! And thus their causes are often NOT found via the Scientific Method.

NOW, all these aberrations did NOT help with the complexities of such Quantised Features: the True Causes, for many of them, were just NOT found: they probably existed elsewhere, at a different Level, BUT their effects were available only via Empirical Laws available from experimental results at the very different Level of their effects!

So, as was rapidly becoming the easy option, Empirical Laws were easy to obtain and use, but impossible to explain - the required facts to do it were elsewhere.

And in addition certain facts were known about Quantised Properties, which convinced theorists that they hadn't left out the necessary information: but they most certainly had! Without a full explanation of what was involved, NO real Understanding was possible, and the Key Features were known about, but never explained!

And these turn out to be, especially in recent attempts to produce Nuclear Fusion under Control, as in the many attempts to produce an alternative source of Energy for General distribution over the already existing grid -

impossible to solve without these Explanations!

And, in addition, the Electric Universe Group, in spite of the vital contributions of Scandinavian scientists, and their switch from Gravity to Electromagnetism as the main organisers of The Structure of the Cosmos, have NOT yet succeeded to this important omission in the Theory they require!

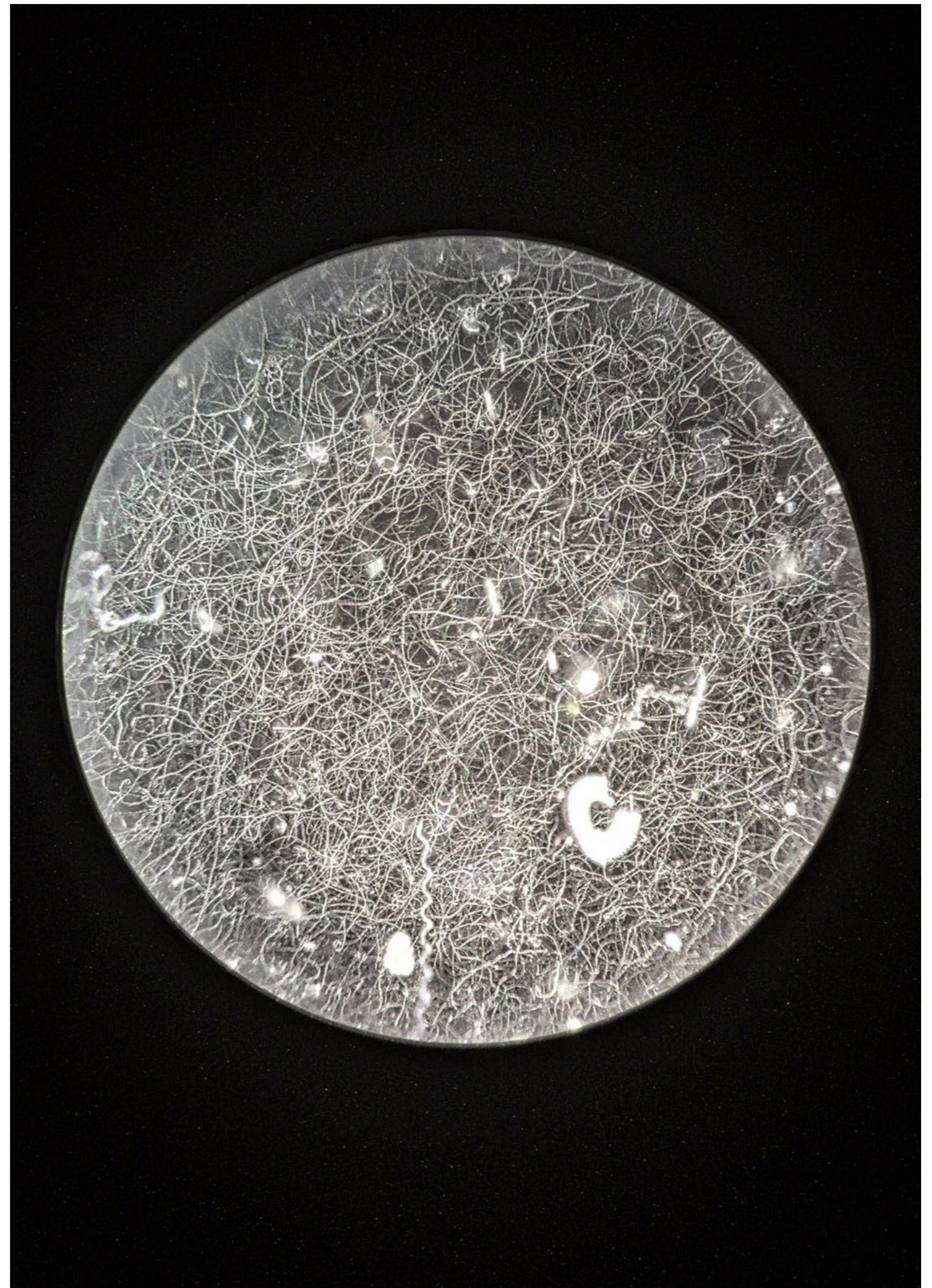
Clearly, Empirical Laws without Explanations do not constitute what we call Science! They emerged historically, when what was called Science was No Such Thing!

It clearly could reveal Absolutely Nothing about what actually caused such a result: and, at best, merely signalled when retrospectively Remedial Actions were necessary: it delivered absolutely No means of preventing such results, for to do otherwise would require Real Explanatory Science to be available, to allow preventative prior actions to be both defined and implemented. Or, for such to be obtained as a required outcome, rather than a totally unwanted resulting calamity, so such studies will certainly be valuable in the intended Production of such actually required results.

Now, of course, the study of such things in order to achieve those now unwanted results, was, initially, precisely what was then required, as well as continuing to be, the whole reason for such studies - so these were then and still are now, the primary intent. Production can still be very well served!

But for Discovery, and even Optimum Design, it will always require real Explanatory Science - that is the kind of study which reveals exactly WHY certain things happen: so that sequences of the resultant Explanatory Laws can and will produce the desired results.

So, Empirical Laws may be much easier to attain and can be adequate for our needs in production (if what they deliver is what is required) - but NOT if something more involved requires explaining - as they do in revealing other possibilities, or trying out wholly original sequences to produce something never before attempted.





New Emergences and Imposed Calamities

To even commence such an endeavour as this, one must first establish both the Nature and the Dynamics - not to mention, the Truly Devastating Selectivity - of the actual-and-surprising Development Process involved. For, otherwise, any attempted reconstruction upon, what turns out to be, an inadequate basis, will certainly wander far away from the actual and surprising Trajectory.

And, this being the case, I must, indeed, first attempt to describe that trajectory as best as my studies will allow - always with the reader having to be constantly aware of new diversions, in what they will undoubtedly see, away from my currently-held conceptions: and where necessary updating them.

So, let me begin with what I consider to be the Primary Principle of this fascinating Development!

It is the ever-present existence of Contention.

The Development of such a System, couldn't be more different from a Game of Lego! For, the pieces involved don't just complicate. They also affect both one another, AND even what they themselves have previously built. Simplified construction principles will NEVER explain Reality-as-is.

I must, at least, attempt to describe what this means, in the remarkable process, which ultimately produced all that we have now! AND, it will continue to follow a similar path in the future - even though actually directly contradicting what it had done so far: yet by so doing delivering Real Novelty and improvements!

And the heart of it all is certainly that inherent Contention! For, without it, Reality-as-is would just produce more-of-the-same: whereas, in fact, it regularly produces The Wholly New, which can never be predicted before its first appearance. And this seems to make any kind of analysis well nigh impossible.

But there is a hidden saviour, which is the appearance of New Levels with all natural innovations! Following the Emergence of something fundamentally new, the Qualitative change appears in a new Higher Level, while its Effects are evident inexplicable in the Prior Level, where they appear to us as Purely Quantitative Laws!

Now when these were finally recognised AND always NOT accompanied by their causes: they threw real analysis into failure, and the mix of both Causal and Empirical Laws, was clearly failing to provide full explanations! A major dispute arose between the Traditionalists who required explanations, and the Positivists, who rejected the inferior status awarded to Empirical Laws, and demanded that they be given equal status (even without any explanation). To begin with, the position of the Positivists was rejected universally. But, as more and more such Laws proliferated on all sides, they won the day, and The Empirical Laws of areas like Quantum Physics, were not only universally accepted, but actually were ever increasingly Dominant!

Now, to really start to understand these True Processes of Development, determined by the points made above, we simply MUST get a comprehensive handle upon the range of inevitable future Developments both in spite of actual Wholly New Evident Effects, AND also, because of the impossibility of ever being able to predict

the Nature-and-Development of such Wholly New Emergences! Now, though this definitely appears totally impossible, from all prior stances, occupied, when considering everything ONLY at a Single Causal Level: it does get a lot easier, when Multiple Causal Levels are considered, and involving a clearly increasing number of relevant examples.

And, this is mostly because we have become increasingly aware, that though very rare events have literally NO measureable effect upon the Results, BUT can so dramatically increase in number, to completely change the Balance of any opposing Causalities: and ultimately totally swamp what used-to-be the always certain outcome, caused by that same Newly Emerging Factor, which can-and-does Totally Outweigh the old, seemingly-permanent Dominance, completely, and take over itself completely.

This was, in no way, pre-signalled! We are totally surprised when it does! Yet, it is how all Real Development occur!

This new awareness has instigated a study of all such initially-rare Emergences, with a view to identifying Wholly New Dominancies WELL BEFORE they fully establish themselves! Indeed, without such preparations the Major Switches are only noticed AFTER their successful takeover, so we have no inkling of what has happened - and especially as the "old dominance" seemed both permanent, and unchallenged! AND, even more importantly, the New Cause gets established in an often New and Different Level of Causality, to that where it so evidently acts.

So the only way to improve the situation, must be to be increasingly mindful of such vital dynamics as we do Science, and, indeed, be constantly ready to widen our considerations, so that, occasionally, we would not only welcome, but also actually encourage possible Emergent Switches, to our consequent advantage!

Now, if we consider the dynamics involved solely in terms of natural processes, we are appropriately limited to a self-developing and regulating Evolutionary System.

But, in the striking case of Earth, we have products of this Natural Evolutionary Process, that can be damagingly diverted by one of its highest Levels - namely by Mankind itself.

For though, as scientists, we have described how the considerations and actions of Mankind can indeed effectively enhance this progressive set of contributions to the benefit of all, generally - that is certainly NOT the only thing that can happen! Another higher-Level System has to be taken into account.

