



SHAPE JOURNAL

PHILOSOPHY: BACK TO BASICS

THE TRAJECTORY OF DEVELOPMENT / ABSTRACTION & REALITY /

FROZEN INSTANTS & IDEAL EXTRACTS / DOMINANCE IN A HOLISTIC WORLD



1. Philosophy: Back to Basics - Introduction

2. The Trajectory of Development

3. Abstraction

4. Frozen Instants and Ideal Extracts

5. Dominance in a Holistic World

6. The Time has come to Bury the Dead

Introduction

Philosophy: Back to Basics



Welcome to issue 28 of the **SHAPE Journal**.

As I pick up my pen and write about what has been percolating in my thoughts since my last session, I frequently find myself returning to the same old questions: and so it should be! For, no matter how apt and succinct a particular contribution may be, it will always be very far from being the last word. Indeed, if this process of writing on Philosophy did not have this cyclic form, it would not be of much real value at all.

For let us be absolutely clear, Man is not God: he is certainly not positioned in some ideal and elevated position from which he can survey and immediately comprehend Everything swiftly and accurately. Man is, in fact, only a part of that Physical Reality that alone and miraculously, can begin to consider his position and that of surrounding Reality, and ask the perennial question, “Why?”

Yet, he has always been well aware of his inadequacies in this regard, and his conceived-of, all-knowing, all-seeing, ideal human being capable of such a task was embodied in an elevated, perfect Entity, which he named as GOD.

It should not be surprising that he should never alight directly and immediately upon the actual Truth, but only on aspects of it, and his consequent and attempted extrapolations would always be fraught with misconceptions.

And the whole method of thinking created and developed only by Mankind, has only come this far by cutting Reality down-to-size, in other words, simplifying it in one way or another, and at best, such processes can only reveal particular aspects or views of a very complex and evolving whole. Indeed, it would not be far from the truth to say that the main gain from any such extractions is that they pave the way for following corrections and slightly better “ground” in a continuing process. The journey is the thing!

Now, this doesn’t mean that we sit on a mountain somewhere and THINK! On the contrary, we have to survive, and a good deal of our thinking is about real problems of dealing daily with this real World. Nevertheless, Philosophy is the Prime Thinking Activity, and in our present pragmatic World has become almost negligible in its serious occurrence.

Left wing politics is now almost 100% activism, and the labours of Karl Marx and Frederick Engels to lay a broad and sound philosophical foundation to equip the Working Class to fight against its oppressors, has almost completely vanished. The crucial philosophical questions of the age are never tackled by professed Marxists, and indeed many follow behind the idealist mathematical-scientists of today, not only without the necessary criticism, but instead actually extolling their contributions to a “better” worldview.

So, returning to the same questions is indeed vital, and without it, what we consider to be our philosophical bases change and then ossify into useless fossils of past thought.

So, this is a small set of introductory papers, where some of the bases of a materialist, holist, evolutionary and Marxist standpoint are not only once again brought into focus, but also constantly updated and improved.

Beware! There are implications for YOU!.

Jim Schofield Dec 2012





The Trajectory of Development

Where and How Qualitative Change Occurs

Now, Marxists should, and generally do, have a great deal to say about Development, and in particular about the crucial Emergent Events of Significant Qualitative Change that we call Revolutions (when they happen in Human Society), and Emergences (when occurring in all other areas of Development).

But, it would be wrong to see the whole path traversed as some sure and simple “stairway to Heaven”, with such Emergences as the Key Events, and the major individual “steps-upwards-and onwards”. For, in a more general way, a quite different and more accurate trajectory is becoming ever more evident.

As the Buddha noticed some 2,500 years ago, things are not only in constant mutual interaction and change, but also tend to return regularly to very similar situations, in what might be called cycles, and in a difficult World for most of humanity, at that time, he could only offer the cycles of reincarnated lives of all living things, which were the inevitable rewards or punishments for how they lived their current lives, and the barely possible ascent from better living to following better lives, and even a possible final ascent to a state of heavenly Nirvana. And though much of his holistic standpoint was, and still is, valid, this difficult life-policy was not really helpful to most individuals: it demanded good behaviour without any evident “this-world” rewards.

At about the same time, in Ancient Greece, though Zeno warned against it, an alternative view of Reality, based upon a very different principle, took hold and flourished. It was, of course, the rationalist position that we term Plurality. And it suggested that the explanation of the nature of any given Whole, resided solely in its constituent Parts. And if these could be extracted and understood, things would be both explicable and hence predictable to use to enable the production of required outcomes.

And this did, in time, lead to massive gains. But, from the outset, this stance rejected Holism, and also the cyclic revelations of the Buddhists, as merely myths.

Now, there followed a long development of these pluralistic ideas and consequent methodology, all the way to their final evident failures in the late 19th and early 20th centuries, when real ongoing development had finally to be addressed in a whole series of important areas.

Plurality is a reasonable, pragmatic assumption in appropriate circumstances, but it can never explain the generation of the entirely New, ever! In the end such

innovation was very unsatisfactorily put down to random accidents coupled with the usual eternal Natural Laws. But, that is never enough, and when the actual transition had to be explained, it became clear that the progress of Reality was not a product of simple, incremental changes and chance, but of particular, short-period Events precipitated by the wholesale collapse of the current stability.

Now, this couldn't be more different to the usual assumption, and it turned out to have a complex inner structure of its own, that was in profound contrast to the usual smooth and inevitable changeovers of past conceptions. Indeed, it turned out that these Events had to be such as to facilitate the actual creation of the wholly New, and this could only arise out of the total dissociation of a past stability. For the whole nature of such a long persisting state, had to be ensured by a defensive total prohibition of anything, which might challenge the current hegemony. Stability was not maintained only by superiority over all possible alternatives, but crucially by its own complex defensive processes. An Emergent Event was always precipitated by the wholesale collapse of a current stability, which initially at least seemed to be careering downwards towards total oblivion: an almighty catastrophe seemed to be unavoidably heading for Total Chaos. But, inexplicable by any pluralist sort of account, this headlong decline would reach an important turning point, at which the past stability, and all its defensive policemen processes, would finally become defunct, and something remarkable began to happen.

The removal of all prior stability-protecting inhibitions would be complete, and many processes previously stopped dead by the prior regime, could no go forwards unhindered, and wholly new proto systems of various kinds could begin to grow at an accelerating rate. Instead of wholesale collapse, there would now be a drive to new potential stabilities, and one of these would finally win the day and establish itself as the New Order.

Now such ideas were, of course, incredibly revolutionary, and down primarily to the great philosopher Hegel. He recognised the occurrence of these Becomings in all major Qualitative Changes.

But, that was only the start of an even more dramatic set of changes in Philosophy. For Hegel's best disciples, the Young Hegelians, while celebrating his holistic and emergent standpoint, turned his philosophy on its head, and embraced Materialism as the only way to go forward. With this Revolution in Philosophy, the way seemed open to all the prior gains being integrated into a single philosophical standpoint, and the establishing of the best

possible ground for future developments. But, it wasn't to be!

And surprisingly, in many who took this new standpoint as their own, a particular feature of Emergences was not understood, and it led to major problems and even disillusionment.

Important features of all new stabilities, that were the unavoidable results of Emergences, were their inevitable conservative natures. Their Success was not merely based upon superiority. No stability could ever succeed without a complex network of supportive and defensive processes, that were integrated because they defended the emerging system against opposing possibilities. Every stability required its own defensive army, and this would attack anything "not-of-this-stability", whether retrogressive or revolutionary. Even clearly progressive possibilities could be suppressed. It is an unavoidable feature of success in an Emergence.

The dearly held myth of all revolutionaries that the success of the Revolution would open up everything for almost constant renovation and improvement was sorely mistaken. They should have known better!

The English Revolution had its Cromwell. The French Revolution had its Bonaparte, and even the Russian Revolution had its Stalin. These were not down to error but inevitable features of the success of the revolutions. These revolutions certainly led to periods of extreme suppression and even the necessity of a kind of dictatorship in Social Revolutions.

Marx himself had put forward the necessity of a Dictatorship of the Proletariat, and Trotsky mindful of the same thing insisted that Permanent Revolution would inevitably be necessary. But there was no avoiding the conservative, post-revolutionary stage, for without it, the Revolutions would surely have been immediately reversed.