For the Societies of Man have always arisen with Different Social and Economic Classes, sadly increasingly very differently, and, too often, damagingly intervening to themselves accrue the largest possible benefits, for their wholly self-centered, and ultimately Ruling Class. And, this Class, itself, divides into rival, national groups who, by now, are no longer threatened by the Lower Classes as much as by Rival Ruling Classes in other Countries. But these Ruling Classes have attained their Dominance, economically, by concentrating solely upon the exploitation of the Working Classes,

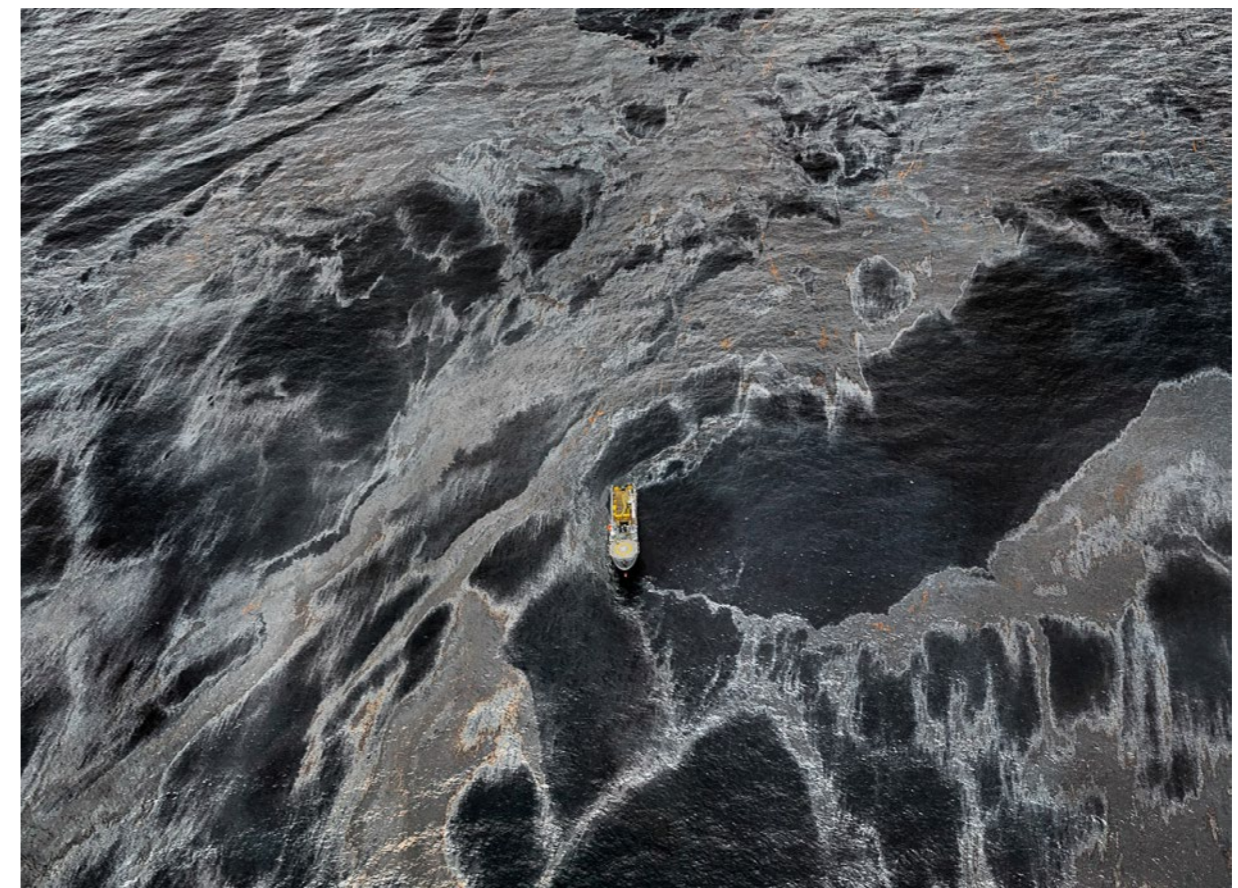
And, this process has blinded them the the dangers and Critical Existential Damage that they are increasingly-inflicting to their Global Environment - the Climate System and the Ecosystem.

Their means of attaining-dominance has totally blinkered them from considering the health of the Planet and its inhabitants of all kinds. This System is now threatening the Continuing Existence of Life upon Planet Earth!

Now, though the analysis above is indeed correct, the structure of power has been such as to have, as its unquestioned Primary Purpose, the ever-increasing Wealth-and-Power of the Monied, Business and Political Classes, whose objectives were nowhere near what was, and still is, required to allow the Existing Natural Processes and Dynamics to Oppose that damaging, dominant Consciousness, to, instead, in any way guide Reality and its current political state into the essentially-necessary direction.

And, crucially Absolutely Nothing will ever be achieved with ONLY a consciousness limited to The Damage Caused! For, no matter how many, and even how well-described, valid and heart-felt warnings are articulated, the Real Central and Crucial Cause simply MUST be addressed - which is most certainly that of tackling the Damaging Rule of the Monied Classes!

For, currently, only they have the wherewithall to do anything at all to change the System - such is their





control. Without full dedication to the Primary Task - that of totally de-throwing these Ruling Parasites - Nothing will Change! Science then becomes a game of rearranging the deck chairs on the sinking Titanic!

Even those rare critics who currently oppose United States World Dominance, DO NOT notice the blatant similarities with the World situation immediately prior to The Second World War - with two opposing Gangs of Capitalist Exploiters "fighting" for their World Dominance! Both acting solely upon the same Capitalist Perspective, BUT now even more acceleration along the road to Worldwide Oblivion.

For, in spite of the Cold War, after World War II, the World was still divided, one part of which still claimed subvience to the Socialist Ethic, which rejected Capitalism: though the twisted version that existed under Soviet Communism (termed Stalinism - or perversely Marxist-Leninism!), made absolutely no concerted Effort to extend its remit - apart from a more than adequate Defence Capability - and it always avoided any full-blown confrontation with the Capitalist West, which in turn, dared not attempt to extend into Soviet territory!

The collapse of the Soviet "Empire", certainly opened up vast areas of northern Europe and Asia to Capitalist Exploitation, yet for decades since that demise, the Capitalist West slowly but surely expanded into that area: BUT not yet Newly Capitalist Russia! Ukraine was the test case for the final leap, but Russia pre-empted that move by its own preventative invasion!

Yet, nevertheless, we cannot ignore the constant gradual - but accelerating, deterioration of the World Capitalist System, which the USA believes - incorrectly - will be "relieved" by the defeat, and subsequent takeover of Russia (and, of course, eventually China too)!

But even if they manage this - which seems unlikely - that won't solve the higher-level Systemic Crisis.

Multi-Level Law and its Evolution

The key revelation, via my recent work on Systems Theory, is that absolutely all Laws exist in very long-lasting, initial & partial modes - actually defining, what appears to be, their naturally Sole and Permanently Existing Level. This Level certainly continues to exist-as-such for often considerable periods of time. Yet, that seeming-permanence is totally illusory: for, though it has in actuality established a Primary Level-of-such-Laws, the consequent process of the Law's Inevitable Evolutionary Development was, as yet, still incomplete. It actually can-and-does establish further transforming developments, into extra Causalities, situated at a Wholly New Level, while adding a Purely Empirical Rider STILL at the prior Level.

Now, understandably, this was always missed in our scientific investigations (and still is, by all those intimately-wedded to the two and a half millennia-old Principle of Wholly Pluralist Laws)! A stance naturally arising, entirely Pragmatically, from the absolutely necessary, and greatly restricting, experiences of the only Form of Successful Productions, entirely Without Theory then known. For it simply could not be otherwise!

Only via great restrictions upon both Context and Content could Productions be consistently successful. And, this is because, of course, such limitations successfully totally suppress any natural further Causal Developments - indeed of any Evolution of the Laws involved.

Remember, therefore, such Levels were solely imposed by Mankind! Left to itself, Reality-as-is naturally evolves, though often extremely slowly from our perspective. And it was Successful Production that set the first-percieved-

boundary, though the natural difference in tempo actually drove the Man-sized conceptions involved.

Now, the problem of discarding that initially necessary straight-jacket in Thinking, has taken a very long time, in breaking-into Man's Consciousness, because Production has become the Motive Force for our Success in this World! And, has also been the Prime Driver of the whole Human Population into Opposing Economic Classes, which also perpetuate this actually accelerating aberration.

The Essence of the entrenched Pluralist perspective, underpins the current Class Dominances, and has continued to dominate Mankind's Consciousness for Millennia!

Science is also a social process, and part of a superstructural system that "maintains the base"

But, such a damaged-view of the World has undermined any Real Understanding of Reality-as-is, to such an extent, that the dominant Economic Drives were, and are, pushing Nature itself to the brink of collapse, and without a veritable Revolution, the Human Situation upon Earth is surely in question.

For, the Natural Revolutions of the Ancient World, that historian and philosopher Karl Marx had studied, and thereafter so brilliantly-and-remarkably analysed, in his wholly New Dialectical Way, sadly had, since then, been increasingly diverted away from that wholly natural, self-correcting-and-developing Path, by the concerted efforts of Mankind (particularly its Ruling Classes) - greatly distorting and also forcing such situations into





clearly non-natural directions, without the releases and rejuvenations that those Revolutions had always allowed!

Initially, those man-devised objectives and consequent directions didn't seem to be forcing situations badly wrong! But, that increasingly and acceleratingly changed, as Mankind's choices ever more speedingly precipitated more-and-more Crises, though also, contradictingly, alongside clearly evident Gains.

So, the real causes of a general deterioration were never realised! And, the mounting damage to the Natural Environmental Processes of Development, along with the suppression of literally all natural-and-beneficial Revolutionary Upheavals, were imposing a significant and increasing bias, and ever more deterioration, upon the underlying conditions of all wholly Natural Levels.

The previously wholly Natural Processes of Both Correction and Improvement were increasingly suppressed by Human Activity, and concern for the many natural self-correcting Systems of Planet Earth, along with its diverse and contending Contents, were NO LONGER allowed to function as was necessary for such a complex System to be able to develop naturally!

Of course, Marx's historical analyses had been wholly correct, but he had never went beyond his own finite Social and Economic Disciplines, in any of his analyses, so the wider Sciences were all totally omitted! And, subsequent Marxists, ever since, (with the possible exception of Lenin) all kept well within the confines and boundaries of their own particular disciplines - so many of these contributions, though certainly of some value, were also severely damaged by these major limitations.

You can't do Holism from a corner!

Coupled with the always-assumed extrapolations-upwards from single Atoms and Molecules, all the way to considerably larger natural associations, could not but severely-distort what was considered to be Causality, regarding real and much larger Systems.

Clearly, these assumptions would be wholly misleading, in Real World situations, so, experimenters continually restricted the circumstances of their Experiments, until the results finally matched the assumptions! Not very scientific was it?

But, remarkably, by mere chance, those results did indeed match with another remarkably truncated Discipline - and, for totally unrealised reasons! For, IF the restrictions were tightly implemented-and-maintained - as such, the situation would indeed be made to conform to the originally tightly restricted-and-controlled condition - which limited Laws to their initially First-discovered-Level alone.

You can see why they clung to their Plurality so steadfastly: but it was for the Wrong Reasons, and led them increasingly astray over time!

Only Modern Systems Theory (for example, the work of Denis Noble) could possibly reveal the Truth - for Causality actually changes with Scale! And, without which, the intricacies of Real Dialectical Causal Evolution would NEVER be understood.

Now, the very development (occurring originally in Ancient Greece circa 500 BC) that laid a basis for a certain kind of Consistent Thinking, associated with Number, and thereby establishing the very first Consistent, Concise and Comprehensive Rationality, upon which, the First-Ever Usable Rationality was constructed - gave power to the elbows of those who extolled-the-virtues of Rationality in establishing Truth Absolutely Everywhere, and ALSO, thereby, instituted the Wholly Wrong Idea, that the same would be possible across All Areas of Study, upon an identical basis: which was most certainly UNTRUE!

For, though this did also reflect the First Discernible Level in Natural Laws, it was NOT all-embracing, and would, everywhere, be extended, given time, because in its early association with the First Ever Rationality of Mathematics, had subsequently damagingly manacled literally all Logical Thinking, only to that necessarily limited Rationality, probably very similar to that devised for Mathematics: which was, most certainly, Totally Incorrect.

And, this clearly also-damaged the very idea of Rationality, as applied across most areas of Study, and was, thereby, limiting the range of possibilities only to those that conformed to a single artificially limited Logic.

The true, natural variability of most real relations was ignored, for a simpler System that always also implemented the necessary limitations!

These damaging assumptions were established for literally all Ways of Thinking - as it was to match the Limited Rationalities across the whole range of real possibilities, which had, thereby, falsely restricted situations to only all severely and wrongly-limited-sets. The whole range of Rationalities were similarly straight-jacketed into restricted sets, that could never fully reflect the full set of Real Possibilities that were actually occurring.

Clearly, such wrongly-imposed limitations would necessarily omit some of the true full set of legitimate contributions, and, thereby, also fail to fully consider all of the actual effects of those omitted possibilities completely, and hence, at least some of the consequent extended sequences of later, as yet, totally unaddressed possibilities.

What would unavoidably have been delivered, but would also necessarily have always been incomplete: and these, nevertheless, would have their effects, which because of the imposed, yet incorrect limitations upon everything, would later still appear, but "without causes", and consequently be frequently wrongly explained!

Now, a single case, as described above, would, of course, be added to by all other applications of that falsely imposed restriction: not to mention all the many possible "cross-effects" between the various different omitted cases. So, in this complex world, we are now revealing the overall effects of these limitations, which would, very quickly, expand to significant unaccounted-for consequences. And, the question that arises must be, "What would experimenters DO to bring things back into predictable territory?" Would it be another dose of those usually-applied simplifying Physical Restrictions, that were the problem in the first place?

The points made in this essay are by no means trivial: but taken as a whole, with other seemingly confirming processes of various other kinds, can-and-have produced an apparently consistent approach, which is, nevertheless, totally false! And, therefore, one which initially must have seemed wholly sufficient, has, as more and often contradictory additions were included, demanded ever more also-incorrect additions, merely to counter the ever-increasing contradictions, caused by those restrictions.

The only effective approach, has to be a disposing of all these past mistakes (and any correcting props we routinely rely on), and the complete replacement by the indicated extension of Dialectical Materialism to a Holistic Systems Approach to absolutely Everything!

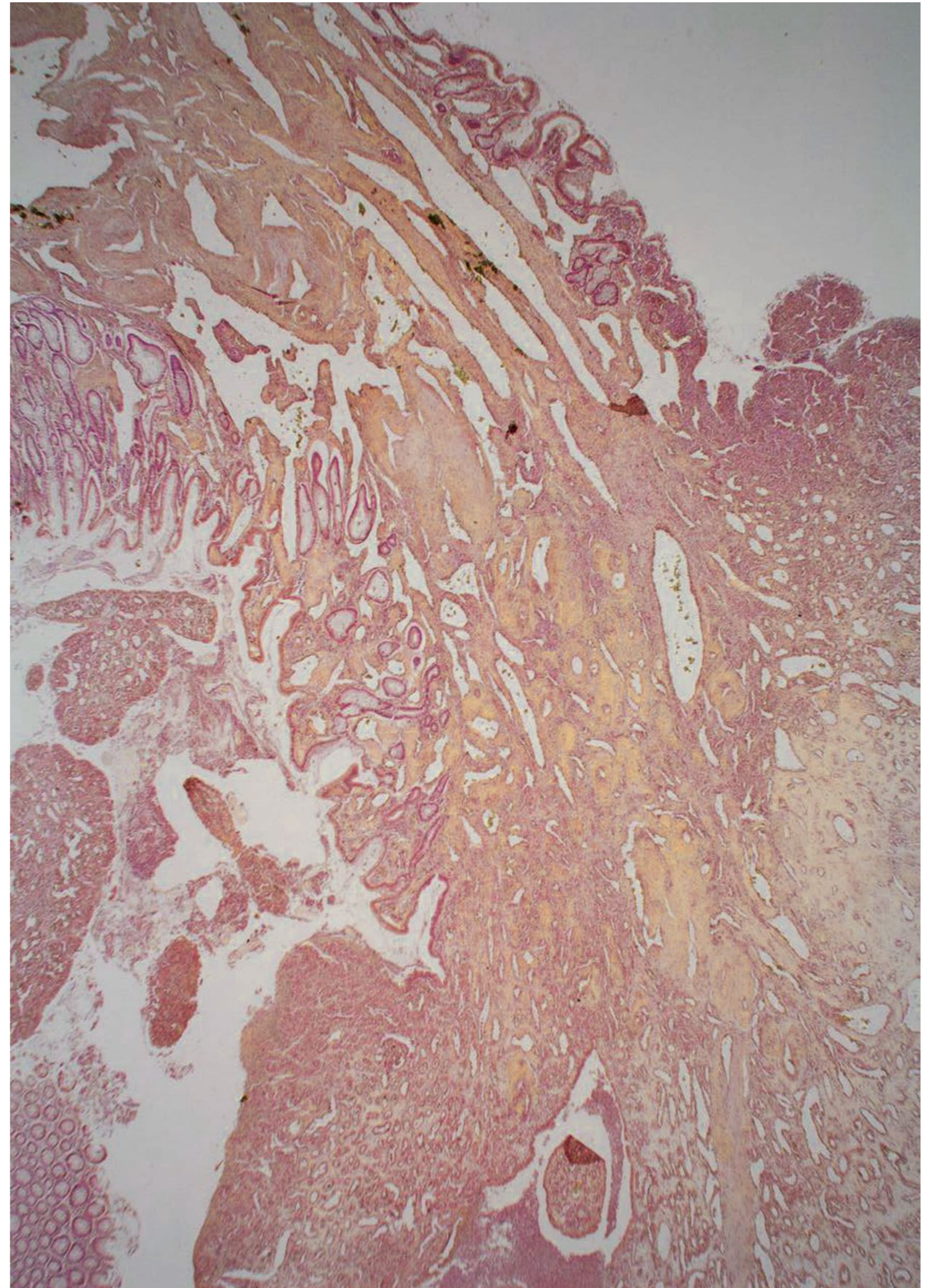
The previously truncated, and hence initially greatly simplified, straight-through approach, and its replacement by a sequentially emerging System of Levels - to actually reflect the real constantly (if slowly) Emerging Evolution of Reality into Ever New Levels, with majorly qualifying Effects. The Appearance and consequent Evolution of Life did exactly this, and thereby has proved its necessary inclusion within absolutely all areas of Change!

Now, the consequences of this are NOT just in explaining the Emergence of wholly new features, BUT primarily in how the increasing numbers of often contending Laws and Properties - all available together - actually manage to co-exist!

We must remember that all these many Laws, not only all exist in the same spaces, but both depend upon each other for required resources - and also, in turn, deliver their products in the same way! And, though some will compliment one another, others will most certainly contend. And, in a multi-factor environment, contentions will tend to balance out - effectively negating each other's opposite effects.

Overall, the most likely outcome will be what might be called an Active Balance - producing a kind of Stability, which is actively maintained as such, by cyclical processes, all of the time!

Now, as I have established elsewhere in several other papers in this series, the gulf between these, and the way of finding, and using Natural Laws, particularly in my specialist area of Physics: and the Real World I have described here, is undoubtedly enormous! For, the relations due to the properties of the various Elements and their compounds are always limited to just the relations between those properties occurring at the most basic Atomic and Molecular Level, which are considered to then be merely multiplied-up somehow, purely quantitatively, when used in the actual bulk occurrences: with no consideration whatsoever of any Interacting Systems Effects, between the many clearly also-present, other simultaneously-happening processes. And, the relations between all these many different processes is



Emergences and Evolution

Changing Systems and Mankind's Influence

totally disregarded! So, all the Effects that I have been considering in this series of papers are, thereafter, never considered at all by Scientists, or anyone else that I can see. Yet, they not only happen, but by various Systems Means, including the cancelling of Contentions, the overall total finally arrives at an Active Stability, which temporarily maintains them all, but now hidden within what we see as "Stability"!

And what a Natural Revolution turns out to be, is originated initially by a general drift towards - first one of the many Active Stabilities dissociated, followed immediately by all the rest, one after the other - onto the total dissolution of a general Collapse, and a return back to something resembling Chaos.

But, though it always happens - it isn't what we usually think characterises such a Revolution: for, that is always the following High-Speed Re-constructive Phase, that allows a Total Re-building of all Active Stabilities, but upon an Entirely New Basis, this time solely from the Chaos that has been produced, yet on a different and indeed higher Level.

Indeed, from the exact same included resources, a Wholly New Set of True Emergences appear, which though they were always possible within that set of resources, were also totally impossible to predict from the prior situation.

The promises of a successful Revolution can NEVER be specific: but when a Revolution is finally successfully completed, against the forces of reaction - the active stabilising processes of the prior system - the gains will always be significant!

Both in Nature and in Human Societies, development always occurs via a succession of such Necessary Revolutions: it can not be any other way, because all prior elements exist only in a rich interconnected fabric of interacting parts, which present a complex whole to thwart significant changes! There is NO ideal achievable situation - for Reality-as-is constantly creates ever new possibilities, while simultaneously developing ways of safeguarding past gains. But, that will persist only until the System is no longer viable - at that point a Revolution is inevitable.

Until we understand these complex processes in Multi-Level Systems, we won't know when this will occur, or have any idea what is likely to happen afterwards.

This new Systems Theory has a strong basis in my earlier Marxist work, *The Theory of Emergences*.