And, of course, we are considering development more generally, and the sure conservatism would reign in any post-Emergence transformation too. Things are never over and done with following a successful Emergence; it was merely a new Level of Stability, which in its turn, and eventually, would also reach its own demise via a cataclysmic collapse.

So, we must remove our own myths of inevitable progress, and instead develop this philosophic stance as a permanent on-going renovation. And finally, we must apply it to the Sciences, which are now in serious decline. Only this philosophical view can surmount its regularly increasing contradictions.

It must also be our task!



Abstraction

By What Process do We Make Sense of Reality?

What are we doing when we abstract from Reality?

It is certainly an important question, for it governs the nature of all our conceptions of the World.

When we regard our immediate surroundings, we are certainly not situated in any apparently confusing chaos, but, on the contrary, within something that appears to be fairly easily explained. For, at first glance, our surroundings seem to be full of unchanging things. And this alone suggests that our World might well be explicable. And so we attempt to find, within that World, what might be there to explain it.

But, on closer inspection, we are soon aware of an extensive complexity in this seemingly obvious and coherent World. So, where could we start in attempting our Investigation and Explanation of such a World?

We quite clearly see local areas within this extensive complexity, which do seem ideally possible to penetrate and maybe understand, so that is where we would choose to start. But, even these apparently straightforward areas turn out to neither remain sufficiently still, or stay unchanged long enough, for us to successfully extract them for any sort of detailed study.

Passive Serious Observation

But, nevertheless, by careful and repeated observation in various circumstances, certain areas of evident recurring or persistent Form appear amid the often-complex whole. And they appear so frequently that we can, and do, conceive of them as understandable components, and worthy of a concerted effort to grasp them. We believe that they will be understandable long before we ever have them securely “in our hands”.

Naming and Categorisation

We can, and do, formulate conceptions about them, and these can become the named subjects of discussion and argument, long before any systematic scientific investigations were conceived of.

Now, this order of considerations is important. We conceptually abstract such recurring instances from their real, concrete context, and are then able to think about them, and discuss them separated from their real world contexts.

This is what the ancient Greeks did to a remarkable extent: for they generally did NO experiments. They used careful observation and consideration to develop ideas of what things were, and how they related to one another. They were not always right, but they had developed a revolutionary and powerful method, which used the Human ability to think to a remarkable degree.

It is no wonder that we say that the Greeks had a word for everything. They could abstract like no one had ever done before.

The correctness of the process seems to be validated by the regular re-occurrences of the thus treated phenomena, and it is also clear that once they have been extracted (abstracted) then, we could then indeed think how we might (if only we could) bring them under our full control, and use them to some useful and maybe valuable purpose.

This is a remarkable and important facility that can only flower in homo sapiens, because of language, though much simpler versions of it do even appear in some other closely related animal species too.

Idealisation

Indeed, it is remarkable how we can, once we have some sort of conception, attempt to “clean-it-up” and minimise what we have, to arise at what we consider to be the essentials of a situation.

Ideality

Significantly, the ancient Greeks achieved the “impossible” with what they called Geometry. They idealised particular forms, which they had conceptually extracted from Reality, into the absolute essentials, and they then thought about these in their own abstract terms alone. Circles were made perfectly round, and could be represented ideally by a drawing in the sand.

They obviously were not interested in the thickness of the line (that was an inessential): it was what the line produced that mattered. Similarly, with the same idealised lines of zero thickness, they drew a whole series of other forms, and considered them all “in their essentials” only. Concepts like parallelism were evidently important, as were “angles”, where lines crossed or turned corners. Remarkably, this mode of thinking turned out to reveal many things not immediately evident, and Rules of Correct Thinking – proofs were gradually developed, and what was a process entirely in an idealised World could generally



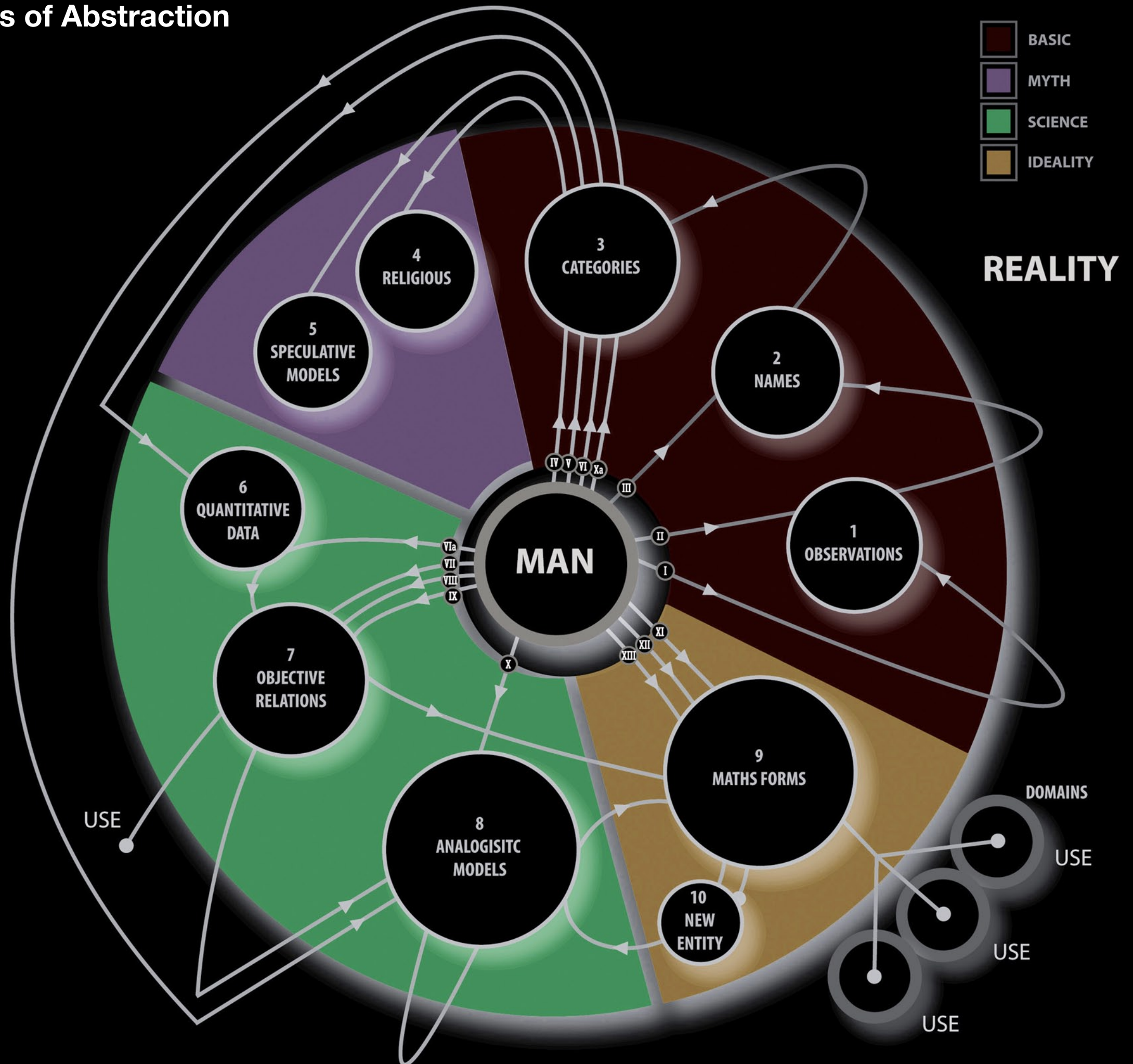
The Processes and Productions of Abstraction

This paper (entitled *Abstraction*) is, of course, a brief philosophical description of what this vital process does in our thinking, but it does not detail the many sub processes involved, nor does it identify the turning points in the use of Abstraction that have led to, on the one hand, Science, and on the other, to Mathematics. Elsewhere that has been undertaken, and perhaps the accompanying diagram (shown here) will show that there is great deal more to this crucial method of thinking than can be addressed in the accompanying paper.



A 'Back to Basics' strategy in how we understand the world must look into the role of Abstraction, as it permeates everything we do!

For more on this crucial area of study, the best place to start is to watch the video link above, a short film entitled 'A Brief History of Abstraction'



become an extended and sound system that came to be called Euclidian Geometry.

Now, these gains had such an immense effect upon thinking in general that we must be clear what it was that they were doing, why it was useful, and where it led Mankind thereafter.

Now, though the abstractions involved in Euclidian Geometry are easily grasped in their own terms, their crucial relations (or resonances) with concrete Reality are certainly not at all easy to explain.

And, that is absolutely crucial, if we are, as we must, to go on to abstractions in general.

Why do these idealised entities, and their relations, map back onto Reality, and indeed allow Reality to be better understood and indeed used?

There are two opposing answers to this question!

Clearly, the Forms handled in Mathematics do not exist as exactly the same in Reality. All the basic simplifications are impossible to achieve in Reality-as-is, while they can be in the World of Pure Form alone! But, nevertheless, they do allow certain basic forms to be addressed as such, which do appear in Reality. The idealised Forms of Mathematics have real sources in Reality, and if Change and Content is ignored completely (or made to be ignorable in some way) then the ideal versions (Pure Forms) can be made to map onto real states in a carefully arranged and maintained area of the Real World.

But, whereas they are both purified and eternal in Mathematics, they are impure and subject to change in concrete Reality. Mathematics omits all development, and addresses things in their static relations only: it is an idealist view! And that means that it is not only that Forms are made ideal and eternal, but also that such abstract things are seen as causes in themselves. Content is assumed to be determined by Form!

The alternative philosophical standpoint, Materialism, sees Form as always determined by both content and context.

Now, once embarked upon this path of attempting to extract pure, determining Form out of Reality in order to understand it, the result has to be the intended seeking of such Forms in everything, and not just in physical shape.

Formal Logic

The ancient Greeks who derived Euclidian Geometry, and the amazing construction of Theorems with their proofs, also attempted to do the same with non geometrical forms, and slowly constructed a set of rules for the sound use of abstractions into ever more complex derivations. They devised Formal Logic!

Now, even to this day, Formal Logic is a cornerstone of what we term Reason. It is a means to disprove false derivations, and prove sound ones.

But, it is only about eternal truths. It is valid when the elements manipulated do not change: when all forms remain constant.

A = A : The Identity Relation is the cornerstone. We can't have A becoming B, or dissociating into C,D, E and F.

Formal Logic is about certainties and eternal: as long as things remain the same, this methodology is sound, and when they are what is being debated, it remains a sound means of revealing faulty arguments, or contradictory simultaneously held positions. So, where does this lead us? Surprisingly Tempo has to be the key!

Time and Motion

Some years ago, I was involved in making Multimedia Resources to aid in the teaching of Dance, using maximal access and control of quality video footage of exemplar performances.

Now Dance is “all movement”, yet in a book, say, such movement could not be delivered directly so still images were unavoidably the nearest thing that could be delivered to illustrate particular phrases. Clearly, Dance could very easily, with such restrictions, be delivered as going from one still to the next. Indeed, Muybridge's research into movement did exactly that, with multiple cameras triggered in sequence, to deliver a given overall movement as a “sequence of moments”. And when this was done in the 19th century, a significant gain was made over ever more and much less widely spaced images. But, of course, even that was woefully short of the actual experience of real dynamic movement, and still almost to the present time do-as-I-do teaching was still superior in the hands of the best teachers.

But, such is a very old method, and there had to be an appropriate development of technology to deliver what was really needed, and the switch was made to using high quality video recordings to guide students in learning to correctly perform particular pieces. Clearly, there would be a great deal of detail available by repeatedly shown (identical) phrases, but with differing objectives, but there was still a major problem.

Positions were crucial, and it was often difficult to see exactly where the various parts of the body should be at a given time. Indeed, a still image could possibly give all of these at once, if it had been taken during the capture of the required and correctly performed movement, but not if each was only a static, set-up pose. The answer seemed clear.

Stop the video at the relevant moment, and study that precise frame for exact positions!

But in analogue video, such a frame would normally be blurred, for it necessarily involved the capture of movement over the whole 1/25 of a second that the shutter was open. You just couldn't get the required precise positions.

It was clear that we needed both – the faithful delivery of the dynamics of movement AND the precise positions at all points throughout.

But, the kit available, and the parameters chosen for modification could not be optimised for both requirements at the same time: they turned out to be at opposite ends of the spectrum for these two essentials.

Now, we finally solved these problems, but the reason for referring to that work in this discussion on Abstraction, is because it demonstrates the strengths and the weaknesses of that method of extraction.

For Reality moves at different tempos and scales, so that on one scale all seems eternal and snapshots would then always be adequate. Yet on another scale things are changing at such a breakneck speed that any such still would tell us nothing about the dynamics involved.

The dichotomy of Continuity and Discreteness as revealed so brilliantly by Zeno of Elea, typifies this quandary. And to argue which of these is correct is totally inappropriate. They are alternative Abstractions, which can reveal aspects of the Truth

In dealing with Reality, we need to abstract, otherwise the crucial elements are too confusing. We push Reality into a necessary corner, to limit the variables and hence expose certain valuable aspects of it. And for each particular abstraction reveals crucial and “different views” of the situation.

The correct term for what we can actually achieve by these means is Objective Content: it is never the absolute and complete truth, but there are essential aspects of truth within it. It is about relative truths contributing towards an ever-improving conception. There is no other way! But, we must also always be aware that in doing this process, we are simplifying, and we must not raise our extractions to the status of a determining Essence. Neither should we turn them into sole causes.

Though a brilliant method of analysis, abstraction has its pitfalls. Perhaps the most significant is that associated with Mathematics, or the study of Pure Form alone! The gains made by getting Reality into the most appropriate circumstances (or corner) to clearly reveal formal relationships, must be offset by the danger of making the tail wag the dog, and insisting that such revealed Forms are actually the causes of the Reality under study. For this

attitude is currently both persisting and widespread. We all talk about Natural Law making things what they are, do we not?

Finally, we must stress that the research into Abstraction (illustrated most clearly by the diagram included earlier in this paper) was able to reveal a whole system of contributing processes and even various cycles of reiteration and modification to what was possible by such means. And, perhaps most important of all, the clear bifurcations in methodology, which certainly led to the present-day cul de sac of Ideality, and dramatically away from a continuing and improving set of methods pursuing Reality. The view form of equation-led speculation in both Sub Atomic Physics and Cosmology was clearly shown to be in the inversion of Theory and Experiment that has re-directed important branches of Science into entirely formal or abstract paths, and into a multi-dimensional morass of idealist assumptions and non-real “explanations”.



Frozen Instants and Ideal Extracts

The Unavoidable Detours traversed in Mankind's Attempts to Understand Reality

Much has been said about the time-spans of our investigations here on Earth, which are clearly much too small in comparison with the incredibly slow tempos of change in Reality at large, so that we have, for many millennia, mistakenly treated most things as unchanging, indeed eternally constant, simply because, in our experience they appear to be so.

Only when we began to study the Geology of the Earth was it possible to reveal and study a record in the rocks, which had clearly been laid down by a sequence of extremely slow and long-lasting processes, and thus contemplate a much more accurate time-span of evident changes, and thereafter begin to suggest what must have happened over millions, and even billions, of years to produce what was now evident literally everywhere.

This, along with Archaeology, which extended even our conceived-of History of Mankind from an originally “all-embracing” few thousand years to tens, and even hundreds, of thousands of years, and which finally caused us to realise that even Reality itself was in a continual process of development, and ourselves along with it.

And, of course, the most seemingly static of all areas of study, The Heavens, had long ago begun to yield an even more extended type of time-span evidence, which because of the finite Speed of Light, could give us now, only views of what had happened in the past, but remarkably only one sliver-at-a-time, for each area of the Heavens studied. And indeed, within any limited, well-defined view, all the things clearly seen together were happening at different times – it was just that the light from them was finally arriving here now, having travelled different distances. They were never simultaneous! But, of course no residue-record in sequence (as we had found in Geology) was ever available.