The Essential Central Question to be addressed in attempting to understand how Systems come to be - either those which are Totally Natural (and hence determined solely by the Inherent Nature of those entities), or instead attempted by conscious beings, within Mankind - concerns Emergent Events, that can only ever really be achieved via totally unplanned and undesigned Rare and Wholly Natural Processes.

Such Systems Changes can and do occur, but validated ONLY by a Natural and well-hidden Logic of its own, which rarely gels, at least initially, with Mankind's objectives!

There are many man-made plans created, and thereafter, sometimes, carried-out, by particular groups, BUT NONE can proceed purposely, to a planned-for outcome: for the potentialities for Change are only available as embedded in the actual Nature of things, and CANNOT be fruitfully imposed upon them by Man: they will all instead merely be different re-arrangements of what already occurs - containing absolutely nothing essentially New - by such Intentions alone.

So, most of these Human-induced changes can only actually be to re-direct things, into already-known, prior situations, usually from the suggesters Purely Sectional Interests - within Current Society-as-is, but there will, of course, be urged as "Necessary for the good of Everybody"!

They can, of course, only be those that are normally evident, and will, therefore, be totally unable to elicit any significant, New changes.

Now, absolutely none of these will occur naturally, and they will enlarge dramatically in a particular direction, not normally possible under Nature's Own Logic, so that the usual contending features working against these emphasized changes, will NOT be available: and the wholly natural counters necessary for a Natural Active Balance (a stable System) will not be there sufficiently: and a Damaging Bias will result!

The usual ways that Reality-as-is naturally achieves its Controlling Balances, will, of course, gradually push the overall System out-of-kilter - and occurring upon several fronts, it will be heading for a Major Collapse of the System- that, if constantly added-to, could indeed be Completely Existential - an indisputable example of this is Climate Change.

For, without these built-in disturbing biases, the usual naturally generated Emergences will NOT occur - to deliver a marvellously enabled, overall System: indeed, such an alternative, that if encouraged, will never achieve the necessary constraints.

Now, just realising this will, in itself, NEVER be enough to suggest the correcting contributions necessary! And, this is because the Causal changes required cannot be successfully implemented: for the actual correction necessary cannot be imposed, as the kind of actions required can never have their results predicted.



Efforts to do so almost never deliver what was intended! Now, as Human Beings, we are well aware of changes purposely implemented that may indeed lead to an unnatural lack of Balance, which could, along with others also contribute to the imbalance, and ultimately precipitating a wholesale Collapse!

But such will, over the long history of the Cosmos, not be the only causes: for such results could occur also, by chance, in a particularly unusual region, where many differently caused changes could alone produce a similar situation - far more commonly, but with similar results! And, these will have dominated situations, long before any conscious and interfering People were as yet even about!

It is clear that the History of the Cosmos will have had various different phases: the earliest being very different from many that ultimately followed. And as things progressed, and got ever more complicated, the Crises and Collapses will, without doubt, have multiplied the chances of such calamities, and even made such incidents inevitable.

It is, therefore, unsurprising that the extreme acceleration of such Events upon Earth are so much more than anywhere else in the Solar System: for the conditions and consequent Events were proliferated far more than anywhere else, even within the very same System of bodies.

And, though only a few scientists were just beginning to consider a Holistic Systems Theory: it not only extended Casuality upwaeds by a single Level, but downwards hardly at all.

So, Science was still largely confined to a single Level of Reality, with Causality only-from-below: So, it wasn't likely to explain Reality-as-is, as the Major significance of the Greek Intellectual Revolution severely limited all the Sciences to the Rationaliy, which it had established for Mathematics.

For, by so doing, it had severely constrained the Nature of the Sciences to the abstract Rationality of Mathematics, AND distorted their attempts at True Causal Explanations, so drastically, that the True Holist Nature of them all was thrown away, for the narrow Pluralist Subset of Mathematics.

And, if you wonder how they got away with it, you would get No Answers at all, until the Emergence of Systems Theory, with its many interacting Levels, in the very recent past!

For Mathematical Rationality matches-perfectly with the easiest available Laws within the Sciences, which are so, because they, in turn, match with a clearly obvious Level within Reality-as-is, delivered as such by the same initially involved Laws AND, of course, also with the simplified immediate Level of that Reality! And, for millenia, that simplified version was about all they could extract, and seemed to be confirmed as correct by both the ease of acquiring it, AND the seemingly exactly-matching Nature of what was being addressed. But, it wasn't the whole story by any means!

Gradually, and initially very slowly, new additions revealed themselves, BUT only as Purely Empirical Laws: so these were considered as Lesser Laws, not yet revealed in their essential Causality, but only in their numeric effects. These were usually allocated a secondary, inferior role, that, in time, would be completed by the revelation of its Natural Driving Causes.

But, this didn't ever happen. and there was finally a strong assertion from physicists like Henri Poincare and Ernst Mach that these "part-Laws" be given equal status with Causal Laws, in spite of the absence of Casual Explanations!

And, in the 20th century, these Empirical Laws, began to proliferate greatly - always without any Causality - and particularly they were increasing at an ever greater rate as investigations delved ever deeper into the sub-atomic realm!

In the end, attempts at revealing Causes in Physics were abandoned, around an increasing belief, that at such Levels, all of the Laws were naturally Empirical, and indeed were more basic and fundamental than all others!

This was a major error, considering how they were elicited by extremely severe restrictions! Indeed, purely Empirical Laws without a demonstrable explanation were usually considered Wholly Sufficient, and interpreted numerically alone - supposedly as the only way that they could be correctly included. But, of course, we just have to be far more critical than this!

The actual Real Situations are not only far different to the assumptions that we always employ: BUT, in addition, DO NOT merely Sum without in-some-way affecting one another. Indeed, they interrupt and even terminate, or occasionally take-over partial sequences of important co-operating, different processes, thereby producing an overall unavoidably-changing-mix.

And also, Key Sets of processes can actually even interrupt-themselves, when the Initiating Resource is later repeated elsewhere within the sequence, and can cause a return to the initial start: thereby turning a fixed length sequence into a shorter, constantly-repeating CYCLE!

And, also, of course, the Pristine Limitations that we impose in our Laboratories and other Technologies, and crucially within the carefully-arranged-for Experiments in which we obtain our data, literally NEVER occur in either Reality-as-is, or even within the intentions for those Experiments! There are, always, first, unavoidable multiples of our required sequences, BUT, problematically all occurring at different stages: as well as other, maybe few in number, but NOT necessarily so! And, all of these Real Diversions from our intended Ideal, will have unwanted Changing Effects!

Indeed, the more we attempt to approach Reality, the further from our prior Basis & Assumptions that we are taken: so that, any involved artificial simplifications, will only take us to conclusions, that are not only ever further away from the Reality-as-is - while also, and very surprisingly, only ever delivering us to where we have been before! And HENCE ever further away from our supposed Ideal Laws: we will NOT be revealing our required Reality-as-is!

Now, addressing things from quite a different angle - let us consider Emergences, and their Relationship with True New Territory Evolution! The usual everyday conception of Development has always been defined by on-going Changes, always totally contained entirely within Mathematical Rationality, which can never deal with any changes resulting in the Wholly New. For Emergences, which DO indeed deliver the Wholly New are impossible within such circumstances, AND, crucially, always can never be predicted, as to the situations they alone can newly deliver!

And, this is NOT just a measure of our ignorance, but entirely due to the fact that they are Absolutely New!

They will never have occurred before, so there cannot be a means of arriving at that result by any kind of Reasoning! When we Reason, we use evidence from past occurrences - happening by Known Processes, so as we arrive at a final result: and such Reasoning can ONLY do that! We can never arrive at the Wholly New by Reasoning Alone! So the things we do arrive at by such means are NOT Evolution - which must be the Emergence of the Entirely New - if it is to mean anything!

Now, of course, the trenchant criticisms put forward in this series of essays do a great deal more than condemn mistakes: because they have to! These long persisting diversions from the Full Truth have always been driven, by a great deal more than considering ONLY a set of woeful mistakes! For, what we have been arriving at is both True within a given Level, and was, indeed, useable! So, what was it, that strongly-acting, but hidden, underpinning the usual interpretation?

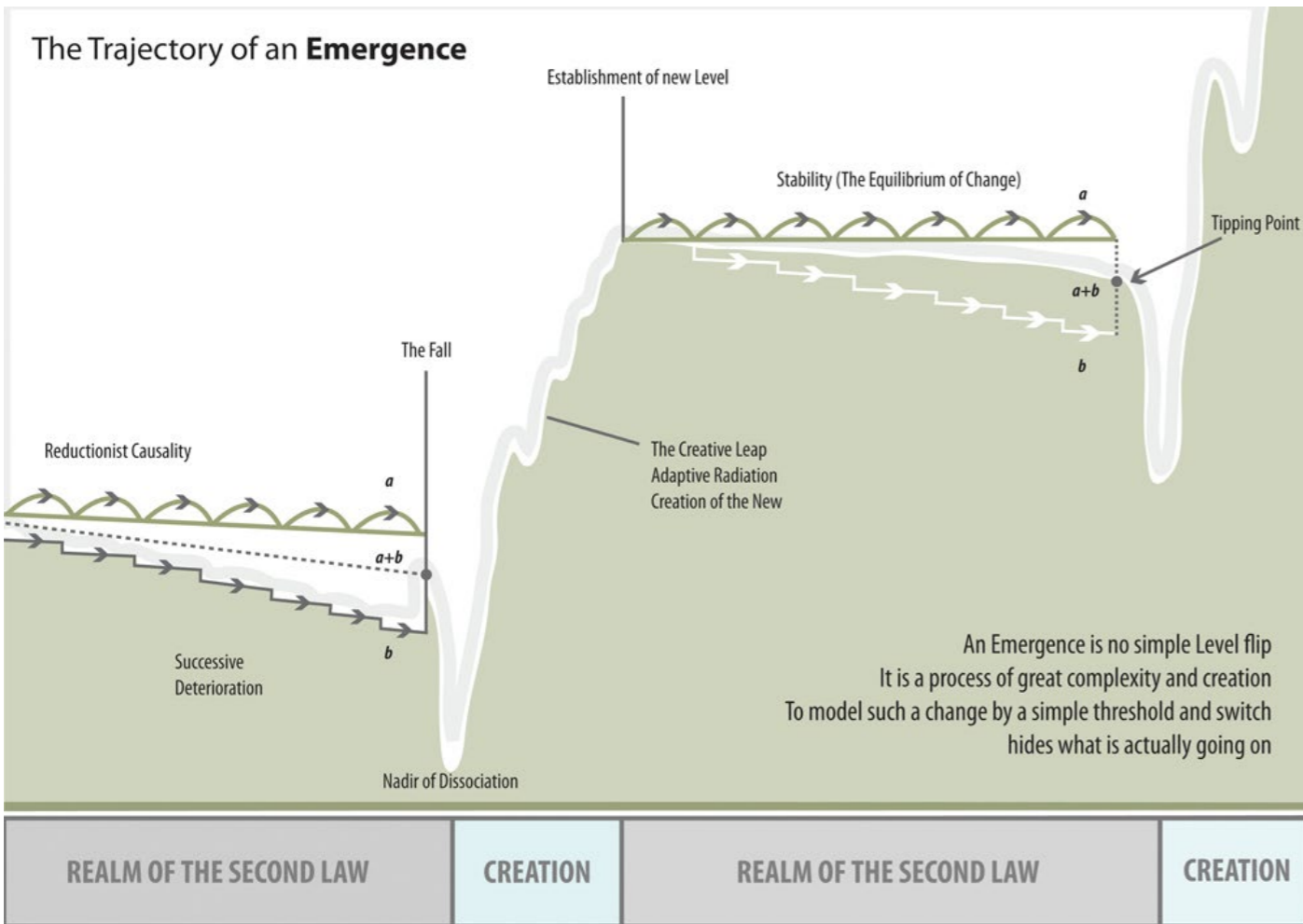
Truth, it turns out, is NOT all-of-a-piece, existing only at a single straight through Level, but, on the contrary, is composed, over-time, of an increasing series of Separately Emerging Levels, which always added-to that prior existing Level! AND, they transformed their effects in a Top-Down direction, in addition to those earlier Bottom-Up Causalities. And these new additions could only visibly emerge, when Superior Levels grew strong enough to affect them: and the usual Methods of Analysis only investigated-downwards - looking for Causes!

So, everyone, with justice, were looking in the wrong places for ever stronger Emerging Effects! The numeric aspects were found, & at the usual Level, but the Causes were not there!

Now, these New Causes, which can-and-does affect things, are very different from the most Basic and initial Effects: for though those original Effects were due to the Fixed Properties of the Elements involved, and did the same things, whenever they were present: the Systems Effects that came into significance, with the new kind of Effects, were not due to fixed things like properties, but due to Arrangement and Order (as well as the odd mismatch) so would change with different Contexts!

And these varieties meant that when the essential Contentions occurred, they would NOT always be fixed, but would change with circumstances: and this made the natural finding of balances far more flexible and rich!





Thus, the new Systems Effects would play varying and even flexible roles in such achieved Active Stabilities, and hence the continued achievements of Actively Balanced Stabilities! The Systems Effects, rather than being a problematic aberration, were becoming essential ingredients in quickly establishing New Balances.

Now, many years ago having begun to attempt a series of papers to finally outline My Key Subjects - Marxism, Philosophy and Physics - in a single integrated way, I ended up with a Diagram of a Social Revolution - as defined by Marx - and attempted to relate my achievements in these these fields to that Trajectory!

It was, of cours, extremely difficult, because the Diagram was Descriptive rather than Explanatory: and it has taken me until now, some 16 years later, to make any real headway! Some things were easier than others, but the one that has taken me so long, has been the extreme duration of relatively Stable Interludes, between the main Revolutionary Upheavals that produce the Wholly New - steadfastly maintained somehow between those Events.

Now this Diagram - called The Trajectory of an Emergence - only attempted to outline what was happening, and explained Absolutely Nothing: so, though I am sure that it accurately describes the overall trajectory of Emergent Events, it does nothing to establish a Usable Explanatory Theory for them, and the clearly evident Long Periods of Apparent Stability in between. Clearly, the same Laws were continuing to act throughout, but, though they were somehow defused, within those long Stable periods: they, most certainly, were released into full Devastating Effects, within the Critical Revolutionary Interludes!

The question has to be - "What caused that dramatic Split, AND switched it all back again to a similar, but different Stability, thereafter?"

This turned out to be a very difficult problem to solve, because the reason for it, was made possible only by tackling it in a Wholly New - via Systems Theory!

For, this New Approach dealt with multiple simultaneously acting Laws, which, most of the time, actually-balanced any Contentions involved: BUT only, as long as, an overall Crisis was rapidly brewing: indeed one that usually quickly restored - a kind of Actively Maintained Stability, but due to artificially created multiple Crises temporarily tumbled into a Calamity of

Total Collapse! But, of course, once set in motion the Revolution, as always, initially changed the situation to Complete Chaos! Though that, surprisingly, turned out to be the ideal situation for re-building upon a Wholly New Base - very quickly indeed!

For it was always the Dominances that both brought the original situation to its demise, and quite naturally commenced to rebuild very easily upon wholly new bases! But, of course, such a natural consequent development was soon interfered with by vested interests, both for and against the new emerging consequent situation! Indeed, until the chosen alternatives of particular groups threatened the established Active Stability, it would continue until challenged by powerful actors who, in building their dominating sector, would ultimately precipitate yet another Revolution!

But of course, in a Social Revolution, the unavoidable consequences can only ever initially be an inevitable and thorough-going Collapse! The task of Committed Revolutionaries must, of course, be to Direct, as far as possible, the Inevitable Consequent Re-build, into the most fruitful ways, while the old Ruling Class - will also be ready with their own very different ambitions!

The always-active Direct Balancers, that will regulate what-then-happens, will, of course, have absolutely nothing to do with any evolutionary objectives, or, indeed, any other Directing Criteria: it is merely an even-handed mechanism, Balancing what occurs! So, any Qualitative Interventions (directed either way) will NEVER be selectively handled any differently! Whatever balances the System will dominate and survive the upheaval.

Any interventions just have to be down to US - the recipients of the Transformation, and imbued with OUR criteria of our Real-Aimed-for Values! So, clearly, WE will have to ensure that we are more effective than those with purely selfish interests, to guide any developments in the desired, egalitarian ways.

So, let us, therefore, consider that Natural Balancing Process, to explain its totally non-fundamental-objectives, when acting purely naturally, from that usually-caused situation - immediately after the creation of that Originally-Produced Total Chaos.

Mechanisms of Development

& The Consequent New Structures of the Nature of Reality

There are many, long-held assumptions about the Nature of Reality - and these are understandably distorted by the often extremely slow tempo of the Qualitative Changes that occur. And this gives an initial impression of some essential Eternal Stability, on which everything else is built, with only inessential variations actually occurring.

However, such an environment, if it were to exist, would basically remain the same forever - maintained as such by a Fixed Set of Natural Laws. With this primary assumption, attempts to understand those Laws were well worth pursuing, if only to make sense of the full set of possibilities, so that the most conducive could be arranged for, and always kept that way, forever.

This was a relatively Static Conception of Reality, and what investigations were pursued, were NOT considered to be an infinite set: but, at least, a fairly large-yet-unchanging group of natural possibilities. All discovered Laws were assumed to then be available then, in exactly the same ways hence forward!

But after many millennia of study, there always seemed to be others - as yet unknown! The set was apparently getting ever-bigger, and a full definition of them all always appeared to be a long way off!

It never occurred to Mankind that Wholly New Laws were constantly developing, because NO possible mechanism for Production of The New seemed at all possible - beyond the divine.

And indeed, all discoveries were naturally-assumed to be merely different combinations of those already-known Laws: and there was an assumed Logic of such

combinations. But all of this isn't True! Indeed, there are situations, in which the Wholly New can be created for the very first time: and NOT merely from new combinations of previously existing Laws - and, hence, when such does happen, there is absolutely NO Way of ever predicting what they will be! They will most certainly NOT be mere combinations of past known Laws - for then they could easily be explained and always be completely predictable!

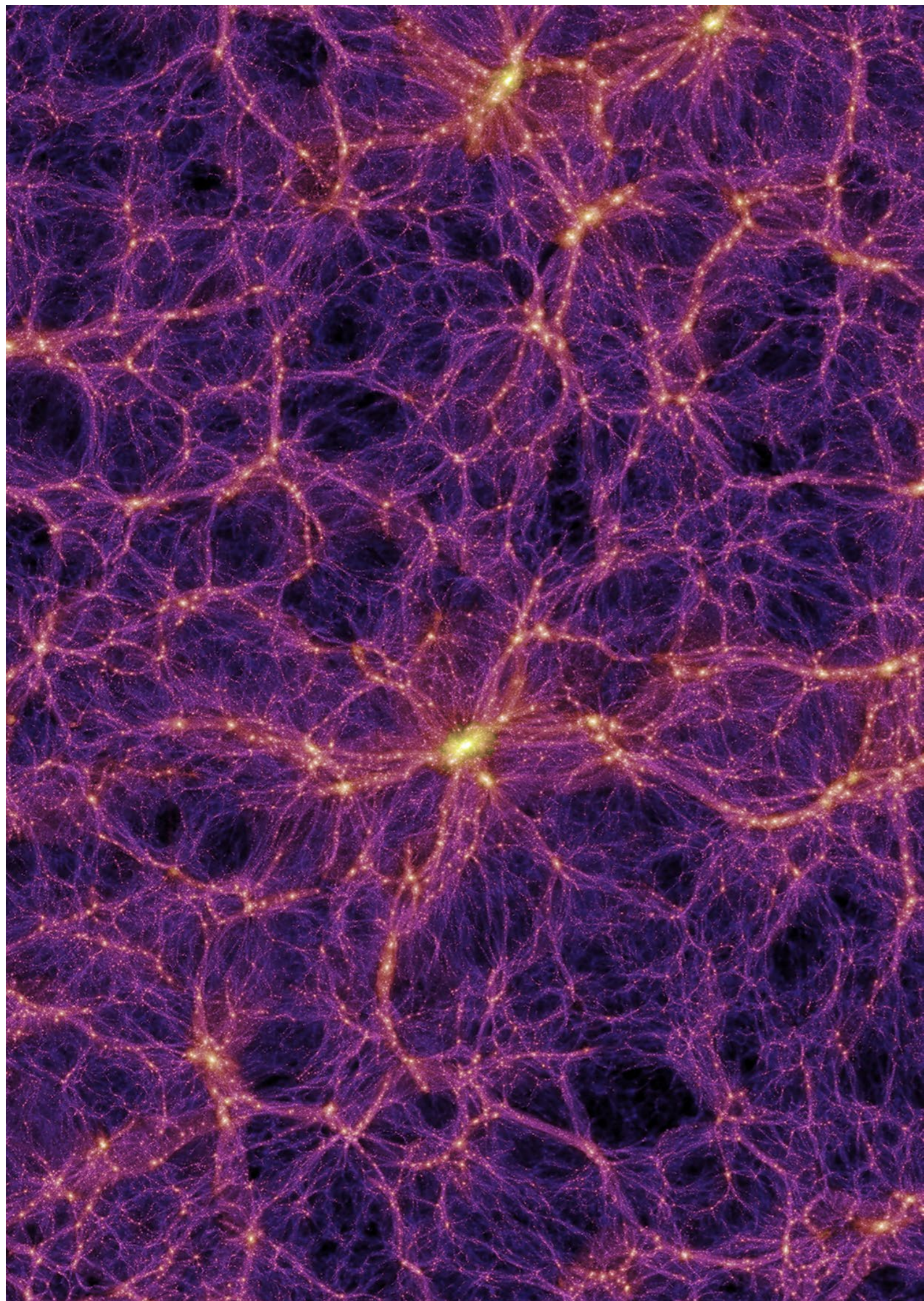
So, what occurs, are termed Emergences. They are NEVER predictable, and hence ALWAYS add Wholly New Possibilities to the Overall situation.