Indeed, every single moment that we see now, will never be there to be looked at again later. If some event were to happen, each instant of it would come and go at the speed at which it had happened long ago, and to make matters worse, none of us could live long enough to accompany, let alone continue to study, the vast majority of these processes to any conclusion. The Heavens, in spite of its true Nature, appeared totally static and constant.

Now, though each of these new areas transformed our conceptions and our methodologies, they were all, in different ways, still to some extent inadequate for any sort

of comprehensive analysis and a coherent developmental account of what was actually going on. Each development, in its own way, left us with limited information, and none of the new revolutionary forms of study could totally demolish the methods established in prior phases, each with their own distortions of the true situations.

Indeed, the very first major revolution in thinking also involved, perhaps surprisingly, even more limitations in how we saw things in order to get any sort of analytic processes under way.

We actually had to take a step backwards, in order to then go forwards: and to achieve this we took to simplifying what we saw, we interpreted their actual occurrences as being too confusing due to a multiplicity of simultaneous contributions. So we set about seeking hidden, perfectly abstract forms by various processes of simplification, and it worked!

We managed to identify possible contributions, which we then formulated as best as we could and studied them instead of the currently complex and impenetratable Reality-as-is. Yet this was, still, a truly remarkable revolution in method, and it was regularly confirmed in short periods when the simplification was clearly evident, and acted as we had assumed.

And it was important because it, for the first time, breeched the impasse of the unanalysable melee of multiple and contending factors, so that we began to extract individual contributions, which we then refined into ultimate, perfect forms, and this not only began to elicit various meanings to what was happening, but also allowed us to notice identical forms in many other and different areas.

And in the most stable area of all, the Heavens, we extracted forms which seemed unquestionably eternal, and we, with ever more accurate measurements, began to be able to successfully predict what we would see at certain future times.

Prediction was clearly possible! But, because of the reasons outlined above, our earthbound extractions were only very rarely true, though, nevertheless, two important things helped us.

First, the slow change-rate in certain areas did allow our assumptions (though mistaken) to still deliver useful predictions.

And secondly, we learned to control local areas to an ever-greater degree to eliminate any confusing components and enable dependable prediction in carefully constrained and ideally-tailored conditions.

With the method that we developed using this “farming” of Reality, we did indeed get predictions right, and consequently successful productions too.

The key features were, most certainly, the transformation of controlled Domains, which limited the dominant factors to a small controllable number, and thereafter the directing of those processes to desired outcomes. But, nevertheless, we still unavoidably made a series of profoundly important errors.

Perhaps the most significant is encapsulated within the universally accepted Principle of Plurality. For this concluded that all extracted Parts, using our “farming” methods, were actually the same as when happening in totally unfettered Reality. This is dependant upon the pluralist assumption that all such Parts were entirely separable from their context, whatever it was. Now, the consequences of this “principle” were significant in how these Parts were interpreted and used. For the role of such a Part within unfettered Reality would be exactly the same as it was in the Domain, from which it was extracted, and hence defined that Reality as merely the sum of many quite clearly extractable and separable Parts. And this turned out to be untrue.

The reader might wonder how this mistake could ever be made, but it must be remembered that the use of such extractions was only very rarely IN unfettered Reality: the vast majority of uses would always be limited to within the very Domains from which they had been extracted, and the only exceptions to this would be in those rare cases where the relations were unusually dominant, and gave a reasonable approximation when we used them.

But generally, the Laws (if we can call them that), which were acting in given contexts were never usually separable, but were actually produced by the context. Different contexts would produce different versions of the composing Laws. You, most certainly, could not raise these extractions to primary status! Though indeed, they were, and that was a crucial mistake.

Now, we did not know how to get around this practically, for we had very quickly learned how to use our extracted laws successfully, and we simply restricted their use to those essential conditions. We only used them in their own appropriate Domains of Applicability! We could successfully get what we wanted, by using a series of Domains, each tailored exactly to allow the predicted use of each law that we employed.

But, theoretically, that is in our Understanding of what was actually occurring in unfettered Reality, we were significantly misled, and our accompanying explanatory narratives were untrue.

What was going on was, in fact, Engineering and NOT Science!

Such Pragmatic systems can deliver Production, but cannot lead to correct Explanations. Indeed, explanations are never extractable from a technician or engineer: they will just tell you how to DO it!

Thus, our whole era of Science and the Industrial Revolution was an aberrant (though decidedly useful) outgrowth, and only delivered within those areas that we could bring under our maximal control.

Now Plurality was only one of our liabilities in the quest to understand our World. Other omissions even in the later and truly revolutionary areas, still left behind their debilitating flaws upon our standard methods.

Let us consider the revolutionary “Records in the Rocks” of Geology. For though this area forced consideration of much vaster periods of time, with ultimately radically changing conditions, it also quite effectively HID all of the most significant short time scale revolutions of significant change. They were simply not available in the record. Of course, mammoth volcanic eruptions, and particularly those resulting in vast tracts of igneous rocks, and even the larger of the asteroid impacts were still discernable, BUT by far the most important Revolutionary Transformations – such as those caused by absolutely unavoidable Emergent Events, invariably left NO discernable trace at all of the processes involved.

There were evident boundaries, particularly in the fossil record, but as to what had happened to cause them there was absolutely zero evidence. Even the most careful study of the records worldwide of the periods immediately before these boundaries delivered absolutely NO clue as to why what subsequently took place had happened.

But they couldn’t be ignored, and they were simply defined as where one geological period ended and another began. A whole series of such named epochs were soon identified and named, but for a very long while no explanations were possible.

Yet clearly the changes across these boundaries were so profound, that their explanation was the ever-present unsolved problem for the history of the Earth.

Within a stable area it was possible to trace development in animals and plants, and an incrementalist interpretation was arrived at. Things changed in tiny increments, which over vast eons of time would add up to a significant and even a qualitative transformation.

Hegel’s idea of “Quantity into Quality” was given an incrementalist slant, while his concept of Emergence was ignored completely.

Even now experts such as Professor Brian Cox (and even more remarkable Professor Stephen Hawking) blithely talk about the Origin of Life occurring as soon as the necessary precursor conditions had been incrementally produced entirely by totally eternal Natural Laws, and that then, it would be entirely automatic for Life to appear. What utter rubbish!

It is no wonder that all the scientists espousing that standpoint, and engaged in addressing that crucial Origin have been such total failures! For such an approach will never reveal anything that occurs in such profound Events.

So clearly, once again, the shortcomings of the geological records not only empowered us in certain conceptual areas, but it also hogtied us in many other important areas too.

For though it didn’t seem to have been the sensation that I thought it would, the work of Mark Pagel (reported in New Scientist 2751) on his studies of the fossil records, did prove conclusively, using the statistical methodology widespread in such areas of study, that Species Change could never occur due to a series of small incremental changes, but in all the cases he was able to study in sufficient detail, could only occur via a Single Transforming Event. Now this wasn’t in the more cataclysmic areas of change, but in that ever-present process of speciation, which is at the heart of the Evolution of all living things all the time.

Yet, it proved Darwin wrong – not, of course, in his insistence on the Evolution of Life, but on the mechanism to which he attributed it. For he assumed that it was indeed incremental changes that ultimate slid over into a New Species, whereas Pagel has insisted that some particular Event was absolutely necessary to achieve such a creation.

Also recent work by Frank Ryan in his book Virolution on the role of viruses in the mutation of genetic material also casts doubt on purely random accidental damage as the cause of all mutations, and hence of Species Change.

Finally, in this important area, one crucial aspect of the Theory of Emergences (by this author in SHAPE Journal 2010) has been the role of so-called “policemen processes” in establishing a long-lasting and entirely new, stable Level as the persisting result of each and every Emergence, and this also therefore has implications for the presumed processes involved in Species Change too.

Indeed, once these policemen processes in competition had been established, it automatically suggests that within the genetic material similar judging and intervening defensive processes seem very likely to occur within germ-cell replication, so that some seemingly arbitrary changes at the genotype cell level processes could prohibit highly negative productions at the final phenotype level,

by never allowing them to continue to act. The necessary linkages could be removed to stop the severely damaged genetic material from expressing during the development of the phenotype, and after replication passing them on as required elements in the following developments. Indeed, vast areas of such genetic materials, somehow rendered inactive, have been proved conclusively to exist.