Reality-as-it actually-develops: we have the constant Evolution of Nature to attempt to understand!

All we can more generally say, about these Wholly New Emergences, is that they will, indeed, have "something" comparable in common with other prior Emergences - for example, how they may interact with other prior existing Laws, of all kinds! BUT, exactly what they themselves will contribute, will never be predictable, in advance of their first appearance, though more general roles to other prior Emergences will be obvious after the Event.

Now, all of this is clearly profoundly important - the great omission in modern Science is the paramount role of Emergences within Evolution. For, following their appearances, new directions will be possible, that were not available prior to such Events: and the most important of these will, most commonly, be when old-established features begin to be directly-contended, and, maybe, even actually eliminated.





Well established features can simply just vanish!

So, it would be totally mistaken, to assume that they would only *Add* to the possible range of outcomes: for, sometimes, they could most certainly *Subtract* from prior possibilities too.

Now, as I have been at pains to fully appreciate the Important Role of Contention in complex situations, it becomes ever-clearer just how many surprising outcomes can result in well established, seemingly “stable” circumstances. And the Active Stabilities within the long periods between Revolutionary Events, are perhaps both the most important, AND by far the most difficult to explain! What actually delivers these Active Stabilities, which are maintained for such exceptionally long periods?

It certainly isn't a single overall condition that has to be precipitated into a General Collapse! It can, surely, only be a whole series of Separate Active Stabilities, which deliver the Obvious Overall Stability, due to the simultaneous stabilities of all the present sets. So, they have to be, at least close to individual collapses but surviving! The Revolution will be precipitated by first one individual Active Stability failing, and in doing so, trigger other Collapses, until the whole System is dissociated.

Now, there are still many more only half-answered features about the Nature of Reality, particularly concerning Electromagnetic Currents and Fields in Space, and relatedly also involved within the Sub Atomic regions within, and even without, Atoms. For things like Birkeland Currents cry out for further Explanation: as do many other related phenomena!

The classic “Chicken-and-the-Egg” Problems - relating Current and Fields, especially out in the vast expanses of seemingly Empty Space - originally conceived-of as a vacuum devoid of matter - are still far from any satisfactory explanation, and are never considered as important when it comes to actual research of Space itself: while the Sub Atomic Spaces within Atoms are also ignored experimentally.

It could be that the usually available controls considered essential for ALL Earthbound Experiments, are clearly impossible in such areas, so literally Nothing is done there! In particular, the unexplained Nature and Description of the creation of the Birkeland Currents, coursing between

The Sun and The Earth: not to mention the now widely-suggested Hierarchies of several of these Currents, claimed to be actually Directing the arrangements of Stars, across Truly Vast Volumes of “Empty Space”!

How did these huge Systems Emerge, and what initially directed their creation and optimum positioning?

Clearly, the usual descriptions (as in the “See the Pattern”) make absolutely no attempts to address these questions, as has become the norm in most Electric Universe published ideas, as well as elsewhere in Physics.

But, all such assumptions-without-Explanation, simply must be investigated: yet all access to Experiments-in-Space seem to be totally non-existent within this extensive Group, and wider too, it appears!

Indeed, there seems to be a surprising attitude to Theory - NOT, as the essential explanations of WHY things behave as they do, within carefully designed Investigative Experiments, but, alternatively, as self-consistent “Descriptions”, with absolutely NO naturally critical stance - as they surely should always be to finally arrive at The Truth!

Clearly, any still-remaining “Big Bang” ideas, give a Single Initial Source, for all Energy Requirements, but Reality is NOT a Running-Down Clock: it is a powerful-and-Continuing Creative Process, regularly producing The Wholly New - the evidence is all around us!

Along with the now universally-employed lop-sided account of the Ukrainian Conflict, the same kind of lop-sided accounts of Reality are similarly rampant too!

ASIDE: The above conclusion, which is certainly true about Modern Science, needs, I feel a concrete example of the increasingly employed alternative to experimentally-justified Theory, to the now regularly-resorted-to alternative of more-detailed, and indeed useful, Descriptions, often employed in Science - as an alternative to Real Theory.

The example, that I am most familiar with, is the See the Pattern “Explanation” of the various forms of Atomic Nuclei - composed (for simplicity) by identical Spheres - representing Protons and Neutrons, and attempting to “explain” various features in terms of “Closest Packing” Forms!

It certainly isn't a Scientific Explanation: it is a somewhat idealised Description ONLY, and explains almost Nothing of these crucial bits of Reality! It says absolutely Nothing about the Vital Properties of those different Atoms! The Science is omitted and "replaced?" by some Purely Descriptive Geometry.

The obvious and clearly very important Properties, known to be associated with these substances, all the way to their constituent Atoms, are NOT explained by this Closest-Packing Approach: so by far the most important and Causal features are simply NOT delivered.

The Persisting Myths involving the accumulation of only simple Quantitative Changes, within their Key Parameters, which being much too deficient to also include any Qualitative Evolutionary Changes, is therefore demolished! And Real Evolutionary Changes then actually construct a New-and-Necessary Totally Integrated System, in which the many contributions help to both support and mutually maintain one another.

But, by the very same relationships, many contributory elements are also eliminated, so, the overall prior System cannot recover, and step-by-step it dissociates into a complete Collapse: Stage One of a Revolution has occurred!

The Total Chaos that thereby results, however, is certainly NOT the end of the Process! For, wholly-automatically, a Whole New System then proceeds to construct a very different, and more appropriate sort of Active Stability. Stage Two of the Revolution is also complete!

Now, these Two Processes are always very Different: the Collapse is both swift-and-automatic: but the Re-Build, thereafter, has to find its optimum components, largely by trial-and-error, and that takes time!

Now, though Karl Marx recognised that these Revolutions regularly happened in Human History, AND hence were probably the usual Mechanism involved-in Real Qualitative Changes in Absolutely All Kinds of Developing Systems, his Primary Discipline was the study of Human Societies within History. And, that alone would require a truly massive amount of work to identify, describe, and crucially Explain all its vastly varying tempos, and the particular factors affected therewith.

Marx, though, intimated that such processes were almost certainly more general than being limited only to Human History: but he, personally, NEVER took his conceptions directly into the vast Range of Disciplines, where they would also be validly applicable!

Now, this was unavoidable, at that time, for both the tempos and the Qualities involved in Natural Systems, would be very different indeed, and, any wholesale-and-unmodified transfers, from say, History to Physics, would certainly be calamitous!

The Nature of what Marx called Dialectical Development, would, initially, at least, be limited to History and Economics - but the Philosophical reasoning behind his approach was much more general.

Now, the extension of this approach to all the other Disciplines is much Easier Said Than Done! For, starting with basic materials within Physics, will, in spite of the same general approach, be necessarily profoundly different: if only because the ingredients in Physics are totally non-living objects, without any Conscious Reactions to what is going on!

The involved processes in such Systems, though still taking a related development path, will still be vastly more limited than the Processes in a History of Conscious Human Beings! It will be possible for such Human Physics Practitioners, to naturally attempt to build a Dialectically Developing version of Physics - BUT, it will look nothing like the Forms and Developments dominating Marx's vision of History!

And, if it is to become THE general Way in all investigative Disciplines: they will ALL differ significantly - each with their own unique characteristics, even with a consistently Dialectical character assisting in our understanding of Change.

Indeed, this researcher as a qualified Physicist, and long-time critic of the usual ways that this important Subject has been developed. I disagreed with my Lecturers, from my very first term at University, and interestingly, on searching for an alternative approach in the excellent Library there, I found only one lone book presenting, what I believed, was a viable alternative. The book I found was in the Philosophy Section, and was called Materialism and Empirio Criticism - a work by the Russian Ulianov, who was the only one at all close to my

own strongly held criticisms. I only, later, found out that Ulianov was better known as *Lenin* - the later leader of the successful Russian Revolution, and an avid follower of Karl Marx!

But, by the publication of this book Lenin amply demonstrated that Marx's Dialectical Materialism could be applied powerfully and consistently to a very different Discipline to that of Marx, which in many clearly evident ways was considerably more Basic than History! Lenin knew that he personally could not take these ideas further: but he certainly proved it was possible, while at the same time very different to its application in the social world. And, he also proved his profound Marxist credentials, at many crucial junctures and Crisis Points within the Progress of the Revolution.

Many years ago I attempted to do the same job as Lenin (in Physics, not global Revolution!), but I couldn't make any real progress, until I came across The Systems Approach, which alone significantly extended the range of Causal influences beyond the usual Properties of Atoms and Molecules to include Top-Down Systems Causes too! And, as mentioned elsewhere in these papers, Oxford Don Denis Noble has effectively included Systems Theory into his again very different Discipline of Biology!

Now, that there are three very different areas finally receiving necessarily extended approaches, we have produced, thereby, three different possibilities for new developments. For - in terms of Levels of Reality - below History we now have Biology, lacking the Conscious interventions of Mankind, but including Life and its basic development trajectories - and finally we have Physics, which now delivers the most basic Level of Reality that we can access.

And, these, together, have recently ushered-in various previously not-included factors, the Most Important being a general Systems Theory - and, for the first time, the acknowledgment of Top-Down Causalities, to add to the prior sole reliance upon reductionist Bottom-up influences.

And, what could, indeed, be added ON TOP of all of these, and influenced by them, as well assigning a wholly New Major Level of both Actions & Effects, consisting of Artistic Interpretation & Further Explanation, across the whole set of the Arts, and a most profound dissemination

via the powerful revealing Media possible!

Now, in addition to what has been suggested above, yet another highly important aspect of the Key Processes involved, has-to-be the mechanisms that must be used to implement what is necessary! For these greatly influence just how these processes inflict the absolutely maximum effects! These unavoidably greatly concentrate these Effects in subtle Systems-Processing ways, ONLY evident when we correctly consider them acting upon various sets of Reactions, as finite CHAINS of separate processes.

For, though crucial, these are never regimented by waiting-in-line for their turn. For, the output from one process has to "find" the place to initiate the next process, and any movent involved, could also dissipate these comings together, and, in so doing, reduce the possibility of a completed CHAIN. So, perhaps surprisingly, the coming together always also elicits a reflected opposite action, from the recipient, and this dissipates the energy, in the form of an oscillation in-place! The complete CHAIN therefore happens, and so possibly dissociating energy happens in-place: and the overall result is the achievement of a kind of Active Stability, which allows all the required reactions to happen without dissociation! There are Two basic cases that must occur in the above described way:

- 1: THE LINE SHUNT Where whole chains of different processes, when disturbed in a single direction, nevertheless deliver a maintained two-way Oscillation, at the End of all the processes acting in a CHAIN or
- 2: THE TWIN SHUFFLE When many such processes are acting simultaneously, a disturbance will cause multiple similar oscillations throughout the whole lot!