Now, the evidence from Astronomy, as mentioned earlier, is also of a unique type. Though evidence from vast tracts of time are available now from observing the appropriate distances away from the observer, none of them are from the same actual concrete development; they are, every single one of them, from separate strands. Yet we confidently concatenate discoveries from these unavoidably different strands into conceived of historical progressions, just as if they were all moments from a single strand of development. None of them are, of course, but we feel it valid to construct these sequences.

But, to make it so, we have to assume various crucial things.

First, by such a method we can say absolutely nothing about how a particular situation arose and why it ultimately turned into something else, because by the very nature of the record (and our tiny human timescales), we can never observe the transitions in the heavens, so our patched-up sequence has no evidence whatsoever of the imperatives of development.

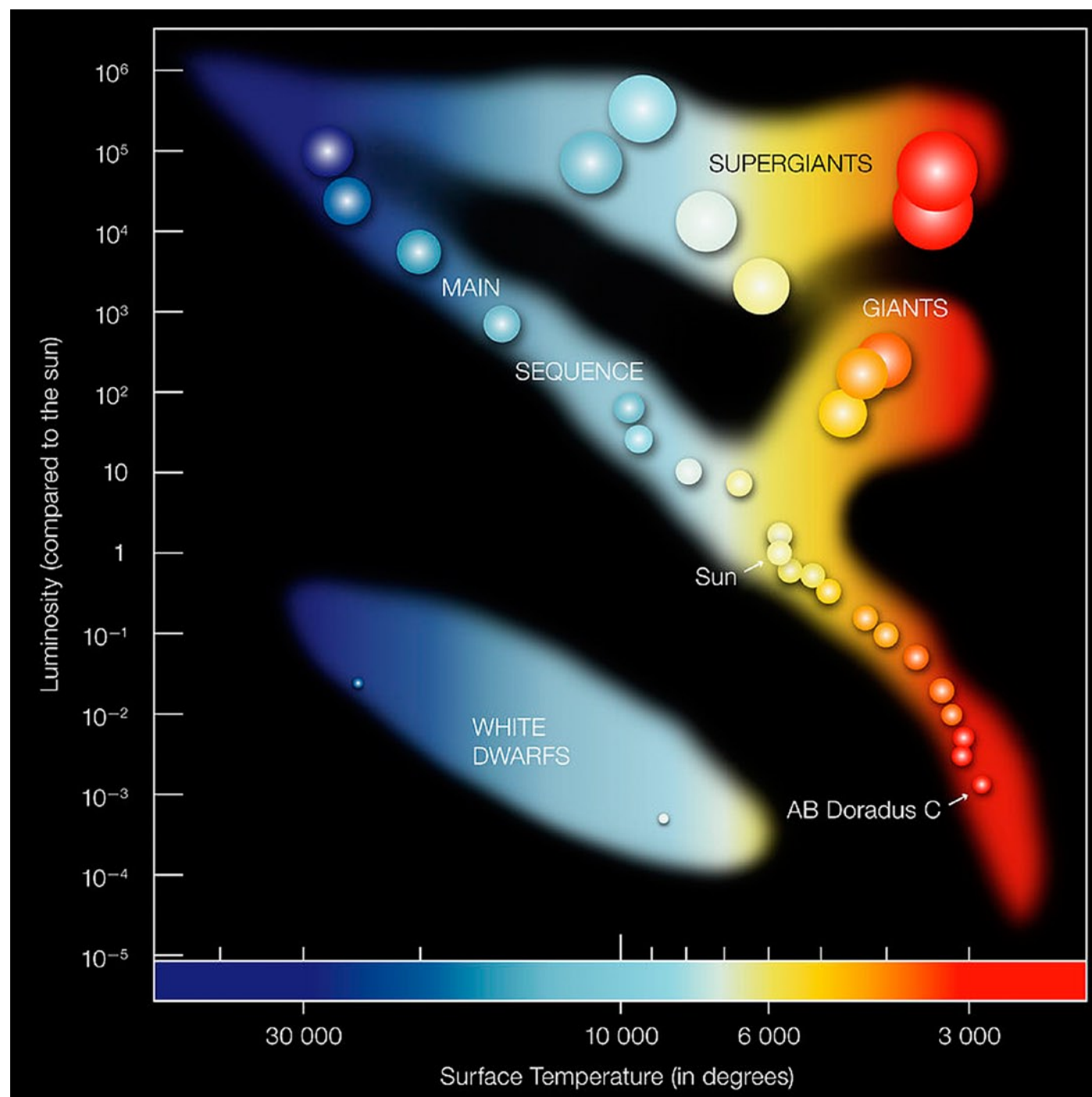
Nevertheless we cannot conceive of doing anything else. We see incredible numbers of moments and recurrences everywhere, so we stitch together the seen moments, but totally without causes.

Now clearly, because of a total absence of time-based and connected evidence, we are certainly not guaranteed to get these sequences right, while we also treat the man-made fiction as the real development, and hence wall ourselves off from the wherewithall to explain what is going on.

Now, perhaps some of the sequences that we construct may indeed, be similar to real developments, but the most dangerous part of this methodology is the same as that we exposed in the geological record.

The dramatic revolutionary transformations are too short for us to catch them happening, and be in a position to analyse them. So, in the same way, we can, and do, assume that they are smoothly automatic and consequent processes.

And the dangers of such a means of drawing processes from such evidence, are proved constantly by the regular failures of cosmologists in predicting what they will find when the necessary observed data can finally be accessed – the clearest examples being in the considerable



The Hertzsprung-Russell Diagram

differences between what was expected to be found on close inspections of such entities as the moons of Jupiter and Saturn for example. Indeed, to “space flights to see”, in such areas invariably prove our “informed predictions” to be very wide of the mark, in almost every single case. No new data ever conforms to what the scientists predicted: they invariably get it wrong!

NOTE: A very telling demonstration is given by the famed Hertzsprung-Russell Diagram, in which the evidence from very large numbers of stars was entered upon this Diagram in the hope of confirming some of our assumed sequences of development. But the initial suggestions as to how stars, in their developmental histories, actually traversed this diagram soon proved wholly erroneous, and evidence from

Nuclear Physics on Earth delivered a surprising complex route through all these states.

And if the causes are not as automatic as they are always assumed, and are, in direct contrast, the result of short-period and revolutionary Events - usually termed Emergences, then the whole methodology still dominant for these scientists will always be totally incapable of delivering accurate predictions!

For those who study these remarkable Events know that their results cannot ever be predicted from their precursor conditions prior to the Emergent Event! For the situation is such that the cataclysmic nature of such a revolution could not be more complex and impenetrable, than when seen only as before and after states.

Indeed, no Emergences are exactly alike, and what comes out of such Events can never be predicted from prior experience, because these Events always produce something wholly NEW! How can you predict in detail something that has never happened before?

Now, finally, when considering Modern Cosmology, we cannot avoid the consequences of the thoroughly pluralist (and idealist) approach in Sub Atomic Physics.

For in assuming that an analysis of all phenomena into their wholly separable Parts is always possible, we began to travel upon a road, which would ultimately lead us astray. For if the alternative standpoint of Holism was the actual nature of Reality, and if our extensive constraints upon situations has not only revealed extractable Parts, but significantly changed them by that very process, then what we achieve by such a position and consequent method would imply two damaging conclusions. First, that this process could be repeated ad nauseam until some final immutable and fundamental entities are arrived at – namely Reductionism. And secondly, such methods would imply a continuity of causes throughout - all sorts of sequences of cause could be assumed and achievable by these methods, given sufficient time.

But, there is, by now, sufficient contrary evidence to dismiss both of these consequences. Plurality is clearly a mistaken assumption!

“So what?”, you may well respond, “It seems to be delivering effective use of extracted relations, so why criticize it from a standpoint, which can deliver neither analysis nor equations?” But that turns out to be the precise problem!

The commitment to analysis and equations was considered paramount, and after the major crisis following the discovery of the Quantum, physicists decided to permanently dump Explanation, for the supposed only true essences of all scientific investigations, which they insisted were their extracted and perfected Equations. And the consequent conversion to a purely “equation-led” and “law-produced” Universe meant that scientists had abandoned Materialism for Idealism. Indeed, a World of Equations does exist, but it is Mankind’s creation – it is the World of Pure Form alone, and accurately distinguished from Reality proper as Ideality – “All Form and NO Content!”.

Now the dangers for Cosmology should be evident When asked what makes Reality what it is, all we get from these New Scientists is the immediate response – “Natural Law!” So now, disembodied relations based upon a totally pluralist standpoint and experimental methodology, were henceforth assumed to be there from the outset, and somehow managed to drive the complication of the Universe throughout!

Now, the reader may still refuse to accept this criticism as a damning indictment of that standpoint, but let us address the methods used to chase the Origin of Everything down to its beginnings. These “ultimate, and revolutionary scientists” merely smash the smallest particles they can effectively handle, together at ever-higher energies, and investigate the debris so produced. The “biggest and best” of these machines – the Large Hadron Collider, is expected to reveal the fabled Higgs’ Boson – the proposed particle, which is said to have created all Mass in the Universe.

And this last point simultaneously reveals the even more devastating method arising out of this major philosophical retreat. For Theory is now considered to be “Equations”, and theoretical research has become the study of equations, in an attempt to reveal the real basis for Reality, there and there alone! The Higgs’ Boson was arrived at precisely this-way-round, and that is certainly NOT Science: it is, of course, Mathematics in an idealist philosophical garb – the study of Pure Form in its own terms alone. Our supposed physicist-theoreticians are now all mathematicians, and experiments with the billions of dollars kit such as the LHC, are then to prove our mathematically derived “theories”

So, Sub Atomic Physics currently seeks a comprehensive list of all the bottommost fundamental particles and the relationships and constructions in Reality. For their approach sees them as the sole bases of everything in the Universe, and perhaps most clearly its Origin in the famed Big Bang. Initially the impact of Nuclear Physics upon Cosmology had indeed been breathtakingly revealing, as the processes of Nuclear Fusion, originally of Hydrogen Nuclei, was proposed as the source of energy in the earliest types of stars, and even, now, of our own sun. Subsequently, down mainly to Fred Hoyle, a whole sequence of collapses and rebirths of stars to trigger different fusions, producing successively the higher elements, up to and including Iron (Fe), which were shown to be possible. And the final collapse into a Supernova was put forwards as producing ALL the other elements that have been shown to exist (even on Planet Earth itself)

Now, such contributions were indeed terrific, but meanwhile there had been a major crisis in this same area of Physics, precipitated by the discovery of the Quantum – a particle-like gobbet of Pure electromagnetic Energy, and which, when generally accepted, triggered a whole avalanche of contradictory phenomena that inferred a “switchability” between particulate and wavelike forms, which classical Physics simply could not cope with The “ultimate resolution” was the Copenhagen Interpretation of Quantum Theory, which, more or less, insisted on the abandonment of Theory, as it had always been in the past, and its total replacement by a regime consisting only of Equations. Physics was converted wholesale from a materialist Science, into an idealist set of laws and a pragmatic set of technologies, which was supposed to make ALL of Reality what it was.



Dominance in a Holistic World? The Fly-in-the-Ointment of Reality-as-is?

There is a crucial and undermining contradiction in classical Holism, which has resulted in its consistent sidelining for millennia, by its opposing and inferior alternative of Plurality as the major Principle on the Nature of Reality, and this always occurs in spite of the overwhelming evidence that the former is much closer to the truth. And this contradiction has, of course, been the very real existence of Dominances in literally all natural phenomena.

For the usual classical version of Holism quite correctly has “everything affecting everything else”, but says nothing in answer to the obvious query, “How much?”. For clearly, if the cross-influences vary in magnitude, you will get a very different effect from a situation in which they are all equal weight. And, even more damning, if everything is affecting everything else, and there are differences in how much, then feedback situations mean that they must all be in a process of literally constant change: at any moment the set of factors affecting any given individual relation will be changing and hence inevitably will be changing it, and it them!

Of course, such a principle is hardly conducive to analysis, and attempting to trace the actual trajectory of almost any section of Reality seems at first to be an entirely impossible objective.

Nevertheless, the Buddha’s holistic view of the World struck a chord in his “congregations”, all those years ago, for it did indeed seemed to fit, and certain important trajectories of change were conceivable in holistic terms. The most important of these was that which recognised that such constant changes didn’t necessarily lead to a constant, into-the-new trajectory of development, but could indeed lead to cycles, wherein things returned to very similar states to those passed through previously – hence the conception of the Wheel of Change, and even the Wheel of Life. It certainly matched the “felt inadequacies” of the majority of the people in his country at that time, and, in time, throughout Asia.

But, it never matched the prospects evident to those in power in the West, and they preferred the Pluralist view of Reality, which did promise an improving grasp of the conceived-of, separable elements, which apparently drove Reality.

In the flowering that occurred in Ancient Greece, at about the same time as the Buddha lived, and in spite of the warnings of Zeno, the Pluralists won the day, and it was that principle that came to underpin the vast acceleration of

investigation, revelation and production that characterised the trajectory of the West for centuries (if not millennia).

But, the correct Principle of Holism was consequently “Mummified at Birth” by the problem of Dominance, for it certainly did occur, and was, in appropriate conditions, what enabled predictions to actually be possible. Who would listen to a wise philosopher, when his opponent could predict eclipses of the sun, cause doors to open of their own accord and make Iron weapons of war from rocks?

Now, what was necessary to redress the balance, was historically wholly unavailable, and would continue to be so for many hundreds of years. Holism became a personal philosophy and could, at that stage, contribute nothing to the progress of understanding in general. To extend the bases of Holism required extensive knowledge of how things are in some detail and with appropriate concepts and methods, and they were certainly not then available.

So, without such knowledge a pragmatic alternative came to be generally accepted, and in any real situation certain relations, among the many that are present, may seem to dominate, while all others could be seen as so slight in their influence upon things that they could be ignored.

Now, when this is now addressed, the real nature of a holist situation comes into focus. For such conditions are not like a bag of separate processes acting equally together, but, on the contrary, an interacting and mutually transforming set modifying each another in crucial ways. And quite apart from such changes by influence, there will always be some that benefit more than others from the various available mutual effects, and it is they that will tend to produce the biggest results – hence some will grow and ultimately dominate. Clearly, these contributing processes are not separable at all!

First, each process must depend on others for its required resources (usually provided as the products of the simultaneously acting processes), and in such sequences over the whole relevant set. And, this also means that the pluralist conception of such processes must also be “much too separable” for, in actuality, they MUST also include the full context that defines each one.

To omit that context in which it dwells, and without which it couldn’t function, is to turn it into an abstraction, with the necessary resources “coming from nowhere”, and its products “vanishing likewise”: we release it from its context, and consider it in “splendid isolation”.

Now, the above considerations make for a very different situation to that usual abstract conception. For any encapsulation cannot include the necessary context: if mentioned at all, it will be in an accompanying explanatory narrative, and has NO place in the formula itself.

Our simplifying always separates these things out conceptually as unitary processes, but they certainly are not that, in spite of the evident appearance of dominances. Indeed, a great deal more than converting a set of sources into a set of products is involved, and will change or even fail in significantly different contexts.

NOTE: Consider an avalanche or other positive feedback situation. Clearly, it is self-terminating because it unavoidably transforms its own context.

In the most obvious interactions, the rate of a process can be accelerated by the mere presence of a catalyst, or slowed substantially by an inhibitor. But also, it can actually use other resources and deliver other products if the conditions change significantly: they individually behave like common components in an machine that perform different functions in the various different places that they occur, or, even more apt, like a stem cell changes radically, depending upon its bequeathed role from its given context. What they are depends crucially upon their context!

So, our conceptions must change quite significantly, and our usual set of separable processes will simply NOT suffice in many crucial situations! Indeed, with this new conception, each process requires a whole set of accompanying processes to do what it does, and deliver what it produces. It is always in a kind of partnership, and how the component processes act, are determined by those partnerships and NOT just by their abstract, "unitary" nature as is embodied in the equation we extracted from very different conditions.

An exciting, and indeed telling, proof is available in the set of processes usually termed The Metabolic Pathways, which only occur as such within Living Organisms. The individual important processes are, of themselves inanimate, but as a mutually-affecting set constitute the bases of Life itself. That is the point!