For, both of these intensify those Effects, which though seemingly one-way "shunts", in fact actually cause movements both forwards-and-back, to deliver the possibility of maintaining an overall Stability, via a both ways maintained oscillations!

The reason for mentioning two different examples, is that while they deliver different situations, they still end up with a similar Active Stability, substituting Oscillations in place for translational movements.

Where are the Marxists?

& why we need interdisciplinary Marxist Theory NOW!

With the Systems Approach potentially ushering in a new era of crucial Marxist Theory, I am constantly looking around for other Marxist thinkers who might be interested.

In this profound period of mounting crises, the self-professed Pro-Working-Class” Marxists, can, it appears, no longer see the woods for the trees! The very long trajectory of Working Class Politics - from the remarkable Revelations of Karl Marx - to the disappointing political situation we find ourselves in today - has apparently arrived at what seems to be a General Terminal Denouement, with the Climate Crisis and the Ever-Mounting War in Ukraine!

The Soviet Union has long since fallen, and China, while purportedly still a Communist State, quietly and undemonstratively chases trade with a still Capitalist Rest-of-the-World, as the Sole Policy for its People. The Socialist Perspective seems to have no place to go!

The World has changed radically to become more like the situation in 1939, when a Nazi-ruled Germany invaded Poland. A new World War is increasingly highly possible now, just as occurred then, but though at that time Britain still had a powerful World Empire, and the Prior Economic Crisis Worldwide was finally fading in a seemingly general recovery.

But NOW there is a Gigantic World Economic Crisis brewing, while both the West, as well as the Hawks in Russia, are itching for a New World War, to supposedly solve the Economic and Political Problems facing the Capitalist Class, along with “The Fruits of Victory”, BUT WITHOUT the necessary wherewithal to sustain

it, especially as such a Conflict will inevitably vastly speed-up a truly enormous Multi-Sided Cataclysm - not only Economically, but unavoidably also coupled with the mounting Climate Catastrophe too.

And the powers-that-be are already well aware of that eventuality, but because of it, they undoubtedly need to vastly consolidate their Positions and Strength, and to do it while the Working Class still have absolutely NO effective Trade Unions, and NO Revolutionary Parties to lead them in precipitating the necessary Revolution!

For the inevitably coming Crises will certainly change the state of play dramatically! And the Automation that has seemingly replaced the Work Force in much Production, will not mend itself when their minders and fixers are flocking into the Newly Growing Unions, and the rejuvenation of True Marxist Revolutionary Parties of the Working Class begin to grow like Topsy!

The current “seemingly insane” drives of the Ruling Classes demonstrate their obvious realisation of what is increasingly inevitable, and if unprepared-for, could result in their Demise! A Victorious and well-equipped professional Army would be necessary to defeat a rampant Working Class - as the Nazis proved in Germany, after World War One.

The Restricted War, which Putin is waging, doesn't suit the opposing Countries, and today there is evidence that powerful interests in Russia itself feel the same: Remember their Working Class lived in a Socialist country for 74 years before the Victory of the Capitalist Oligarchs. They too will flood-into Working Class Parties when they are necessarily strongly repressed from above!



And who might then be waiting in the wings - China! (and why is China currently having to deal with a new virulent form of COVID after they dealt so effectively with it when it first emerged? Can you guess how it arrived?)

Now, you would think that there are enough regular commentators around, who call themselves "Marxists" to work on some sort of strategy - but there are in fact literally none who explain things the way I have done here, and what is more, they hardly mention the increasingly important and rapidly changing Contexts, for what is clearly developing totally unhindered!

Yet it had always been the strength of Real Committed Marxists that they also always situate developments in the Delivering Contexts, as they in the end, often, deliver the more unusual consequences! And, the reason for this, is that in them, and even their evident absences within most others: they have a particular set of preferred outcomes which they strongly signal, while ignoring those that they would rather didn't happen!

Now Richard Wolff is a celebrated "Marxist", but I could find No Trace of a pro Working Class Stance in his comments upon the War in The Ukraine. And a Prior analysis of the way things were developing in the Context involved, should have been what he established FIRST!

As has become increasingly clear, Thinkers upon these matters are always too Single-Discipline based to arrive at a Real Marxist Analysis. They find the same things Marx discovered in History, BUT only within their own Specialist Areas.

And that is never enough!

To cope with the problems of today, both the actual perpetrators AND those seeking Objective Solutions, DID it with their Subject-Blinkers on! And, because of the unavoidable biases involved in both approaches, the problems were NEVER solved, either by the Capitalists in charge, or adequately addressed by the Discipline-limited "professed Marxists"!

For, the crucial limitations of ALL Restricted Approaches, is that by so doing, only a cut-down version of the presently-existing-situation, which occupies ONLY a Single Level within Reality-as-is, will actually deliver a finite solution, BUT always limited to that Precise

Context alone. This relation within a Limited Context and its associated useable Rationalities, is, of course, the root of the Problem - and gives the illusion of "Absolute Truth!" But it certainly isn't so! And we must say Why!

The reason is that these Restricted Situations were in the earlier Evolution of Reality-as-is Absolutely Correct: BUT then ceased to be so as New and Different Levels emerged that changed things fundamentally. Yet these were add-ons at Different New Levels, so the old version could even then be taken as an Approximation to the Modified Current Truth.

Needless to say, this always confused early Thinkers, when it was finally updated, and they didn't for a long time realise the Division of Absolute Truth over Several Levels! They didn't even see the Levels, but instead interpreted them as Different Disciplines!

Clearly, the whole range of commentators of the current increasingly critical situation, are, whether supporters of the Status quo, OR perhaps surprisingly, even any avowed "Marxist" Critics - they are all, nevertheless still very far from capable of fulfilling their various, intended, and supposedly-opposite objectives - as both of these opposing groups never really address the problems caused in any way that could lead to a sound resolution.

The once reliable trust that could be put in the Marxian Socialists, is, I'm afraid, more or less dissipated by their current inability to both explain and then direct arrived-at solutions, to what will undoubtedly be inflicted upon us, in the coming period!

And, the reasons for the failures of both intentions of the perpetrators, and the inflicted-upon recipients of what has been delivered, wrongly characterise what was actually involved, and where it would lead! The Perpetrators know only what they can do, and that isn't enough to accurately know what effects it will have! While the recipients using extracted Laws taken from wrongly conceptually considered remedial actions, which, therefore, don't get the expected effects right either!

Both sides use Laws extracted in only partly defined ways, for the recipients, and based upon a very different prior experience, by the perpetrators. For in both sets if actions, Wholly New Emergences, when they will happen for the very first time, are absolutely NEVER

predictable: so, what will happen is unknowable! And, because of a multiplicity of these events, there will be NOT a single outcome, but a range of possible outcomes with different probabilities of each happening!

Now, where have we seen this before? Is it not in Quantum Theory?

And, at this stage of the Mess wrought by a rampant, blinkered Capitalism, the Significant Damages to the Environment, and its resilience-to-recover from such things, has, by now, gone TOO FAR, and Significant Climate Change is already knocking at the door, simultaneously with such a destruction of its means to recover, that a Major Calamity appears unavoidable.

For the Working Class to re-arm with the very latest Developments in Understanding such Situations AND, of course, intervene in them, there is still much to be done!

Indeed, without the Significant Extension of what Marx brilliantly initiated, and Lenin further developed, of the profound theoretical basis - we have no way of Understanding the complex dynamic Systems and multiple levels involved. Yet this vital theory could not be both further, adequately and necessarily developed, without the current conscious extensions of these ideas into All The Sciences that Marx and Lenin had never addressed - and are NOW being so-extended by this theorist!

The lack that these omissions inflicted upon this Important Body of Theory, is clearly indicated by the oft applied appellation of the term "Scientific Socialism" to Marxism, which is most certainly untrue, as neither Marx or Lenin, nor anyone else, ever criticised the means and methods of Science from the correct Dialectical Materialist base to, for the very first time, establish such Laws from a philosophical standpoint - as a real Socialist Science!

For Science - as was, could never be competent as a basis for that Fundamental Philosophical Stance. And even before this New Turn, the old Causal Laws, so achieved, were regularly added to, by supposedly New Purely Empirical Laws - with Absolutely NO Causal Explanations evidently possible for them.

All attempts to discover such interpretations met with Total Failure, and this caused most physicists great difficulties - for they profoundly believed that all such Laws MUST have Causal Explanations. But, the Positivists Henri Poincare and Ernst Mach insisted that these Empirical Laws should be given equal status with the preferred Causal Laws, within their Empirio Criticism Approach. And though this, at the time, was rejected, the following vast increase in these Empirical Laws, in the Sub Atomic Realm, persuaded the majority of physicists to agree: it rapidly became the norm for all Science!

And, it was only recently, that the Emergence of what is termed Systems Theory proved that Causal Explanations were indeed possible, but NOT residing at the very same Level: for as they were associated ONLY with Systems-of-these-Processes, they were situated at the higher Level of Systems modifications.

Indeed, all of the Sciences were shot through with these systems modifications: reductionist Science was NOT the reliable basis that it used to be assumed to be!

Indeed, the Systems modifications turned out to be many and various and torpedoed the long resorted-to assumption that the tiniest causal relations just were the same but multiplied-up in all bulk situations.

It just isn't true!

AND, most important of all: without the full addressing of ALL the interactions in all bulk situations, the very Natural Stabilities that occur and their Tumultuous Collapses - particularly in Revolutions - will Absolutely Never be understood.

Indeed, even more generally an Important Turn has finally actually been initiated, that had been a very long time in getting to the stage, when Explanatory Theories, across-the-board, could finally deal with their long disabling restrictions, and become more generally applicable!

Marxists must now embrace a holistic Systems approach if they are to deal with any of the problems facing us as a species today.



Cause and Law

Which is Primary and what are the True Drivers of Qualitative Change?

The usual assumption about Development is that Absolutely Everything Comes from Fixed and Already-Existing Law - and, that all Subsequent Developments are only mere Complications generated solely by mixtures of these Laws, and hence are due, solely, to their proliferations and interactions alone.

These Laws may NOT, of course, be immediately evident, due entirely to that resulting Complexity: but, of course, as they are the "Sole Causes", it will always be possible to discover, and then expose them, by careful studies of what they produce.

But, in order to achieve this, Investigators would always have to strive to reveal instances of Single Laws by successfully suppressing all the usually-present others: and, by the following careful measurements of everything that was clearly involved.