If you were to set up an experiment including each and every process (as given by its formula) and all necessary initial resources, and sat back waiting for Life to spontaneously occur, then you would be disappointed. But, as Stanley Miller showed in his holistic experiment, a moment of the overall process could be caused. What you have put together is a pluralist conception of what is in fact a holist situation delivered only by its own very real history. They are very different things. Now, this actually led to a conception that Reality included many different relations, and in most cases, one might well dominate, while the others would seem either ignorable

or even totally absent from the situation. A classic cosmological example is the mutual influences of material bodies, such as the Sun, the planets and the many moons in the Solar System. For there, it is certainly not far from the truth to assume that only one law is acting – the famed Law of Gravity, and without any reference to any other laws, a very acceptable account of the current state of the Solar System can be made using only that single, clearly-dominant law.

But, the current situation, even there, has not always been as it is now, and the further back we go, the more inadequate will be a prediction based only upon Gravity.

Indeed, there was once a time, before the Sun had aggregated and burst forth as a star, and even before any of the now recognised elements had been created that are everywhere in today's Solar System. The current colossal isolation of the bodies in our Solar System is the result of a vast period of time and an aggregating process, but if we go far enough back in time we would see a very different state. There would be NO "matter" as we currently conceive of it, and it is generally agreed that this patch of the Universe (as well as most of the rest of it) would be occupied only by an evenly spread cloud of invisible particles composed entirely of Hydrogen nuclei (protons) and possible electrons too.

Indeed, present day astronomers even see second generations of such clouds in various parts of the Universe now, and propose that such vast expanses may well have remained unchanging (as many do now), as such literally permanent, gravitational pulls occurring in all directions from equally-sized particles, would seemingly dominate locally, yet also cancel out overall – they would NOT aggregate at all!

The distribution within such a cloud would remain relatively unchanging, and they have even suggested that this situation could only be terminated by some exceptional and externally caused shock wave, which could impart extra energy and direction successively into some of the components, and thus demolish the equilibrium, and break the even spread to commence some sort of gravity type of aggregation.

The point of this muse is to establish that the assumption of a single acting Law, is by no means the full story. Now, if it isn't, and in most natural scenarios in Reality, it certainly isn't, then another assumption comes into play. This has many diverse laws acting, but with perhaps a single dominant one, while all the others have a much smaller effect. Now, this is the ideal sort of situation for extracting the dominant law, and then using it to predict, and even produce intended outcomes. But Mankind also found many, many situations where this didn't happen.

And, where that occurred, the multiplicity of Laws made

predictions and therefore planned productions impossible, and the necessary task became ever clearer, and it was that Mankind had to somehow find ways to control situations, so that confusing contributions could be either eliminated entirely, or at least brought under sufficient control, and effectively minimised. And finally, as Mankind learned more about his World, he managed to begin to achieve this in the areas in which it was easiest. In such areas he could control a limited locality to bring it towards the required state, ending up with a single dominant relation, and so clearly reveal that relation and also facilitate its extraction. But what did Man then have in his hands? It was a set of data, which showed a clear relation throughout. His objective was then to use it, and at this point an amazing and facilitating further step was taken. The data was matched up to a formal, abstract relation from the mathematicians – an equation, which enabled the user of it to insert a chosen value of one parameter and immediately get a corresponding value of another parameter. Prediction was not only possible, but also EASY!

There was a restriction, of course! For it to work, it had to be applied within the Domain of Applicability that he had constructed to acquire it. As long as that was done the prediction worked! Desired outcomes were possible, as long as the appropriate Domains could be constructed and maintained. This sort of arrangement became the classic Scientific Experimental Method. But, it still had a major flaw!

The other laws were still about, but unnaturally reduced in contribution. As any engineer will tell you, failure to maintain the Domain, as required, would lead to the re-establishment of the natural situation, and the Second Law of Thermodynamics would soon dismantle your perfect and delivering environment.

Clearly, any attempt to use your hard-acquired prediction in this state would only lead to total failure. You simply could not rely upon it: production would return to being a lottery (or an Art?).

Indeed, in a maximally-mixed scenario, multiple laws could then all be pulling in different directions, and no single law could deliver reliable predictions.

Yet in such "random conditions" Mankind turned ultimately to another method. He developed the idea of total randomness, which meant that most things cancelled out if multiple measurements were taken and their average considered instead. For the very randomness of the overall situation took the majority of the mutually opposing contributions out of the result over time, when an average over a sufficient number of occasions was taken. In a very different way, the averaged results, represented an un-cancelled outcome, which could be predicted, and hence was useable and did NOT reflect the many unwanted "noise contributions". But, notice that the result was then

NOT for a particular entity, but for the system as a whole.

Averages could be taken from sets of measurements and overall outcomes predicted. But such ideal situations were not common. The basic ideas were that all possible outcomes for all contributions were equally probable. It worked perfectly for dice and playing cards, so that even they could be used as models in situations approaching their perfect type of cases.

But, from our successful forays into the "horticulture" of Science, where we limited our investigations into ideally constrained Domains, we were still aware that Reality was NOT like that! We were regularly confronted with real mixes, wherein it was clear that many factors were acting simultaneously, and we would have to extract them all, one-at-a-time, each from its ideally arranged Domain. So, this was what we did! And, at some point had literally all the "unitary" relations were in our hands as entirely independent equations. The important question became, "How do we combine all these together, and use the result to predict overall outcomes?"

We first tried merely" summing them" - imagining all were acting simultaneously but separately making their individual contribution. But they didn't! The cross influences were not there. So we looked instead for what we termed as thresholds. These were the values of key indicator variables at which dominances changed. The crudest form had a single dominant relation, and all others were ignorable, and when the threshold was passed, we knew from prior data that a switch must be made to another dominant process, and our recently dominant relation was immediately demoted to joining the rest of the ignorable crowd. This was, of course, a very crude and indeed blunt instrument, and in need of literally constant updating as new conditions demanded the inclusion of new relations, with their corresponding thresholds and subsequent necessary switches. But, dominance-only forms such as this were obviously too crude, and more sophisticated forms with dominance-by-weightings were introduced, where threshold being passed led to new weightings and the sum of all included relations could be significantly changed by these methods. [It was our attempt to build history into our system]

But, the assumption of Plurality was still at the heart of all these models. The separability of the extracted relations was still assumed, so that what was discovered in a tailored Domain was assumed to be exactly the same when acting along with others. We were standing Reality upon its head, instead of on its feet. The relations involved were not independent Laws acting together. Such an analysis was, in fact, a myth. Indeed, it was the mix that produced inextricable relations, which were determined solely by the totality of what was there, and NOT the other way round. A holistic World was attempting to be modelled by pluralist means.

The Time Has Come To Bury The Dead

Friends, colleagues, scientists, listen to me!

The scene all around us is littered with the dead and dying and the war is finally won. In order to proceed we must, clear this present carnage, and in an orderly and respectful way, bury the dead, and proceed to construct a New Order.

But first, we must identify each and every lifeless corpse, certify their demise, and with dignity consign them ALL to the ready earth.

There are those, still standing, who would deeply mourn the passing of these heroes, and they are honourable men, but I must be true to myself and boldly declare that I do not truly mourn their passing. Nonetheless, I am here without hindrance from their still powerful supporters, to justify the evident slaughter, so it is clear that they are all honourable men.

So, let us begin. Let us start with the leader of all these men, both dead and still alive, the indomitable Rock against Change; the veritable Cause of the recent war.

Yet, we must be charitable, as his friends are now clearly charitable in allowing me to speak to you now - for they are truly honourable men.

Here lies Plurality, for that was his true name, who in spite of his many grievous wounds (some inflicted over 2,500 years ago by the mighty Zeno), did stand and fight until now, when he has finally and irretrievably halted by death. Let us intern him, and all his colleagues with due honour, by clearly crediting him with what he gave us, that you all, I am sure, could recount, and cover him up FOREVER!



Plurality stated clearly, and it was agreed by all to be the certain truth, that every Whole is made up of separate Parts, and indeed this profound premise DID open the door to a simplification of the World in order to study it. Now, Plurality has at least one hidden partner. If we are to isolate the Part from the Whole and ignore all connections, links and even causes EXTERNAL to the Part, we are similarly easily pressed into also ignoring all trivial and clearly negligible relations, which STILL pertain after isolation. Indeed, how could we determine from where cometh any tiny variations still evident, after we have established our Part-defining conditions? We can't do it!

So we say that maybe the isolation is not absolutely perfect, and therefore, following our principle of deep study of ONLY the dominant relations of the Part, we exclude what else we can, and also ignore what we don't seem able to eliminate entirely. Whether these tiny variations are small still-existing links with the rest of the Whole, or trivial-but-contained relationships WITHIN the Part, we dump them any way.

So, this partner of Pluralism can be called Simplification – the dumping of the inconsequential!

Together they drive the dumping of a good number of relations, leaving only the required dominant relation for study. Thus Pluralism demands not only the division of the Whole into its “constituent” Parts, but also intimates that ONLY by the methods outlined above can the individual dominant relations be effectively tackled and understood. This tenet can be shown to lead irrevocably to crucial assumptions of discreteness and continuity, which were clearly demonstrated by Zeno's Paradoxes. These were the first and enduring cuts to Plurality, for they were incurable, but he and all his disciples ignored the evident damage and carried on regardless – carried on because they could see NO alternative. To lay hold of the World and bend it to their will, they had to make some objective sense of it, and the division into Parts, and their subsequent study, DID allow real progress of a sort.

Why was this the case? It was possible because, though the division into parts was an imposed and unnatural imposition, the fragments so isolated still carried with them some measure of their true nature. The parts were not totally arbitrary inventions, but simplifications, that limited the particular area of study, which still contained objective content, and this “blood” was sufficient to enable the determination of fragments of truth (aspects of Reality) to be extracted, and some progress was seen to be possible. Let us attempt to objectively assess this contribution, while at the same time exposing the virus that the method slipped in unnoticed from the very start.

In identifying a Part and naming it, we are already isolating it from its concrete, real World context.

Indeed, we are truly extracting it from all relations that reach beyond its “local”, internal definition. It becomes an extracted “organ” from the “body” of Reality, that we subsequently study, recognising only what is present within it, and dispensing with its intrinsic position in a greater Reality.

Now, such a simplification did help. Many things could be studied within the extracted “organ”, and “local” explanations could be devised. Quantitative relations could even be abstracted into mathematical formulae, and these were valid – as long as we always replicated the original isolation process before we used them. And this was a legitimate simplification if USE was our objective, because what we had dispensed with were barely discernable. They were certainly negligible in the given, constrained situation. We all obeyed the necessary constraints and were able to USE these partial truths with predictable results.

But, we were overconfident! The World became littered with these extracted “organs”, and clearly their interrelationships were impossible to address, because they had been surgically extracted from their actual places in an integrated whole, and their inter organ relationships had been entirely lost in those operations. The World seemed more and more to be composed of separate organs. Attempts were made to collect obviously related Parts together under collective categories. We devised groupings such as Physics, Chemistry, Biology, Sociology, Psychology and many more, including quite abstract categories such as Philosophy. But, though the groupings were a help, they obviously elicited the question, “How are these categories related?”

The definition of the groupings said nothing about their interrelationships! They existed (somewhere) but we couldn't actually pin them down.

In fact they were actually impossible to reveal, once again, because of Plurality! The local sequences, of course, had been discovered within the individual organs had persuaded us that such a method was both universal and sufficient! It was even overtly identified and named as Reductionism, and has been enormously successful for many years – successful, that is, as long as we did not try to explain one organ in terms of another, or, even more daring, explain one Science in terms of another. Then it invariably failed miserably to deliver any indisputable causative relation.

Signposts “along the way” were revealed in disparate, but isolated Parts, but the trivial “joining of the dots” did NOT explain anything. It just described the trajectory of the Path, after the event. The “experts” from the various “organ studies” even began to say that description WAS explanation. It wasn't, and isn't!

But finally the chickens began to come home to roost. What had we thrown away when we performed our

“organectomies”? Could the crucial linkages have been lost in the gory detritus? The Sciences had been successful, but only as long as their Parts were viable – as long as the functions revealable therein were sufficient. As soon as the relations between Organs, and most vitally, any causative links were required, the Part proved to be totally “dumb”.

Now, elsewhere, Science had revealed the evidence of a History of Reality that (when seen as a whole) definitely indicated that it had actually DEVELOPED: it had both Changed and Evolved! The sweep of that History could not be other than that Reality was SELF-MOVING and CREATIVE. New things, properties and even Laws were coming into existence FOR THE FIRST TIME EVER, as readable from the physical records of that history, written in the very rocks beneath our feet. New situations actually regularly emerged in that record. Now some investigators noticed that the named categories, such as Physics, Chemistry etc. were clearly related to this, in that they had their OWN entities, properties and Laws too. What therefore had happened in the History of Matter? Had there been a growth in the actual Qualities of Reality? Had it produced wholly new Levels which contained completely New Things? Had creative Emergences taken place?

Now, though the majority of our organ experts dismissed such nonsense, some thought that it might just be true, and began to look for the cause for us having completely MISSED what must have been THE most important features in the History of Reality – its ability to create new things, with new qualities and Laws. Returning to our studies, we could find NO errors in our work. All our demonstrated Reductionist sequences were sound! Yet no crucial links were available.

Then it dawned upon us. Our basic method of separating the Part from the Whole – Plurality could well be the culprit. If all the features of the Part were insufficient to explain something like an Emergence, we HAD to consider what we had THROWN AWAY – the context of our Part and its negligible perturbations. Now, it was clear that we had always reconstructed, as far as possible, the correct constraining conditions for our isolation of the Part and its qualities, so what may we have done wrong?

We had ignored negligibles! We had only considered the obviously DOMINANT features, and had merely DUMPED any small variations as wholly negligible. We had even developed the conception of “Background Noise” to cover such “tiny intangibles”, and dealt with their small spreading effects via averaging and error ranges. Could we be sure that these almost “invisible” features were, and still are, and always would be negligible? The answer is that we could not! Behind our assumptions had stood a powerful tool of our dealing with the world – Formal Logic. And this discipline did not, in any way, deal with qualitative Change. Its primary rule was the Identity Relation – $A = A$, and it was equipped ONLY to deal with the full consequences of

qualitatively unchanging systems. Situations where the negligible became dominant, and the dominant became negligible were not possible using Logic. It seems that even our methods of Thinking had become impregnated with the consequences of Pluralism: for the Part was eternal! How could it be otherwise? Its demise was unexplainable due to its extraction from its determining context. How could it possibly vanish and be replaced by something else? We could NOT address Qualitative Change!

The situation was beginning to form in the minds of a minority of thinkers. It would seem that our assumed bases in how we deal with Reality, study it, and even think about it, were impregnated, through and through, with the consequences of accepting Pluralism.

We MUST refurbish our approach. It had already started in a piecemeal way with Evolution, and Hegel had addressed the trajectory of Change in Thought 200 years ago. But, now it had to be brought centre stage and the “impossible” areas finally and properly addressed.

Plurality had begat Reductionism, but the latter could not explain its own demise and the Emergence of New Levels, so it could not supply a truly universal method of explanation. Plurality in its worship of the Part had also fathered Formal Logic, which though useful was also a straight-jacket, unable to cope with Qualitative Change. It was a means of dealing with immutables ONLY!

Indeed the demise of Pluralism was precipitated by a growing number of contrary indications,: not least the growing body of evidence for Emergences, commencing, indisputably, with the Origin of Life on Earth, which in the old fabric of explanation was inexplicable, almost magical (as the theologists were quick to notice). So, Emergence now becomes THE crucial area of study, where previously it had been derided and dismissed, essentially for what it demonstrated – the incompleteness of Reductionism.

To proceed we HAD to KILL this false tenet. Pluralism had to DIE as the truth, and be demoted to a mere frig – a pragmatic method, which would always be wrong in essentials, even if it could deliver in local situations and practical problems

Now let it work. Mischief thou art afoot. Take thou what course thou wilt.

For detailed and profound support for these ideas may I presume to cite Zeno, Hegel, Darwin and Marx, and also draw attention to the many papers by the author on this area and related topics?

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