For millennia this was the only available technique: yet only very-slowly developed - due primarily to the difficulties in administering what proved to be the absolutely necessary Control! But, it did always involve an increasing number of Successful Productions, though they all involved necessary Extremes of Control - usually severely limiting what was allowed to vary - to the smallest number consistent with our significant (and desirable) Changes.

Yet, initially, at least, what had to be involved, had proved to be the "Easy-to-obtain-and-modify" substances, such as wood, on the one hand, or the reliably unchanging materials like stone, on the other!

Nevertheless, Mankind did make real progress, but usually, only in areas that we now would never consider as developable: the major Enabling Culture, for truly vast periods of our history, being solely the knapping of pieces of Flint - a hard, but brittle, stone, that could, with skill, be given a temporarily very sharp edge. For, such tools could be used, with consequently developed skills, to shape carveable wood into more useful shapes, and even as weapons for hunting and defence.

Man's closest relations in the Animal World were clearly the Apes, and hence it is likely that most general forms were originally determined by the same encountered features of Reality, that also determined both their and our bodily features and capabilities, such as grasping hands (and in the case of the Apes, even grasping feet!)

The crucial question arises of course - "Why did Mankind ever leave the Tropical Forests?"

Geological Evidence from today has clearly demonstrated that Major Climate Change in the distant Past did indeed radically reduce the sizes of those near Paradises, for Tree-Living Animals such as our ancestors, and this drove many adaptable Human Beings to seek other places to live.

But, there was nothing remotely like the Largesse of the Forests, and without our significant modifications - such as those grasping feet evolving into walking and even running feet - stable platforms for a now necessarily Bipedal Man - we would not have survived. And the New conditions demanded very different Means of Life, and significantly a very different other features in addition to Bipedal means of getting about, as well as

an extension into hunting to adequately feed the new groups of Human Beings, within a much less conducive environment. Indeed, such radical changes demanded very different means of Life and even survival, when vastly more greatly threatened by multiple predators! Literally Everything was unavoidably struggling to achieve many required changes, and such Total Transformations in lifestyle were similarly transforming and massively re-defining of how Mankind could not only survive but also ultimately thrive! Indeed, the urgency of defence quickly greatly equipped Mankind to also dominate by using their new weapons not only for defence and hunting, but also to impose a measure of dominance, which also benefitted their survival.

And, even now, in the present day, a whole demanding group of changes seem daily to be more likely, as underlying conditions approach their own series of Major Connected Collapses. Such radical Transformations can and indeed have happened many times in the past: and have, thereby, even overturned the usual assumptions about the Relations between Cause and Law!

Indeed, current ideas of Fixed Laws directly determines the Produced Effective Causes, which have been totally changed to require that All Laws are not only the result of independently determined Causes, but, in addition, are now, literally always, under threat of New Significant Change, and even complete total reversals of such assumed Causality!

Laws are not the Drivers: and neither are they Fixed!

Causality can be due to several different features occurring in Reality-as-is, and the various drivers can act over a Whole Hierarchy of Different Levels, involving very different reasons, and certainly many of these will NOT be those limited to Mathematical Relations as is usually assumed in traditional Bottom-Up Causality.

The inclusion of Systems Effects in our understanding of Causality changes all that!

For, it was likely that other Causes would certainly be involved, BUT, nevertheless, those Causes would NEVER be found within the usual Bottom Up Level, and neither would they conform to the assumed Mathematical Rationality: indeed, they would, if involved, be definingly Causal, BUT not in any way Mathematical.

Now, what also made the usual assumptions totally misleading was definitely the belief that such real causes are always independent of one-another, so that when found in the usual way, this would mean that the causes found - even those achieved assuming Mathematical Rationality, would be valid, undistorted and contributions to any Overall Effects! But, evidence from The Systems Approach invalidates these assumptions too!

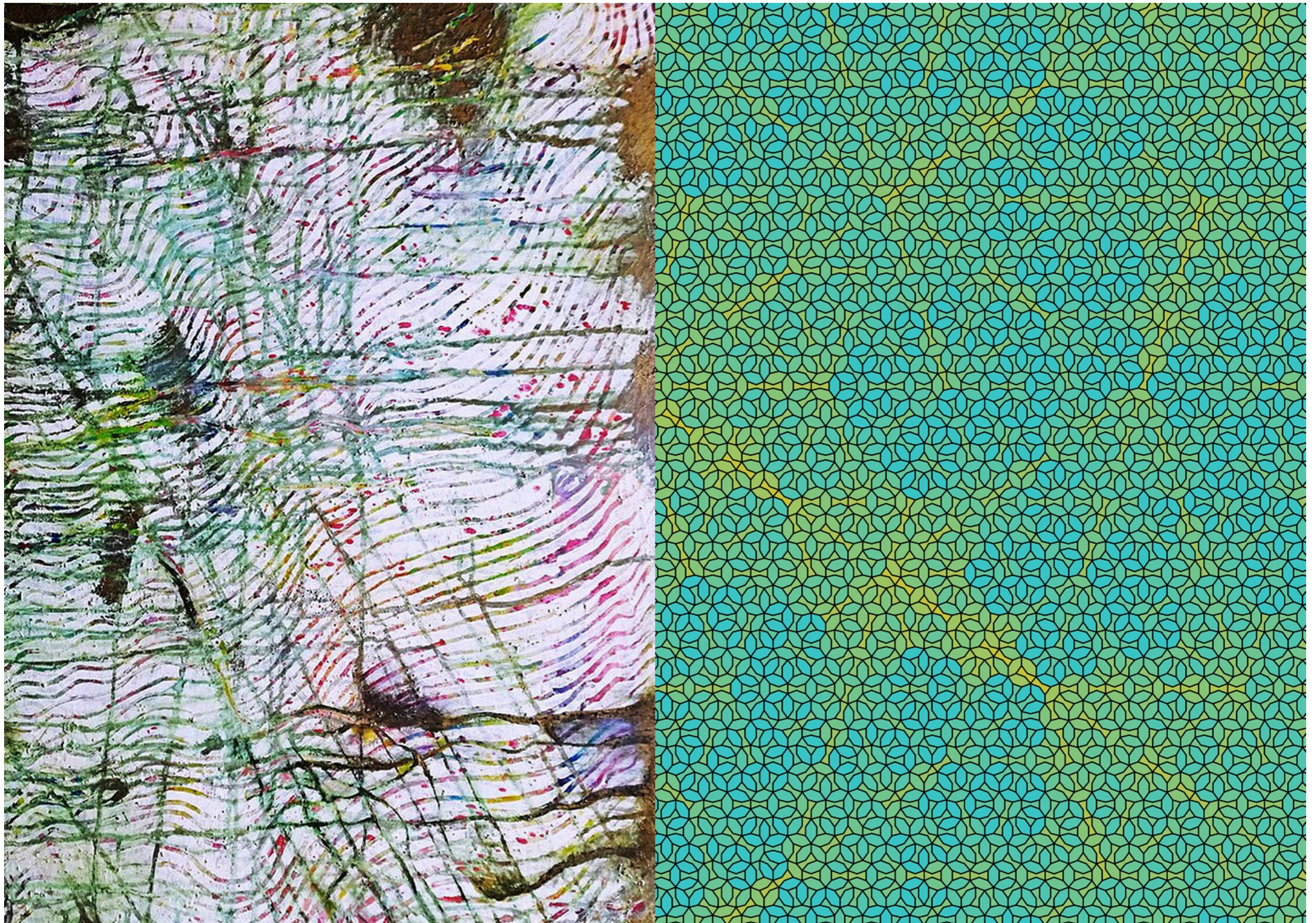
Indeed, NONE of the features arrived at in that way will ever be valid components, because they will all affect-one-another, thereby making those usual methods unusable.

Indeed, not only would all contributions affect one-another, they, in spite of being definitely Causally-defined, would never obey any strict mutually-affecting additions - indeed, it is hard to see how they could even be soundly combined in their Effects.

And, we must NEVER leave a situation, such as this, without also seeing why-and-how "so-called" scientists actually used their Mathematically-acquired Laws! Indeed, they were forced to always totally abandon Reality-as-is, for with it their separately-acquired Mathematical Laws could NEVER act together! For Each would only have been achieved, in Special, Particular and Different circumstances. Recreating these special contexts would allow effective Production to take place (we mistake this for confirmation of the Law's applicability), but not in Reality-as-is.

Now, it was the requirements of conforming to Mathematical Rationality that solely demanded this approach, but, nevertheless, its assumption that the Usually-Found Laws were actually independent of one-another was quite definitely Totally Wrong: those versions are certainly NOT the actually-affecting Real Laws - for they would only work in their arranged-for ideal set up alone.

But, though all Causal Laws in general, may well be accurately defined within separate, specially-configured experiments, when so-founded, CAN, indeed, be applied together AND predictably: but you must get them only and include NONE like those tailored to fit Mathematical Rationality, as is currently almost universally the usual case!



Now, such a major restriction may seem prohibitively impossible to achieve, as Experiments made in Reality-as-is will give different results literally every time: so, historically, experimenters learned to radically limit both the Context and Contents - to ensure the necessary predictability of the acquired results.

BUT, of course, they were never in the situations that you wanted to use your results within! So Mankind learned to separate its experiments into predictable situations, and performing them one-after-the-other to get those Final Desired Results!

It worked well, as I mentioned earlier, for making things and environments we could effectively use, but explained nothing about what actually happened within Reality-as-is, beyond our control.

The Science was NOT sufficiently delivered!

And, indeed, it never was, until the Emergence of Systems Theory allowed extra, alternative means that could finally enable accurate Predictions by also knowing how combined Laws affected one another!

Yet, compared with Production, such an Approach was much more difficult to deal with! And without the common language of Mathematics, we lacked a way of expressing what we saw. For, though Production had the Common Coin of Number to integrate things in the usual way: the properties Emerging in Systems Theory had NO such commonality!

Though Causal Laws were available, they were both Different and more complex than those conforming to Mathematical Rationality!

They involved diverse properties nothing like the simplifying forms of Mathematical Law.

Yet, these problems could not be avoided, as Real Science, alone was able to Explain what happens within Reality-as-is, and hence enable all sorts of real-world phenomena to be both explained and also prove further explanations depending to a significant extent upon these new scientific properties.

Clearly, the ever-present demands of Successful Production distorted Mankind's Understanding for millennia. But, also the anomalies so generated

became increasingly evident as Mankind demanded, in addition, an actual Understanding of Reality-as-is, and, consequently, a much wider range of phenomena required Explanation, AND, increasingly effective Interventions into Theory were not only demanding explanation, but also required several Wholly New extensions for this to become possible.

At first, it didn't look at all good, until, that is, certain theorists began to look elsewhere than Mathematical Rationality for what was required.

The Systems Approach began to deliver something of what was required - and it didn't rely on Mathematics at all.

